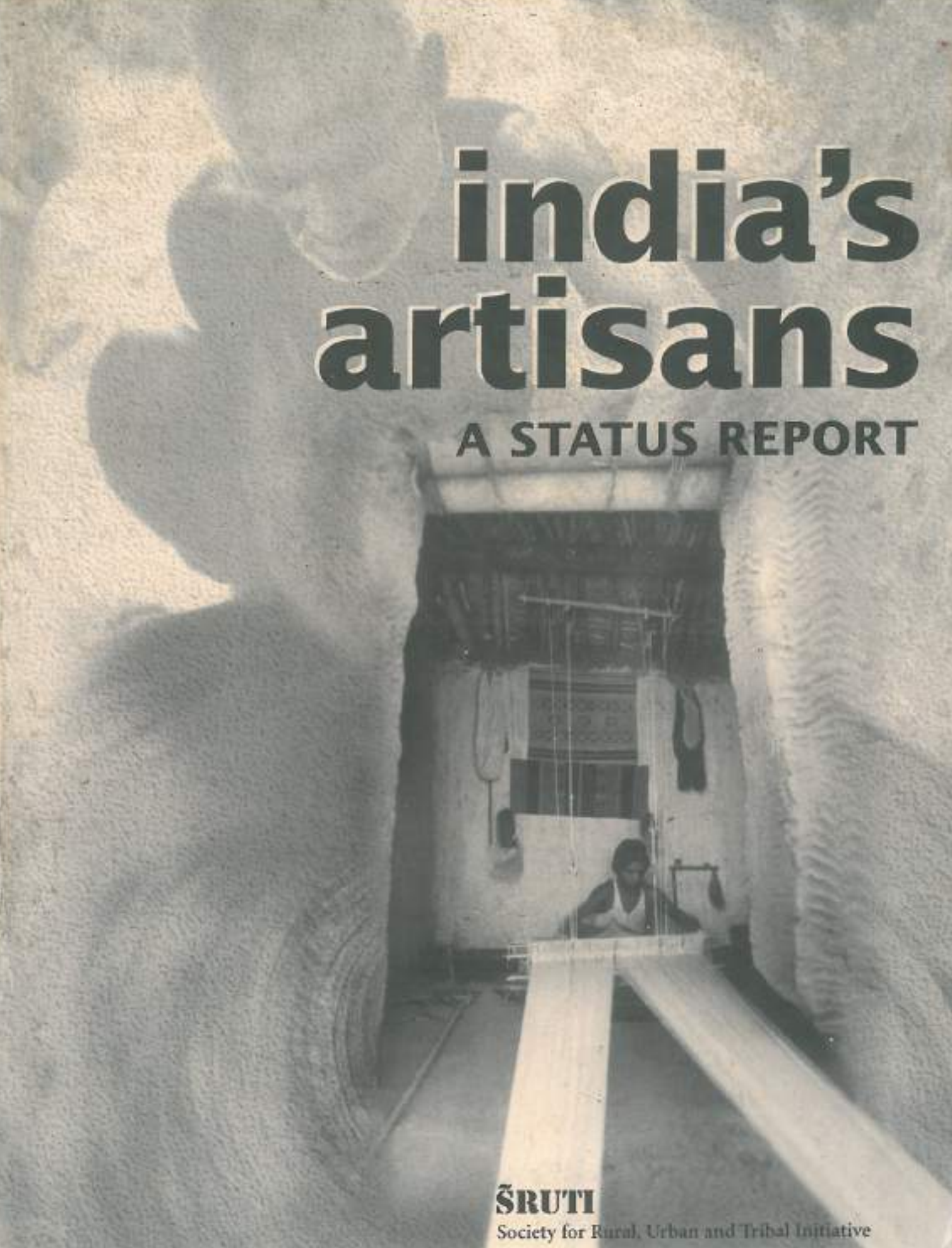
india's artisans

A STATUS REPORT



ŠRUTI
Society for Rural, Urban and Tribal Initiative

india's artisans

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Contents

A Statement of Concern

The current state of India's artisans is a matter of grave concern. These proud and industrious artisans were once the backbone of the Indian economy, providing much of the goods and services that our people needed. Today, these very artisans have been marginalised by the 'modernisation' and 'industrialisation' of society. Though some have managed to adapt to changing times, and a few have even thrived, most of them live in abject poverty with no prospects for a better tomorrow.

Whereas the world must go on and things must change, the tragedy for the artisans is that most of these changes are not evolutionary, but brought about by external forces or influences, aimed at serving microscopic interests and replicating alien cultures and lifestyles. Therefore, the artisans have been deprived of those 'stepping stones of history' which would have enabled them to move with the times, and to gradually adapt their skills and technology to changing circumstances. They have been denied the opportunity, not only to be a part of the 'modernisation' and 'industrialisation' process, but to contribute to it.

As a result, today most of India's artisans are struggling for survival. Many have given up, and moved away from their traditional occupations. Others cling on desperately, not knowing what else to do or to whom to turn. Their skills, evolved over thousands of years, are being dissipated and blunted. Their progeny are not willing or able to carry on the family tradition, and a rich culture is on the verge of extinction.

The new economic and industrial order that is emerging concedes no space to the artisanal sector. The powerful marketing machinery that is a concomitant of such an order progressively expands markets for 'modern' goods and services at the cost of the artisans' markets. The research and development efforts in the new order are oriented towards developing capital-intensive processes and technologies which replace age old, human friendly, processes, rather than adapt them. Government schemes and programmes are hijacked away from the poor artisan to the rich industrialist.

A preliminary assessment of the state of artisans in India suggests that the major reasons for their current state of poverty are:

Disappearing Markets

There has been a dramatic shift in consumer choice from artisanal goods to factory-made ones. This is evident in all spheres of manufacturing activity. For example, articles made from vegetable tanned leather have been edged out by those made from chrome leather, and handwoven cotton fabrics have lost out to mill-made synthetic ones. Similarly, plastic, china and glassware have wiped out the market for earthenware. To some extent, this might be due to a larger variety of goods becoming available in the market and, consequently, the market share of the artisanal goods falling. However, the extent to which consumer choice has shifted away from artisanal goods cannot be explained only by the plurality of choice. While there is no clear-cut explanation for disappearing markets, some of the factors that might possibly have contributed are listed below.

- *Firstly, the aggressive marketing and advertising strategies used by the organised industrial sector have played a major role in influencing consumer choice. Media campaigns are an integral part of these strategies, and are used not only to sustain loyalty to old products, but to create demand for new ones. Another important element of these strategies is large investments in product and design development, and market research to understand and mould consumer psychology. Such strategies are predicated on gigantic budgets that run into crores of rupees, which are absolutely inconceivable for the artisanal sector.*
- *Secondly, the economies of scale inherent to the factory sector result in mass production of goods of uniform quality, at prices with which the artisans' products cannot easily compete.*
- *Thirdly, various financial incentives, benefits and reliefs are extended to encourage the organised sector to set up industries. In comparison, very little is available to the artisan.*
- *Fourthly, preferential access to credit, raw material and*

infrastructure is also extended to the organised sector. This is in stark contrast to the artisanal sector, where surveys have repeatedly revealed that the major handicaps faced by artisans are lack of capital to purchase good quality materials in bulk, scarcity of raw materials, and absence of infrastructure in the way of worksheds, power, and storage space. The absence of power inhibits artisans from investing in power driven tools and equipment, and from upgrading their technology.

- *Fifthly, the preoccupation with the small but lucrative urban and export markets has diverted energies and resources that could otherwise have been invested in building up local and sustainable markets for artisanal products.*

Technological Obsolescence

Technological advancement has been largely oriented towards modernising the processes of the organised, factory sector. This has given the factory sector an edge over the artisanal sector in terms of efficiency and quality of output. Modern technology has enabled machines to imitate even the most intricate designs that were once the exclusive domain of the artisans, developed and perfected over centuries and passed down from generation to generation.

The failure to develop technologies appropriate to the artisanal sector is a result of our dependence on Western technologies which are essentially capital-intensive. The lack of investment in indigenous technological research has only aggravated the problem.

Poor Government Planning

After 40 years of planned development, planners are still conceptually confused about the role of the artisanal sector in India. From an analysis of successive Plan documents, it is evident that there has been no consistency in defining, or even stating, objectives for the sector. Some stress the importance of the sector from the point of view of keeping a cultural heritage alive. Others emphasise the employment generation potential of the sector. The artisanal sector has been viewed less as a part of the core economic sector, and more as a part of the welfare sector, to be propped up by subsidies and grants. The paltry budgetary allocations provide some clue to the economic significance that planners attach to the artisanal sector. This is not to forget that the private sector has also been propped up by the public sector; and the public sector by the government.

Adding to this confusion is the Structural Adjustment Programme (SAP) now underway in the country. The SAP is based on a model where market-led development is given primacy, and state-led development is gradually withdrawn. This will have a significant bearing on the future of the artisanal sector. According to one source, "It is clear that the Government of India, by SAP and its budgeting policies, is especially hitting at the unorganised, whether labour or self-employed artisans. ... The increasing appropriation by the government of forests and other common property, in the name of both 'environmental protection' and 'industrial promotion' will result in an increase in the denial of access to these common resources to the poor for whom they represent a crucial source of subsistence - for food, fuel, fodder, raw material for crafts..."[1]

Given the force of national and global economic trends, it is time to rethink the role of the artisanal sector in the Indian economy, and put it on the national agenda. If, as the trends indicate, this sector can only survive in pockets, then the nation's resources would be better spent in identifying and strengthening those pockets. To the extent this results in the unemployment of large numbers of artisans outside such pockets, a national initiative is required to reorient their skills and rehabilitate them. For, craft skills built up over the centuries are an important national resource that cannot be jettisoned as dead weight.

KANIKA SATYANAND
SHEKHAR SINGH

May 1995

1 VANI, *Response to Structural Adjustment and Reclamation. The Role of Voluntary Action*, New Delhi: 1992, pp 13-16

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The final report has been edited by Kanika Satyanand and Shekhar Singh. The preliminary drafts were edited by Pramathesh Ambasta, Ravi Chopra, Kishore Shah, and Gautam Vohra. A full-time research team, consisting of Nivedita Banerji, Shubhalaxmi Pande, and Sabita Tekkeveetil, formed the backbone of this project.

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Introduction to the Report

This report is an attempt at providing a sensitive overview of the artisanal sector in India. This effort is fuelled both by the absence of such an overview, and our conviction that, even today, the artisans, their skills, and their way of life have a social and economic significance. Their traditional markets are being taken over by the organised sector, which does not typically offer them alternative livelihoods. This makes the artisans extremely vulnerable, and lends urgency to the need to focus attention on their precarious state.

OBJECTIVES

The specific objectives of this report are:

- To record the state of artisans in India, and to identify the major constraints currently faced by them.
- To describe in detail the historical evolution and current status of some selected groups of artisans.
- To review government interventions affecting the artisans.

STRUCTURE OF THE REPORT

This report is divided into four sections. Section one documents the evolution and current status of artisans in India, and the nature and impact of government assistance to the artisanal sector. Section two contains in-depth descriptions of eight groups of artisans and traces their historical development. Section three contains annexures and tables, while section four contains a bibliography and listing of Government schemes of assistance.

The eight chapters of section two, which deal with different groups of artisans, have been given Indian titles, such as *'Boonkar,' 'Mochee,'* and so on. Some of these titles may be misleading, since they have been used in a much broader sense than may be commonly understood. For instance, the title *'Mochee'* has been used for the chapter on leather workers, whereas, strictly speaking, it denotes only leather workers who cobble shoes. To avoid possible confusion in the minds of readers, a subtitle has been provided alongside the main title, to indicate the scope of each chapter.

CONSTRAINTS & LIMITATIONS

While preparing this report, several constraints had to be contended with, primarily with respect to the data base. As a result of these and other factors, the report has certain limitations, which are described below.

- The level of information available for different artisanal sectors is not uniform. For instance, there is a vast amount of literature on textile and leather workers, and it has not been possible to examine all of it. On the other hand, there is a dearth of information on jewellers, and on wood and metal workers. This difference in the quality and quantity of data available has led to variations in the depth with which different artisanal groups have been covered.
- This report does not comprehensively cover the artisanal sector, but is confined to a few groups of artisans, viz: handloom textile workers; cane, bamboo and fibre workers; leather workers; wood workers; metal workers; jewellers; tailors; and potters.
- There is a general lack of clarity in the existing literature, about the concept of an artisan. This has resulted in difficulties not only in comparing data from different sources, but also in distinguishing between artisans and non-artisans, or between artisanal and other modes of production.
- The inadequacy of the statistical data base on the artisanal sector made the task of generating estimates on the size and economic significance of this sector an uphill one. Even the existing data, such as the Census, are flawed due to changes in definitions. As a result, the validity of the statistical estimates in this report is debatable.
- The lack of up-to date information on various aspects of the artisanal sector has made it almost impossible to provide an accurate description of the current state of artisans in India. At best, what emerges is a picture of artisans ten or fifteen years ago.
- Most of the research and development work on the artisanal sector has a craft bias, i.e., a focus not on the artisans, but on the goods they produce, their designs and techniques. The lack of expertise and information on the human, social and economic aspects of the artisanal sector was a major constraint in preparing this report.
- The primary survey, which was not part of the original design, was extremely limited, as it had to be accomodated within the original budget. The findings from the survey are, therefore, far from conclusive.
- Due to multiple authorship, there is a lack of uniformity in writing styles between chapters, and also of consistency between chapters and sections. While efforts have been made to minimise such differences and inconsistencies, it has not been possible to entirely eliminate them.
- The artisanal sector is far from homogenous. There is enormous diversity among artisans with respect to their levels and forms of production organisation, markets and marketing arrangements, the nature of products they make, and the services they provide. This diversity not only cuts across different artisanal groups, but exists within the groups as well. It has not been possible to maintain all these distinctions, and there has been a resultant generalisation and loss of detail.

METHODOLOGY

The preparation of this report has, from inception to final printing, taken about six years. The methodology broadly involved the development of a conceptual framework, primary survey, drafting of sections by selected resource persons, survey of secondary literature, expert consultations and final compilation and editing.

The conceptual framework was evolved by the Advisory Group, in consultation with various other experts (for list of Advisory Group members and other contributors see Acknowledgements Section). Based on the conceptual framework, resource persons were identified to draft out the basic sections on the eight selected artisanal sectors. Meanwhile, a primary survey of artisans was designed and conducted. (For details, see Annexure I) The SRUTI editorial and research teams carried out a survey of secondary literature and, based on this and the contributions of the resource persons, drafted the various chapters. These drafts also incorporated the findings of the primary survey. They were then circulated to members of the Advisory Group and various other experts, and their responses solicited. Two workshops were also held, one in September, 1988, and the other in December, 1992, to discuss the draft report (for the workshop deliberations, see Annexure 2). The final report has attempted to incorporate the inputs from these various consultations.

Box A

WHO IS AN ARTISAN?

Compiled below are some definitions of the term artisan and related terms:

- An artisan is a producer of a product that is handmade, and involves a skill that is not part of a mechanical chain of production.
- An artisan is a skilled producer working primarily with his/her hands to make articles of daily use.
- Artisans are people who craft items/products or provide services, of both utilitarian and decorative value, using their hands and traditional implements/tools.
- An artisan is a person who works with his/her hands to make products of utilitarian value from locally available natural resources.[1]
- "Traditional industries are generally artisan-based, located mostly in rural and semi-urban areas, involve lower levels of investment in machinery and provide largely part-time employment...Artisan units use locally available raw materials, work on them with simple tools and sell their products in a local market"[2]
- "Handicrafts are items made by hand, often with the use of simple tools, and are generally artistic and/or traditional in nature. They include objects of utility and objects of decoration."[3]
- "Village industry (including *khadi*) shall mean an industry, which is located in a place with a population not exceeding 10,000 (or such other figure as may be prescribed from time to time) which produces goods or services, with or without the use of electric power, and in which the fixed capital investment per head of artisan/worker does not exceed Rs. 30,000 or such other sum as may be prescribed from time to time. However, any non-manufacturing facilities or unit that may be located in a place with population exceeding 10,000 in connection with the sole purpose of promoting, maintaining, assisting, servicing (including mother units) or managing a village industry as defined, shall be deemed a village industry"[4]
- "The term handmade articles should be taken to cover those produced with or without the use of tools, simple instruments or implements operated directly by the craftsman mainly by hand or foot...Within the group of handmade goods, some such as HANDICRAFTS, often have identifying features such as
  a. traditional or artistic features deriving from the geographical region or country of production
  b. production by craftsmen working generally on a cottage industry basis."[5]

DEFINITION & CLASSIFICATION OF ARTISANS

Who is an artisan ?

Various attempts have been made to define the term 'artisan', and related terms like 'handicrafts', 'craftsperson', 'traditional industry', and 'cottage industry'. An indicative compilation is given in Box A. However, there seems to be no definitive usage of the term. In fact, agencies like the Planning Commission and the KVIC either do not use the term 'artisan', or use it loosely, and often interchangeably with 'craftsperson', 'self-employed worker', 'household unit', and so on.

The definition suggested by this report views an artisan as having both 'essential attributes' and 'incidental ones'. Only an individual who displays all the essential attributes is considered an artisan.

The essential characteristics of an artisan are as follows:

- He/she makes goods, and/or provides services to others.
- He/she uses his/her own skills and labour for the purpose.
- He/she makes goods and provides services which use traditional skills, i.e., skills that have been historically associated with a particular artisanal activity, even though they may have been adapted over time to evolving technologies, materials and products.

The incidental characteristics of an artisan are as follows:

- He/she is self-employed, in the sense that such a person enjoys the whole produce of his/her own labour, or the whole value which it adds to the materials upon which it is based.
- He/she functions individually, or at a household level.

Given this definition of an artisan, an attempt may be made to categorise artisans into distinct groups. For purposes of this report, artisans have been classified essentially in terms of the types of raw materials they work with, like leather, wood, or clay. However, within and across this classification, there are huge variations, as described in Box B. This categorisation does not rule out the possibility of some overlap. For example, artisans who work with fibres have been dealt with both in the chapter on tex-

tile workers, and the chapter on cane, bamboo and fibre workers. The former deals with those who use yarn to make fabric, while the latter deals with those who use grass to make rope. The division between textile workers and tailors is also somewhat forced, for they both work essentially with the same material, i.e., textiles. Again, artisans working with metals are dealt with in two chapters: those working with non-precious metals in the chapter on metal workers, and those working with semi-precious and precious metals in the chapter on jewellers.

Box B

CLASSIFICATION OF ARTISANS

In order to provide some idea about the nature and extent of diversity among artisans, given below is a list of 21 parameters (B 1 to H 3) that differentiate between one or more of the eight groups of artisans (A 1 to A 8) listed. For example, a metal worker (A 1), could be village-based (B 1), procure his/her own raw material (C 1), use manual skills (D 1), produce utility items (E 1), supply the local markets (F 1), sell through village *haats* (G 1) and be self-employed (H 1). But another metal worker could differ with respect to one or more of these parameters. Mathematically speaking, there are, even with this very basic list of parameters, 1944 possible permutations and combinations just for the metal worker. The same number of permutations and conbinations would be possible in the case of each of the eight groups of artisans listed. This would make a total of 15,552 types of artisans. Such a classification would be relevant from the standpoint of future research and development work on the artisanal sector. Clearly, since the situation of each type of artisan would differ, interventions would have to be planned accordingly.

List of Parameters

A. ARTISANAL GROUP
- A 1. Metal workers
- A 2. Wood workers
- A 3. Potters
- A 4. Textile workers
- A 5. Gem polishers and jewellers
- A 6. Cane, bamboo & fibre workers
- A 7. Tailors
- A 8. Leather workers

B. LOCATION
- B 1. Rural
- B 2. Urban
- B 3. Semi-Urban

C. RAW MATERIAL
- C 1. Procured independently
- C 2. Supplied by customer
- C 3. Supplied by co-operative

D. SKILL/TECHNOLOGY
- D 1. Manual
- D 2. Semi-automated

E. END PRODUCT
- E 1. Utility item
- E 2. Decorative article
- E 3. Repair/maintenance

F. MARKETS
- F 1. Village
- F 2. Urban
- F 3. Export

G. SALES CHANNEL
- G 1. Village *haat* or premises
- G 2. *Jajman*
- G 3. Trader
- G 4. Co-operative

H. EMPLOYMENT STATUS
- H 1. Self-employed
- H 2. Wage earner
- H 3. Co-operative member

NOTES & REFERENCES

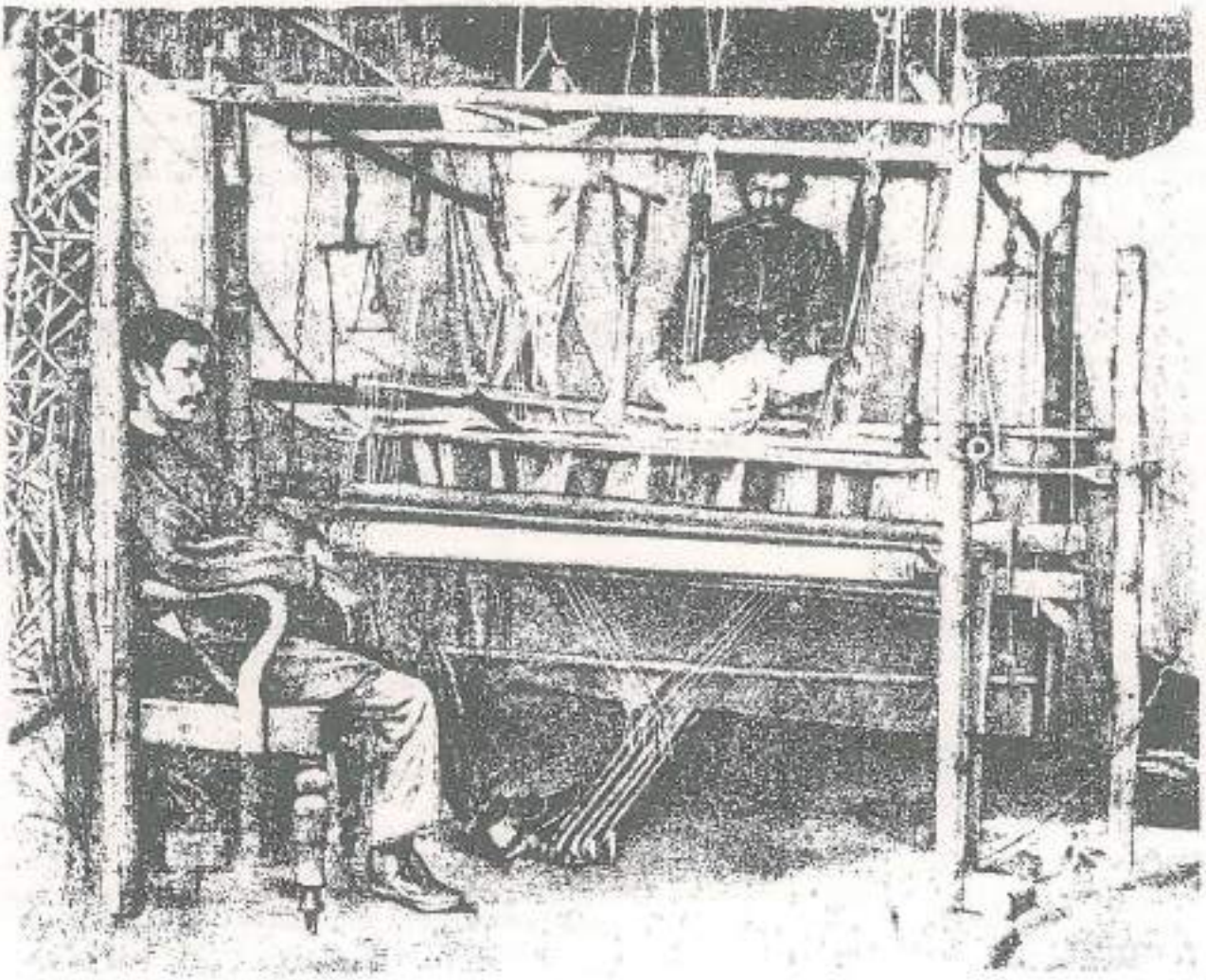
1. These definitions were developed by participants during a workshop organised by SRUTI. See *SRUTI; Overview of Artisans*; New Delhi; 1987
2. Government of India, Planning Commission; *Village & Small Industries Sector. Framework Policy Issues & Perspective*; New Delhi; July 1988
3. Government of India, Ministry of Textiles, Office of the Development Commissioner (Handicrafts); *Report of the Task Force on Handicrafts for the VIII Five Year Plan*; New Delhi, 1989
4. Government of India, Ministry of Industry; *Report of the Khadi and Village Industries Review Committee (KAVIRC)*; New Delhi; 1987
5. UNCTAD; "Report on the Inter Governmental Group on Tariff Reclassification;" as quoted in *Report of the Task Force on Handicrafts for the VIII Five Year Plan*, Office of the Development Commissioner (Handicrafts), Ministry of Textiles, Government of India, New Delhi, 1989

Section I

1

India's Artisans

India's Artisans: Evolution and Current Status



Human beings have the ability, perhaps unique among living creatures, of using tools and implements to create objects for their own use, consumption, or even aesthetic enjoyment. The categorisaton of human civilisations, in terms of their age and level of evolution, is based as much on an assessment of skull and body characteristics of their people, as on the nature and sophistication of the objects or artefacts that the people produce. Therefore, the pre-historic cave paintings of Lascaux in South Western France, whether a form of artistic expression, or a functional necessity, characterise their own times and people. So do the architecture, sculptures, and artefacts of ancient Greece, Egypt, the Roman Empire, as nearer home, the civilisations of Mohenjodaro and Harappa.

The emergence of artisans, as we speak of them today, was perhaps an outcome of social formation. As people started living together in social groups, division of labour became a possibility, promoting a greater range of products and services, as different groups of people sharpened their skills in chosen areas. Therefore, some people became warriors and fought for the rest, while others became priests. Similarly, a group of people began manufacturing goods required for everyday use like footwear, agricultural implements, cooking vessels, cloth and even ornaments. These specialists, who produced goods and rendered services, for and to others, are what we today call artisans.

I HISTORICAL BACKGROUND

EARLY HISTORY

In India, as perhaps elsewhere, the emergence of artisans as a distinct social group seems correlated with the emergence of settled agriculture and habitation. Archaeological evidence indicates the presence of settled agricultural communities in north-west India, as early as the sixth millennium B.C. The process of agricultural expansion and development culminated in the third millennium B.C., with the emergence of the Harappan civilisation. This civilisation extended from the Arabian seaboard in Baluchistan to the upper Ganga-Jamuna doab in the East. Bhagatrau in Gujarat formed the southern boundary of this civilisation.

Judging by excavations at sites such as Mohenjodaro, Harappa, Kalibangan and Lothal, a large number of objects were produced during the Harappan civilisation. Bronze was used for making tools, vessels and figurines. The variety of clay objects found at these sites seems to indicate that pottery was an important activity. A wide range of beads manufactured from semi-precious stones such as lapis lazuli and turquoise were also excavated. Gold and silver ornaments, steatite seals, weights, shell and carved ivory objects were among the items dicovered. Evidence of cotton spinning and weaving was also found at the Harappan sites.

While the use of seals and weights indicates a flourishing trade in these items, very little is known about the nature of this trade. What is known, however, is that many of the items were traded in distant places, particularly the settlements along the Persian Gulf and in Mesopotamia. Unfortunately, historians have been handicapped in their efforts to study the organisation of artisans and their role in trade networks by virtue of the fact that the Harappan script remains undeciphered.

By about 1900 B.C., the urban character of the Harappan civilisation came to an end, leading to a decline and discontinuation of the major crafts. The nucleus shifted from the Greater Indus Valley, and village settlements came up in the Ganges plains and the Deccan. *Vedic* literature is the major source of information for the second millennium B.C., the generally accepted date for the *Rig Veda* being about 1500 B.C. *Rig Vedic* society was essentially pastoral, though a gradual transition to an agricultural economy is evident in later *Vedic* literature. Several occupational groups find mention in *Vedic* literature, such as carpenters and jewellers. Specialised occupations such as those of the chariot-maker and the bard were included in the retinue of the *raja*.

By the middle of the first millennium B.C., there were far-reaching changes in the sub-continent. Political power was concentrated in the monarchies of Magadha and Kosala. The accumulation of wealth, and its investment in trade, accelerated the growth of urban centres. Trading circuits were established to link villages to the wider market. The kingdom of Magadha emerged as a leading power under the Mauryas in the third century B.C. , and artisans played a significant role in the society of this period. Many of them were organised into guilds (See pp 5-6), which performed banking functions as well. Another feature of this period was the emergence of Buddhist monastic establishments at strategic points along trade routes. A bulk of the resources for their construction and maintenance came from donations made by traders, artisans and other occupational groups. These included jewellers, goldsmiths, blacksmiths, ironmongers, carpenters, perfumers and stone-masons.

The decline of the Roman Empire by the third century A.D., resulted in a fall in demand from the Mediterranean markets. This decline in trade may have coincided with the abandonment of urban centres. In the Gupta and post-Gupta periods, the economy was predominantly agrarian, and the donation of land to *brahmans* and officials led to the feudalisation of society. In this feudal set-up, crafts declined, and artisans were bound within the rigid rules of the caste system.[1]

THE MUGHAL PERIOD

The richest source of data for this period is the *Ain-i-Akbari*, a document which was compiled by Akbar's minister, Abu-l Fazl, around 1595. While the economy was primarily agrarian, there was a significant amount of non-agricultural production as well. There was a multiplicity of occupations, and a considerable amount of specialisation among artisans. In eastern India, for instance, there were *kanghais* who made only wooden combs, *kharadis* who made wooden drinking cups and toys for children, *tigurs* who made arrows, *kaseras* who worked in bell-metal and repaired copper and brass vessels, and *sonkaris* who polished precious and semi-precious stones. There were also soap-makers, cotton cleaners (*dhuniyas*), perfumers, tanners and distillers, all of whom sold their goods or services without the help of intermediaries.

As successive Muslim dynasties were established by rulers of Central Asian and Afghan origin, the intermingling of cultures led to a flowering of artisanal activity, particularly in weaving, textile printing, jewellery and architecture. Indian textiles penetrated the markets of Europe, apart from the traditional markets of Africa and Asia. As a consequence of the operation of caste, the co-existence of subsistence and market-oriented production, and the efficiency of the prevailing technology in meeting market demand, only such technological innovations were absorbed as were considered necessary. The scientific advances in Europe had little relevance to traditional Indian society.[2]

COLONIAL PERIOD

With the collapse of the Mughal empire, regional forces became predominant. The absence of a strong central authority affected the flow of resources into urban areas. This, in turn, affected artisanal production in important towns of the Mughal empire. Large numbers of artisans from Delhi migrated to other towns and villages.

Market-oriented production, and the growth of large manufac-

turing organisations, began taking root in this period. Localisation of manufacturing activity was a concomitant of market-oriented production. Initially, the European Companies used to procure goods directly from the villages and towns where they were produced. By the mid-eighteenth century, however, *aurangs*, or specialised centres in the districts with a concentration of artisans, gained significance as procurement points. This development was induced largely by the growth of the market, and in some cases, by the availability of the relevant raw materials. Artisans began clustering in and around the centres of export along the coast and urban centres which had a relatively large number of affluent consumers.[3]

The Indian system of manufacture was based on the hereditary transfer of skills. Societal choices were made through consensus, and the western values of individual liberty, and freedom of choice, had little relevance to traditional Indian society. The choices made in the medieval period, led to the grafting of only those new technologies which would strengthen the existing structure, without sacrificing its advantages. However, the advent of colonialism led to a massive rise in imports of British manufactured goods into India, the imposition of protective tariffs against Indian exports, a tremendous drain of wealth (i.e. raw materials, to England) and finally, the emergence of capitalist modes of production. These developments reflected societal choices that favoured modernity over tradition, choices that may have contributed to the erosion of India's artisanal economy.[4]

II CHANGING PROFILE OF ARTISANS

CASTE, CLASS & ARTISANS

The *varna* affiliation of occupational groups, including artisans, is nowhere recorded in early *Vedic* texts. The four *varnas*, first appear in a late hymn of the *Rig Veda*, but references to the *varna* divisions multiply in later *Vedic* literature. Buddhist literature, especially the *Jatakas*, nowhere reflect the *varna* norms laid down in Brahmanical texts.[5] Some scholars argue, that the rise and growth of occupational divisions contributed to the growth of social differentiation. Thus, the four *varnas*, viz., *brahmana*, *kshatriya*, *vaisya* and *sudra*, were occupational and ritualistic ranks. Other scholars regard the concept of *varna* as a system for interlocking various types of stratification, rather than as a description of ethnic or class groups. Hence, it was the tribal or lineage identity that formed the basis of social hierarchy. As a result, the theory of mixed castes was added and enlarged upon to assimilate new tribes and occupational groups.[6]

The *Manusmrti* enumerates 61 mixed castes. The non-Sanskritic names of many of these indicate that they were older tribes and occupational groups, who were subsequently assimilated into the *varna* structure[7] and accorded the status of *sudras*. The juxtaposition of the *varna* divisions and the existing tribal and occupational structure probably gave rise to a complex social system, where several factors determined the mobility of groups within the larger framework of the *varna* hierarchy.[8]

The imposition of the caste system made it virtually impossible for artisans to aspire to a higher social status. Perhaps, as a result, there was a fatalistic acceptance of their low social status. The operation of the caste system also excluded certain social groups from artisanal activity. Other than upper caste Hindu women producing yarn, no high caste persons are known to have been involved in artisanal activity, either directly or indirectly.

Even though social mobility is on the increase, heredity, caste and community affiliation continue to play an important role in the artisanal sector. A large number of artisans belong to the Scheduled Castes and Scheduled Tribes, and even though there are subtle variations in the status of different artisanal groups, in the broader social context, they continue to occupy the lowermost rungs of the caste hierarchy (See Annexure 3 for a compilation of Scheduled Caste communities in different parts of the country, and their traditional artisanal occupations). In all the areas surveyed by SRUTI, the association between particular castes/communities and artisanal activities seemed to be strongest in the case of pottery, metal work, leather work and cane and bamboo work, where the number of first generation workers was correspondingly small. Caste and community barriers, however, seem to be gradually breaking down, particularly in the case of relatively dynamic manufacturing activities, such as tailoring and wood work, which are attracting a large number of first generation workers.

An interesting feature of the social organisation of south India around the thirteenth century, which has persisted till today, was the division of lower castes into 'left' and 'right' groups. In most parts of the region, right-hand castes were associated primarily with agricultural production and local trade in agricultural commodities, while left-hand castes were associated with artisanal production and distant trade in non-agricultural commodities.[9] This dual division of lower castes has been studied in the context of the traditional division of labour between the sexes in craft production. Box A

THE JAJMANI SYSTEM

For centuries, manufacturing activity in rural India has been done exclusively by hereditary artisanal castes bound to the dominant agricultural castes by traditional ties. Known as the *jajmani* system,Box B this reciprocal arrangement existed throughout the sub-continent, though it was more clearly articulated in some areas such as Maharashtra than in others, such as Bengal.[10] An important economic rationale for the prevalence of the *jajmani* system seems to have been the security it provided during times of scarcity, especially the recurrent famines: "those who, like the weavers in the Surat area during the 1630's famine, left the relatively secure shelter of the rural community to produce more gainfully for the market, were among the first to die of starvation whenever food became scarce."[11]

The *jajmani* system was fairly flexible, in that it combined features of subsistence and commodity production. Based on studies of nineteenth century Maharashtra and Gujarat, schol-

THE GENDER DIVIDE IN ARTISANAL ACTIVITIES

Why is it that women and men do not participate uniformly in different crafts and craft processes? Based on his study of fourteen crafts in Karnataka, Jan Brouwer concluded that the division of labour according to gender "follows unconscious Hindu conceptions about the male and the female, particularly in the symbolism of the body, and its consequent rule of contamination".[80] While the conclusions were based on a study of Karnataka, the author nevertheless felt that they are probably true for the entire sub-continent.

According to Hindu conceptions, the human body is a metaphor for society. The castes which comprise a society are divided between the right and left sides of the body. Women artisans are found only among the right castes (such as *Holeya, Kumbar* and *Medar*), and men in the left castes (such as *Vishwakarma*). "It may be useful here to recall one form of Shiva – his form as *Ardha-narishwara* – whose right side is male and whose left side is female....: the male right side admits female artisans whereas the female left side only admits male artisans."[81]

Brouwer categorised the fourteen crafts he studied into 3 groups – those in which women participate fully, partially, and not at all. While examining the main production stages of these crafts, Brouwer discerned a certain pattern in the participation of women in each of the 3 groups. This pattern, he felt, is the result of a Hindu worldview which sets "boundaries over which women cannot traverse."[82] These boundaries are both physical and conceptual. Take the case of raw materials. The crafts in which women participate fully, use raw materials such as clay and bamboo, that are found within the village, or *grama*, particularly in or near water. In contrast, the raw materials of crafts in which only men participate, are found outside the village, in forests and hills, designated as *aranya*. These materials, such as wood and iron, are associated with evil spirits and demons, and objects made from them have to be ceremoniously delivered to remove these spirits.

Boundaries apply to the use of tools as well. The knife is the principal tool in artisanal activities in which women fully participate. But, the knife is not used in crafts in which only men participate. The loom, lathe, and the wheel are the principal tools of men's crafts, and are taboo for women. According to Brouwer, a "common feature of these three tools is that they have to be put into motion in order to be productive. This motion can be viewed as a temporal and spatial movement. Women, in contrast to men, are also liable to a temporal and spatial movement, the menses".[83] The division between genders in the use of tools "seems to be a reflection of the rule of contamination. The female artisans handle the (male) knife and the male artisans operate the (female) rotating tools".[84] Such a division of labour is corroborated by SRUTI's study of the participation of women in different artisanal activities. Practically no women were found to be operating the lathe, loom or wheel.

According to Brouwer, the gender divide extends to products as well. Products of artisanal activities in which only men participate, are all made with the intention of being permanent. This includes agricultural implements, jewellery, and copper vessels. In contrast, pots, mats, and other products made by women are not as durable.

The division of labour is more intricate in crafts where women participate partially. In mat weaving, for instance, Brouwer found that the warp is prepared by the men, and the weft by women. This, he felt, is because the warp is made from a fibre which grows in the forest, which is out of bounds for women. The weft, on the other hand, is made of a grass which grows on river banks, well within the limits of the *grama*. In pottery, women assist in collecting clay and fuel, as these are found within their domain. But they are barred from operating the wheel, because of the rules of contamination. In blacksmithy, women are only allowed to operate the bellows, particularly in the early morning, when the "first fire has to be kindled in the forge. The fire is brought from the kitchen, where it was made by the woman".[85] The use of the forge and oven are restricted to male artisans, both being identified with the goddess Kali.

There are, however, some aberrations in the pattern discussed above. This is because the traditional "division of labour is beginning to break down among certain groups, such as Muslim migrants and scheduled castes, who are entering crafts formerly closed to them. The result is more equal participation of men and women".[86]

Features of Craft Groups According to Division of Labour

FEATURE	*DIVISION OF LABOUR*		
	Women participate fully	*Women partly engaged*	*Only men participate*
Caste affiliation	Right castes such as *Holeya, Medar, Kumbar*	Affiliation unclear	Left castes such as *Vishwakarma*
Artisanal activity	*Agarbatti* making, cane & bamboo work, comb work, pith work	Mat weaving, pottery, blacksmithy	Sandalwood carving, sculpture, goldsmithy, coppersmithy, lacquerware, carpentry
Origin of raw material	Raw materials obtained within the village area, or *grama*, generally in or near water	Raw materials obtained partly from *grama* and partly from *aranya*	Raw materials collected from forests and hills, or *aranya*, and are associated with demons and deities
Processes/ Tools	Knife is the principal tool. Splitting, knitting, stitching, mixing, rolling, bending, smoothing, twisting are common processes	Women not permitted use of rotating tools i.e., loom, lathe, and potter's wheel, which have to be set into motion.	Knife not used. Rotating tools used
Products	Not intended to be durable, and used in a liminal part of the body	Distinction unclear	Of a permanent nature, and need to be ceremoniously delivered to remove demons in the raw material

ars "came to the conclusion that in the *jajmani* system were included mainly those kinds of work of the community artisans (See pp 11-12) which were directly complementary to agricultural production."[12] But other goods were produced by the same artisans for a separate piece payment.[13]

Although greatly eroded through the operation of a monetised economy, a watered-down version of the *jajmani* system still exists. The SRUTI survey revealed that many artisans, particularly potters, cane and bamboo workers, blacksmiths and wood workers, still retained ties with their traditional *jajmans*, or patrons. But a number of them resented the peripheral obligations that they had to discharge vis-a-vis the *jajmans*. Some of them also felt that the *jajmani* system had no place in a monetised economy, where cash is required to meet everyday requirements of shelter, clothing, food and consumer durables.

ARTISANS' GUILDS

Initially, most artisanal activity catered to the needs of the immediate community. With the expansion of trade, artisans came to be organised into corporate bodies, or guilds. These were referred to as *srenis* and *pugas* in *Vedic* literature. The Ramayana mentions 18 traditional *srenis*, including those of potters, jew-

Box B

THE JAJMANI SYSTEM

The *jajmani* system is a reciprocal arrangement between artisanal castes and the wider village community, for the supply of goods and services. Even though the system probably came into existence in the first or second century A.D., the term *'jajmani'* was coined during the British period.[87] The *jajmani* system derived its philosophical and religious sanction from the Laws of Manu, which defined and governed social and economic behaviour of Hindus through the institution of caste. The caste system was based on a vertical structure, in which the occupational functions for each caste and sub-caste were defined. The upper castes, or *dvija* (twice-born) castes, were forbidden from practising certain occupations. These occupations, which included a number of essential production functions and services, were assigned to the lower castes and outcastes. Social intercourse of various types, including marriage, between the upper and lower castes was also taboo.[88]

Within the *jajmani* system, the lower castes produced goods for, and provided services to, the upper castes, in return for a fixed payment. Those who provided the services or goods were the *purjans*, and their patrons, the *jajmans*. The *purjans'* clientele became their *jajmani*. Typically, the *purjans* included the cultivators, carpenters, metal workers, barbers, shepherds, grain parchers, tailors, potters, weavers and oil pressers (all *Sudras*), and the washermen, mat-makers, leather workers, sweepers and cesspool cleaners (all outcastes). In addition to fixed payments in kind, the *purjans* were also assured some services, e.g., *Brahmins* were obliged to perform certain ritual functions for their *purjans*, while *Kshatriyas* were to offer protection. Thus, there was some element of reciprocity, though it was clearly unbalanced. The concessions usually took the form of free access to various resources including residence sites, food, clothing, fodder for animals, timber, dung, rent-free land, credit facilities, tools, hides and other raw materials. Since the *Brahmins* and *Kshatriyas* were also landowners, in practice, the *jajmani* system provided them with a stable supply of labour. As the mobility of the villagers was limited, the system acquired a hereditary character.[89]

Pocock[90] makes a distinction between services of a ritual/religious nature and those which could be coded as properly artisanal. In the first, compensation followed certain norms and traditions. In the second, the modicum of compensation had to take into account factors like availability and price of raw material, and cost of design development and product innovation.

Even though the *jajmani* system was widely prevalent in the subcontinent, detailed records are available only of the form which it assumed in Maharashtra. Here, the term *bara* (twelve) *balutedar* was used to refer to village artisanal and service groups. These included the carpenter, blacksmith, potter, leather worker, rope maker, barber, washerman, astrologer, and watchman from the *Mahar* (an untouchable caste) community. Apart from these ten, according to regional requirement, an additional two would be chosen from among the goldsmiths, bards, butchers, and carriers of load. Occasionally, in larger villages, there could be an additional grouping called *alutedars*. These included the priest, tailor, water-carrier, gardener, drum-beater, vocalist, musician, oil-presser, betel-leaf seller, watchman (other than *Mahar*), bearer of burdens, goldsmith or bard. Weavers and dyers were not included.[91]

Balutedars, and perhaps, also the *alutedars*, were divided into two classes: *watandar* and *upari*. *Watandars* were those who enjoyed the permanent right to work, known as *watan*, and to receive remuneration in the village. It was heritable and saleable. The village could grant rent-free plots of land to *watandar balutedars*. *Uparis* were landless tenants, and enjoyed no such rights. However, they could become *watandars* when they bought the *watan* from its former incumbent. The *balutedars* were not employed by particular families, but by the village as a whole. Artisans were provided with the necessary raw material and received regular payment, *balute*, from all the villagers. The amount was usually fixed in kind per *watan*, and paid twice a year.[92]

Records show that in a western Deccan village, towards the end of the 18th century, the amount paid in cash for the potter was five rupees per annum per *watan*, the same as that for the blacksmith, but half that for the carpenter. These variations depended more on the importance of the service, rather than the ritual status of the artisan. In addition, they were entitled to a customary share of offerings made to village temples during festivals, and many of them held plots of *inam*, or rent-free, lands. The productive activity of these artisans was not projected towards commodity production on competitive lines, but towards maintaining the community life of the village as a whole.[93] In times of scarcity, it provided a buffer, absent in the case of cash transactions between producer and consumer.

Watandars could sell their *watan* to fellow caste members and move elsewhere. Since they were also free to work for nearby markets in their spare time, this posed a threat to the *jajmani* system. In fact, by the time of the Mughal rule, certain rural artisans, over and above what they made for their *jajmans*, had begun making goods for the market. Major disintegrating forces developed during the British colonial period, in the form of better communications, competition from industrially manufactured goods, and the introduction of new civil laws. But the *jajmani* system weathered many of these changes, and still operates in parts of the country.

ellers, and ivory carvers. A Vijayanagar inscription of the 17th century refers to 18 guilds known as *panas*. Among them were *panicular*: those working in five kinds of metals, *kumbhalika*: potters, *devanga* and *tantuvayin*: weavers, *vastrabhedaka*: cloth dyers, *tilaghataka*: oil millers, *vastra-raksaka*: tailors, *purikelit*: keepers of pack bulls, *goraksaka*: cowherds, *kirata*: hunters, *rajaka*: washermen, *ksaurakas*: barbers, and *uppararu*: salt makers.

The *srenis*, or guilds, were professional groups, bound by contractual ties. The *srenis* gradually evolved into *jatis*, and were among the large number of occupational groups which were allotted a *sudra* status in the *varna* system.[14] The *srenis* performed several functions:

- They controlled the entry of newcomers by laying down standards of craftsmanship and enforcing rules of apprenticeship.
- They evolved and administered a code of business ethics, with particular emphasis on the quality of goods produced.
- They maintained fair wages and prices.
- They settled inter and intra-group disputes.
- They took care of the infirm, disabled, and destitute children within the community.
- They sometimes operated as co-operatives or joint-stock organisations for the execution of public works undertaken by the State.[15]

The *sreni* must not be confused with the *panchayat* of a caste. "Though most of the members of a *sreni*...belonged to the same caste, and came into their craft...by inheritance,...deserving members from other castes were accepted as members after apprenticeship. The fact that the law books always mention *jati-dharmas*, the laws of caste, apart from *sreni-dharmas*, the laws of the guild, is proof...that a *sreni* was not coterminous with a caste...Quite often, it spread beyond the boundaries of the caste...And at no time did it include all the members of a caste in its specialised fraternity".[16]

The *smritis*, or law books, contain precise descriptions about the role and nature of guilds in ancient India. The *srenis* were invested with the power to administer and enforce their own laws. The head of a *sreni* was responsible for penalising those who violated *sreni* rules. "But though the king could neither devise nor alter the laws of the *srenis*, it was, nonetheless, his sacred duty to protect and uphold these laws with as much attention and care as he devoted to the enforcement and administration of the Sacred law."[17]

The fundamental law, or constitutional pact of a guild, was called a *samaya*. Such a pact was "indispensable to establish mutual confidence"[18] before any work was undertaken. The *samaya* was binding, and was solemnised either by a sacred libation, or a written undertaking, or at times, before guarantors. Fines, imprisonment, even banishment were prescribed in the event of violations.[19] Each guild had a chief, who was known by different appellations: *jyeshthaka*, *pramukha*, or *mukhya*. The head was assisted by two, three or five *samuh-hitavadins* or *karya-chintakas*. These functionaries were selected with great care. Guild members were entitled to impeach and punish a head who was found guilty of misconduct.[20] It is not known whether members of a *sreni* were obliged to pay fixed and regular subscriptions. But the guilds appear to have derived some income from fines imposed on members. "The biggest source of income was, of course, the joint-stock operations which it undertook on a large scale and for which it was able to raise sufficient capital by heavy borrowings. Kings and princes are also known to have occasionally bestowed rich gifts on *srenis*."[21]

The *srenis* were not necessarily tied to a locality, and are known to have moved from one town to another, over a period of time. Interestingly, *srenis* of merchants and artisans often came together in a joint organisation, called the *nigama*, or the equivalent of a chamber of commerce and industry. Some *nigamas* also included a class of exporters, or *sarthavahas*, who transported the specialities of a town over long distances, and sold them at higher margins of profit than those obtainable locally.[22] By all accounts, the *srenis* were very sound and stable institutions, and enjoyed considerable moral and social prestige not only among their own members, but in society at large. This conclusion is borne out by their record, preserved in inscriptions all over north and south India, as banking institutions.[23]

In the Deccan, occupational groups in urban areas had their own regional chiefs (*mehetare*). It is not certain whether the groups were organised into guilds, as was the case in medieval Ahmedabad. Prior to the Muslim conquest, there were trade guilds in the eastern Deccan, but their condition under the Mughals is not clear.[24] The institution of guilds came under severe strain after the twelfth century, on account of successive foreign invasions. The artisans and merchants became victims of arbitrary methods employed by despots and feudal chieftains, who had scant respect for the traditional laws of the guild. Writing in 1880, Sir George Birdwood observed: "Under British rule,... the authority of the trade guilds in India has necessarily been relaxed, to the marked detriment of those handicrafts the perfection of which depends on hereditary processes and skill." Nevertheless, he felt that the guilds still had a role to play in protecting the traditional artisans "against the fierce and merciless competition of the English manufacturers."[25]

Artisans' guilds are unheard of in India today. An all-India survey of handicrafts cooperatives, conducted in the late 1950s, remarked that "There is little corporate activity at any level. There are hardly any organisations or associations of craftsmen or dealers, barring a very few, which are live, active and useful...Co-operative organisations in the field are again few, and of very recent origin."[26] The co-operatives promoted by the government, may be viewed as the modern *avatar* of artisans' guilds, but their success, so far, has been limited.

THE SOCIO-ECONOMIC STATUS OF ARTISANS

According to some scholars, "Virtually every feature of the economy, society and the state was designed to hold the artisan firmly down to his lowly place in the scheme of things, allowing very little scope for upward mobilty or differentiation. Nearly every

foreign observer spoke of the relentless tyranny suffered by the artisan...The whip and the cudgel were freely used not only by the nobles' minions but by the middlemen as well. The latter's manifold techniques for cheating the craftsmen included charging of interest on advances, shortchanging...and charging commission of upto 12 per cent." Attempts to bypass the middlemen usually failed.[27]

In most parts of the country, artisans ranked lower than landholders in the occupational hierarchy, and settling in the centre of the village was forbidden for many of them... "mobility of any sort – beyond the movement of rural artisans to the localised centres of production – appears to have been strictly limited... The impressive edifice of India's manufactures rested on the labour of men and women who meekly pursued their hereditary occupations, with hardly any hope of a better life, exploited by rulers and merchants alike."[28] Sometimes, however, the artisans did revolt. For instance, in 1630, the weavers at Broach mutinied against the English, demanding that the latter stop buying cotton yarn. The weavers of Baroda left the city in protest against the governor's tyranny.[29] Scholars believe that in the ultimate analysis, the stability of the artisanal system was threatened, not by the development of the market, but by the "attacks on artisans' traditional rights – like seizure or forced mortgage of their rent-free lands – by powerful social groups."[30]

There are no dependable estimates of artisans' incomes when they worked as independent producers. However, data from the *Ain-i-Akbari* indicates that their "incomes afforded no scope for savings that could lead to accumulation of capital" or acquisition of assets. The wages of artisans in Mughal India, "ranged from bare subsistence to a reasonable degree of comfort."[31] Only a handful of artisans earned large profits and their upward mobility was severely restricted. The bulk of capital required by the artisans came from their meagre savings, which were geared to a hand-to-mouth existence, the surplus from one season's earnings providing the working capital for the next. The artisans do not appear to have maintained inventories.

While many of the oppressive features observed during the colonial and pre-colonial period are absent today, a large segment of the artisanal population lives in abject poverty. Not surprisingly, many artisans are giving up their traditional occupations, and taking up other forms of work, mostly unskilled, daily wage labour, which assures them higher returns. This trend was confirmed by the SRUTI survey, which revealed that in more than half the traditional leather artisan households, several family members had given up leather work, and were working as casual labourers. Sixteen potters, out of fourty-eight, said that their children had chosen occupations other than pottery. A similar trend has been reported by the Anthropological Survey of India, in its study of Scheduled Caste communities throughout India. Box C

The reasons for this state of affairs are not far to seek. The artisans' incomes are exceedingly low: in 1987-88, the average annual income of artisans interviewed by SRUTI, from their artisanal activities, was Rs.4899. The group-wise average varied from a low of Rs.2219, in the case of cane and bamboo workers, to a high of Rs.7018, in that of wood workers. Other surveys of artisans, conducted around the same time, report equally low, if not lower, incomes.Box D The poverty line figure announced by the Planning Commission for the Seventh Plan period was

Box C

ARTISANS BECOME AGRICULTURAL LABOURERS

The table below indicates the percentage of artisans belonging to different scheduled castes who have given up their traditional caste occupations, and have become agricultural labourers instead. The list is far from exhaustive, and is merely meant to illustrate a trend that is being observed throughout the artisanal sector in India. There are instances where entire communities have given up their traditional occupations, such as the *Tirgar* of Gujarat, who traditionally made arrows, or the *Naribar* of Rajasthan, Delhi and Gujarat, who traditionally made leather cords and braids.

NAME OF SC COMMUNITY	*STATE*	*TRADITIONAL OCCUPATION*	*% OF WORKERS WHO HAVE BECOME AGRICULTURAL LABOURERS*
Ad Dharmi	Punjab, Delhi	Tanning	48
Agaria	Uttar Pradesh	Iron smelting, making agricultural implements	36
Arunthatiyar	Tamil Nadu, Kerala, Karnataka, Andhra Pradesh	Making leather articles	83
Badaik	Orissa	Spinning & weaving	35
Balai	Madhya Pradesh		33
Bantar	Bihar	Making bamboo articles	84
Bellara	Karnataka	Making baskets	39
Chakkiliyan	Tamil Nadu	Making leather articles	79
Chamar	Uttar Pradesh		
Ghantra	Orissa	Blacksmithy	36
Jeggali	Orissa	Tanning	65
Koliyan	Karnataka	Weaving	66

SOURCE: Compiled from Singh, K.S.: The Scheduled Castes. People of India, National Series Volume II; Anthropological Survey of India & Oxford University Press 1993

Rs.6400 per annum, for a family of 4-5 persons. Therefore, it is evident from the survey data tabulated in Box D, that a large number of artisans fall below the poverty line.

The surveys also suggest that artisans own hardly any assets. The major asset owned is a house, more often than not, *kucca*, or made of mud. The incidence of landlessness is high: Sixty one per cent of the artisans in the SRUTI survey did not possess any land whatsoever. In no case did the holdings exceed three acres. For most artisans, their inability to invest any surplus income in the purchase of agricultural inputs, makes for poor yields. The other assets most commonly owned by artisans are the tools and tackles of their respective trades. Some of them also own livestock or cattle. 46 per cent of the artisanal households surveyed did not have electricity connections.

Box D

SOCIO-ECONOMIC STATUS OF ARTISANS: EVIDENCE FROM FIELD SURVEYS

Collated below are data from five surveys of artisanal households conducted in different parts of the country.

LOCATION/ YEAR OF SURVEY	*SAMPLE SIZE*	*SURVEY FINDINGS WITH RESPECT TO*				
		Family size	*Annual income*	*Land owned*	*Type of house*	*Literacy*
1. GURGAON Haryana,1986	2950	6	▸ 73 % earned less than Rs.6000 p.a. ▸ 18 % earned between Rs.6001 & Rs.8400 p.a. ▸ 9 % earned above Rs.8400 p.a.	▸ 85 % were landless ▸ 11 % owned small holdings ▸ 4 % owned upto 0.5 acre	▸ 85 % had *kucca* houses ▸ 15 % had semi-*pucca* houses ▸ 1 % had *pucca* houses	▸ 20 % were literate ▸ 3 % studied upto primary level
2. ALWAR, Rajasthan 1986	268	No data	No data	▸ 35 % owned irrigated land ▸ 65 % owned non-irrigated land ▸ Most of the holdings were between 0-2 *bighas*	▸ 57 % had *kucca* houses ▸ 30 % had *pucca* houses ▸ 13 % had rented houses	▸ 47 % were literate ▸ 33 % studied upto primary level
3. GONDA, Uttar Pradesh, 1986	10,224	5.5	▸ 91 % earned less than Rs.3600 p.a. ▸ 40 % earned less than Rs.2400 p.a.	No data	No data	▸ 14 % were literate ▸ 10 % studied upto primary level
4. Various districts of Maharashtra, 1983	250	6.2	▸ Average income was Rs.4891 p.a. 68 % were below the poverty line	▸ 62 % were landless		▸ 25 % were literate
5. All India 1987-88	475	No data	▸ Average income was Rs.4899 p.a.	▸ 60 % were landless	No data	▸ 50% heads of households;10% spouses; 78% sons; & 55% daughters were literate

NOTES

The above figures can be compared with macro-level data on poverty and literacy. According to the Planning Commission, the poverty line for the Seventh Plan period was Rs.6400 for a family of 4-5 persons. As per the 1981 Census, the general literacy rate was 36.23 per cent. The literacy rate for females was 24.82 and that for males was 46.89 per cent.

The details of the 5 surveys tabulated above are as follows:

1. Khan, S.; *Rural Artisan Industries in Gurgaon District – Problems and Potentialities*; NISTADS (CSIR); New Delhi; 1986
2. Panandiker, V.A.P. & Sud, A.; *Rural Industrialisation*; Oxford & IBH Publishing Co. Pvt. Ltd.; New Delhi; 1986
3. Patni, R.L.; *Survey of Rural Artisans in Gonda District, Uttar Pradesh*; Deendayal Research Institute; New Delhi; 1986
4. VMST; *A Study of the Nature & Causes of Poverty among Rural Artisans: Maharashtra State*; Bombay; 1983:
   a) Blacksmiths: Yavatmal District b) Footwear makers: Nanded District c) Cane & bamboo workers: Ratnagiri District d) Potters: Jalgaon District e) Sisal fibre workers: Solapur District
5. SRUTI; present study; Survey of rural artisans in Alibag (Maharashtra); Daurala (Uttar Pradesh); Nimdih (Bihar); Mhow (Madhya Pradesh); Shirahatti (Karnataka); Vyara (Gujarat); Hyethnagar(Andhra Pradesh); Tohana (Haryana)

That income levels happen to be as low as they are, is not surprising, given that most artisans are employed in their traditional activities for an average of 6-8 months in the year. This under-employment is due to a combination of factors, such as declining demand for their products, inadequate working capital, and raw material shortages. As a result, many artisanal households are compelled to supplement their income, most often through casual work. Others turn to cultivation of their marginal holdings, or in some cases, to animal husbandry. For potters, the problem of seasonality is particularly acute, as their work comes to a virtual halt during the monsoon.

Thirty-five per cent of the artisans interviewed by SRUTI, reported an annual household expenditure of less than Rs.5000. Over three-fourths of the sample had an annual expenditure level of under Rs.10,000 a year. Food and clothing generally formed the major component of household expenditure. Given the low level of earnings, on the one hand, and the high living and production costs, on the other, indebtedness is a way of life for most them: 47 per cent of the artisans interviewed were found to be indebted.

For a large number of artisans and their families, the government's aim of total literacy is a distant dream. The data compiled in Box D reveal literacy levels that range between 14 and 50 per cent. According to the SRUTI survey, 50 per cent of the heads of artisanal households had received no education, whatsoever. The corresponding figures for their spouses, sons and daughters were 90 per cent, 30 per cent and 41 per cent, respectively. The figures in the case of the children can be misleading: A fair number of children do attend school at the primary stage. But their formal schooling comes to a halt the moment they become potential "earners" i.e., capable of assisting in the family trade, or supplementing the household's earnings through casual labour.

ARTISANAL TECHNOLOGY

"In India, it is seldom that an attempt is made to accomplish anything by machinery that can be performed by human labour", remarked Buchanan in the early years of the 19th century.[32] Fascinated by the skills of Indian jewellers, another observer commented: "where was to be wondered the Tools he worked with, more than his Art, because we see it surpassed in Europe; but with far more invention of instruments. Here, the Hands and Feet being all the Vice, and the other Tools unshapen bits of iron."[33] Foreign visitors to India at different periods were struck by the simplicity of equipment used by Indian artisans and the excellent quality of their products; by the victory of manual skills over tools and equipment.

There is little information on artisanal technology in India prior to the Muslim invasions. Under the Delhi Sultanate, the introduction of the spinning wheel was the most significant technological improvement, since it augmented the spinner's efficiency six-fold.[34] The cotton carder's bow reached India on the eve of the Ghorian conquests, and it has been argued that "the spinning wheel and carder's bow must have dramatically cheapened spun yarn, and probably greatly enlarged its production"[35] and that "the number of weavers should have increased proportionately to cope with the larger quantities of yarn now produced."[36] A new craft that was introduced to India during this period was that of paper manufacture. The earliest surviving paper manuscript was written in Gujarat around 1223-24. During Balban's time, paper was not discarded after use, but washed and then re-used.[37]

The traditional artisanal technologies prevalent in medieval India are discussed in Box E. A recurring theme in any discussion on Indian manufacturing technologies during this period, is the slow pace of innovation, and the relative simplicity of artisanal technologies, as compared with those prevalent in Western Europe and China. Thus, Indian artisans produced the finest of textiles without the aid of multi-spindles used in China. Nor was there anything to compare with the water-powered throwing mills used by the Italian silk weavers. The Mughal monuments were constructed without such elementary aids as the wheel-barrow. The artisans were ignorant about the uses of coal, and lacked the technology to produce cast iron, screws and grooves.[38] But even though they were slow to innovate, the artisans showed what Raychaudhuri terms "a remarkable capacity for imitative innovation", which could be seen in their skilled imitations and adaptations of foreign designs, most visible in the areas of ship building and manufacture of heavy guns.[39]

While no satisfactory explanations have been found for the lack of contemporary technological innovation, economic historians nevertheless feel that "there were certain features of the Indian economy and society which probably contained the roots of technological stagnation".[40] Some of these features are discussed below.

- Firstly, any form of innovation implies an element of risk and investment of capital. Given that most Indian artisans lived on the margin of subsistence, they had virtually no reserves to invest in technological innovation.[41] It has also been suggested that there may have been a vested interest on the part of the artisans in clinging to labour-intensive technology.[42] The artisans' incredibly low incomes also helped to keep production costs low, and product prices competitive. As a result, from the merchants' point of view, investing in technological innovation and the development of labour-

saving devices, was probably not a priority.[43] This was in contrast to other societies, where rapidly rising labour costs probably forced merchants to invest in the development of innovative technologies for enhancing productivity, and thereby, safeguarding their profits.

- Secondly, the rigidity as a result of the hereditary nature of occupations, may have inhibited technological innovation. Unlike many other societies, where the elite had the time, resources and freedom to pursue an interest in manufacturing activities and technologies, the Indian elite was

Box E

ARTISANAL TECHNOLOGIES: INDIA VS. EUROPE

Today, it is difficult to objectively and correctly judge where Indian technology stood in relation to European technology, prior to the Industrial Revolution. Given the near universal adoption of a single model of technological development, essentially the European model, it is easy to conclude today that Indian artisans were technologically 'backward' compared to their European counterparts, especially in the use of mechanical principles and devices. From here, it is a short step to surmising that this 'backwardness' was the root of the technological disadvantage that India faces even today vis-a-vis the West.

However, equally cogently, it can be argued, that perhaps the Indian artisan represented a technological tradition, which, if colonialism and other historical circumstances had not derailed, would have been perhaps a better, and certainly, an alternative model. What follows is a comparison between technologies used in India and in Europe in four major fields: mechanical devices, metallurgy, textiles and ship-building.

MECHANICAL DEVICES

The important mechanical devices used in machines are gears, screws, cranks, belt-drives, treadles, springs and pistons.

- Gears:
  Gears control speed and convert vertical motion into a horizontal one or vice versa. In medieval India, devices such as the wooden pin-drum gears used in the Persian water wheel were unheard of.
- Screws & Lathes:
  The principle of screw-motion was known in Europe since Hellenic times, but the use of a screw as a fastener or joining element began only in the fifteenth century. But once known, its use spread quickly, replacing soldering and riveting with obvious advantages. The development of powerful lathes to cut grooves in screws followed soon thereafter. But the use of lathes and cutting tools began in India much later.
- Cranks:
  The crank converts rotary motion into a reciprocatory one. The simple crank and connecting rod as well as the compound crank appeared in the fifteenth century in China and Europe. In India, the crank handle was added to spinning wheels in the seventeenth century.
- Belt Drives:
  Belt drives are convenient devices for transmission of power. Their use in the West has been traced to the twelfth century spinning wheel. In India, spinning wheels appear to have been in use around 1350 A.D. The belt drive was found in these wheels, as also in the bow drill used by carpenters and jewellers. Further applications of the belt drive were not known.
- Treadles:
  Treadles are foot-operated levers, and appeared in India as part of weavers' looms. There is no reason to doubt their antiquity on the Indian loom. Much later, Moghal paintings showed the weaver saint Kabir working on a treadle loom. In Europe, treadles were first used in looms in the twelfth century. Later, their use spread to lathes (thirteenth century), pipe organs (fifteenth century) and spinning wheels (sixteenth century). No such applications of the treadle were recorded in India.
- Springs:
  These were known to ancient Indians, and took the form of a metal bar bent into the shape of a bow. This type of bow spring was used in locks. But coiled or spiral springs that were developed in Europe around 1400 A.D., were not used in India till much later.
- Mechanical clocks:
  These clocks incorporate a number of mechanical principles and devices including springs, gears, screws, and balances. Five such clocks were first presented to Emperor Jehangir in 1616, and later they became common gifts to Indian rulers. The manufacture of similar clocks, and the application of the mechanical principles inherent in them did not happen in India till much later. Time-keeping in India continued to be based on a variety of sundials, water clocks and sand clocks.

METALLURGY

The industrial revolution in Europe was powered by steam. But even earlier, the West had begun to replace human motive force with wind and water. Horizontal watermills and windmills had appeared in early medieval Persia too. In the substitution of human power, Indians had first preferred animal power. The use of wind and water, though not unknown in India, remained localised to hilly regions like Kashmir.

The use of power in Indian artisanal technologies also followed a pattern different from that in medieval China and Europe. China had pioneered the development of power-driven bellows by 1550 A.D. In Europe, bellows were worked by trip-lugs on water-driven shafts, or by systems of cranks, levers and weights. However, even till the beginning of the nineteenth century, Indian ironsmiths depended on bellows worked by single operators. This limited their capacity to generate heat. As a result, only small quantities of metal (iron or bronze) could be melted at a time. When heavy equipment like cannons had to be manufactured, molten metal from several furnaces had to be used, affecting the overall quality of the casting and the cannon.

TEXTILES

Significant advances were made in several aspects of textile manufacturing. In cleaning cotton, the bow-scutch device had been in use in India since the eleventh century. No mechanical change was reported in this device. The spinning wheel had come into use in India by the fourteenth century. By the seventeenth century, a crank handle was attached to the spinning wheel, greatly enhancing its efficiency. In Europe, the crank handle was used a century earlier. There were no attempts to develop multi-spindle wheels, though they had been in use in China since the fourteenth century.

In India, the use of the horizontal, counter-balance pit-loom was widespread. In the North-East, the loin loom was in evidence, being an extension of the craft tradition of South-East Asia. The earliest

restrained, by the rules of the caste system, from dabbling in 'low caste' occupations, such as leather work, pottery, and so on. This deprived the nation of what, the world over, became an important source of technological innovation.

- Thirdly, there was probably a surplus of skilled labour, which could be drawn upon to augment production, whenever demand went up.[44] In fact, minor modifications in the organisation of production, such as localisation of manufacturing activity, or centralised production, also helped in enhancing productivity to meet expanding demand.[45] The need for technological change was, therefore, not seriously felt.

The substitution of tools and machines by manual skills, and the simplicity of tools used, were, and perhaps continue to be, the most characteristic features of artisanal manufacturing techniques in India. Factors inhibiting technological change and upgradation in the artisanal sector seem to be in operation even today. Judging by the SRUTI survey and review of literature, artisanal technologies have remained virtually unchanged over the centuries, with only a handful of artisans reporting that they were aware of, or had adopted, new technologies. Most of them continue to use age-old technologies, such as the hand-operated leather bellow, vegetable tanning, the bow-drill, and the pitloom. This is in stark contrast to the factory sector, where the adoption of advanced technologies like chrome tanning and powerloom weaving, have vastly revolutionised manufacturing activity.

ORGANISATION OF PRODUCTION

The bulk of artisanal production in India, until the colonial period, was for the immediate rural market, and small production units using very little capital were the characteristic form of organisation. "Since heredity was perhaps the chief determinant of the artisan's choice of trade, the family developed naturally as the work unit, with the *paterfamilias* as the mastercraftsman, providing the necessary training in skills".[46] Nevertheless, there is evidence that various forms of economic organisation and methods of integrating artisanal production into the macro-system of the economy existed at different points in Indian history.

The *Arthasastra* of Kautilya makes a distinction between two types of artisans: the master craftsperson who employed a number of artisans on a wage to do the actual work for the customer; and the artisans who financed themselves, and worked in their own workshops. Artisans were remunerated either in kind or in cash. Nevertheless, in those areas where the use of money had not been introduced, service relationships and exchanges in kind may have existed. It is likely that the *jajmani* system evolved from these service relations.[47]

Based on a study of South India during the Mughal period, Alaev suggests that artisanal production was essentially of two kinds: natural and commodity production. According to Alaev, the first form was 'natural', in the sense that it was concerned more with immediate consumption and was not connected with the market. The second form, 'commodity production', was so designated since it was essentially market-oriented.[48]

Alaev classified natural production into three further craft categories:

- Crafts such as spinning or weaving, which were practiced by

ornamentation on the loom was done by manually lifting warp ends as in *jamdani* weaving. The drawloom/*jala* may have been introduced into north India by the Mughals, while the *adai*, also based on the harness principle, was integrated with the loom in the South between the fourteenth and sixteenth centuries A.D. The harness in both cases was a simple, inexpensive device made of string. The looms in India, in contrast with those in Europe, have always been simple devices, made largely, if not exclusively, of local materials, and assembled by the artisans themselves.

In the use of dyes for ornamenting cotton textiles, India had a clear edge over all other production centres, including Persia. The origin of block printing is traced to the craft region running through Gujarat, Rajasthan and Madhya Pradesh. From the eleventh century A.D., Indian cotton textiles, woven in checks, dyed in madder, indigo or *khaya* (a ferruginous earth found in Kutch), or patterned by mordant, or resist applied by block or pen, played a major role in the trade with East Africa, West Asia and South-East Asia. What lured the European East India Company to India was the fact that nutmeg, cloves and other spices of the East Indies, could be purchased in exchange for Indian textiles. It was from India that Europe learnt the technique of textile block printing.

SHIP-BUILDING

India has an ancient tradition of ship building. Since ships had to be shored during the monsoon period (March to September), it made sense to limit their size. The planks forming the hull were sewn together with coir. In the medieval period they appear to have been double-pointed, undecked with lateen-type sails. Positions were identified at sea through a wind and star compass card. In fact, when Vasco da Gama encountered a Gujarati pilot on his first voyage to India, he found the expertise of the latter on par with that of contemporary Portuguese navigators.

Although the ships were well adapted to the exigencies of local navigation, when cannons had to be adopted for purposes of defence, this involved structural changes in the European model. Indian carpenters adapted easily to new requirements and had no problem in copying European designs. Indian methods of riveting planks or making water tanks were rated superior to those of European shipwrights. But instruments and shipping supplies were still procured from England, as no attempt was made to manufacture items of comparable quality locally. Europeans navigators had access to aids such as the telescope, compass, charts based on Mercator's projection, astronomical tables and the sea astrolabe. Indian navigators had little use for elaborate instrumentation and recorded information. They relied on their own oral tradition and the sidereal compass.

Thus, while impressive advances had been made by Indian artisans in textile technology, ship-building, zinc and steel production, architectural and agricultural technologies, they had only isolated success in the use of basic mechanical devices, tapping concentrated sources of power and the casting of large volumes of iron.

agricultural families as a supplementary activity.

- Craft production in the royal workshops, of items such as arms and expensive cloth, which were intended for immediate consumption by the nobles, courts and the army. During the 18th century in the Deccan, many of the *karkhanas* of the Maratha government seem to have been worked by means of *vethbegar*, or forced labour, of artisans. For the construction of buildings, a certain number of carpenters, brickmakers, masons and bricklayers were requisitioned from the districts and sub-districts for a period of 8-15 days per annum. Similarly, government stables relied on the forced service of leather workers, rope makers, and saddle makers, for fifteen days to two months in the year. These workers were sometimes compensated with token payments in kind.[49]
- Inter-community crafts, or those which were practiced by a group of professionals to meet the community's requirement for goods and services. These professionals were maintained by the community as a whole, and compensated with a proportion of the gross agricultural produce and/or with a parcel of land. Within this system, which may be regarded as the equivalent of the *jajmani* system, functioned a section of blacksmiths, carpenters, coppersmiths, potters, goldsmiths, silversmiths, tanners, washermen and barbers. They were spread over the villages in definite proportions (one artisan was sometimes attached to several villages), and were tied by economic and social relations to the locality.[50]

Commodity production, according to Alaev, was also of two types, viz:

- Crafts which catered to the narrow local market and produced essentially coarse goods.
- Those that catered to a wider market, and in particular, to the upper strata of society. This set of crafts was characterised by a greater diversification and division of labour and greater dependence on merchant capital.[51]

It appears that "by the seventeenth century, exchange had made significant inroads into the subsistence-oriented system of manufacture…Payments in cash and kind for additional work, or entirely on a piece-work basis, co-existed with the more widespread practice of allocating fixed shares of the rural produce and/or land to the artisan."[52] In all probability, "by the mid-eighteenth century, the entire production for the long- and medium-distance trade was dependent on artisans who were weaned from the '*jajmani* system'. The majority of these artisans appears to have become dependent on the system of advance – of part of the price and raw material – from the buyers or middlemen. In some cases, part of the advance was paid in grain."[53] This system of advances was known in parts of the country as *dadni*. "The *raison d'etre* of *dadni* was no doubt the inadequacy of the artisan's capital for the requirements of an expanding market."[54] However, by and large, the artisans working under the *dadni* system were not reduced to the position of wage earners, with the buyer providing the raw material and making payments on a daily basis.[55] "*Dadni* was not equivalent to the putting-out system in so far as the transactions it covered were still sales, with the artisans retaining considerable independence." At most, the system "promoted the merchant's control over the producer, rather than the process of production itself".[56]

The most significant change, during the colonial period, was the growth of organisations employing large numbers of artisans, producing goods under centralised control. This growth was dictated by two factors: 1) The need on the part of European companies who were catering to markets which had begun insisting on standardisation, to ensure the quality and regularity of supply, and 2) the need to bind the artisans, so as to limit competition from other buyers[57] (though how important a factor this could be in a labour surplus economy is debatable). The imperial *karkhanas* could be regarded as a precursor to this form of organisation, since they employed large numbers of artisans on a regular wage basis. But, the important difference was that their primary aim was to cater to the needs of the imperial court or army, and not the market. Centralised production, however, was very restricted, and did not dislodge the family as the basic unit of artisanal production.[58]

According to one account, by the late 18th century, there were three levels and forms of production organisation in the artisanal sector.[59] These levels continue to be representative of the sector even today.

- The primary level of organisation is represented by production in dispersed units, with artisans working at their residence with the aid of family members; the final product was generally made in one domestic unit, involving minimal division of labour. "Marketing was often unmediated by any trader, and consisted of direct sale to or exchange with the buyer at the workshop/residence or at the *haat*. This is how Buchanan-Hamilton describes the 'common artisans', the rural potter, the blacksmith who sometimes doubled up as the carpenter, and 'low artisans' like the basket and mat maker. When the buyer was a distant one,..the itinerant trader intervened: the weavers, the aristocracy among the artisans, marketed almost exclusively through middlemen even their coarse cloth."[60]
- In the second level of organisation, "the middleman's regular purchase of artisanal products for resale leads to the advance of cash to the artisan…in order to secure regularity of supply and adherence to specification.. Some industries involving high-value inputs (e.g., ivory-carving, gold and silver threadwork, silk textiles) required investments in raw material beyond the means of the artisan."[61] This promoted the influx of capital. Production was done in dispersed, household units. The means of production, i.e., tools, were owned by the artisans, but the fixed capital was negligible in comparison with the circulating capital invested by the middlemen.
- The third level of artisanal organisation is characterised by the following features: "expansion of the workgroup and inclusion of artisans other than family members, though within the caste as a rule; differentiation in the functions and rewards of labour within the workgroup; advanced integration with the market and mediation of one or more middlemen in raw material procurement and produce marketing; and, finally, in rare cases, the emergence of an

entrepreneur-proprietor, i.e., growth of a proto-capitalist enterprise."[62]

MARKETING MODES

Marketing modes were closely linked with the form and level of economic organisation. The need for marketing obviously did not arise in the case of artisans operating solely within the *jajmani* system. Artisans were spread all over the country, and generally marketed their products at local bazaars: this happened once or twice a week. In the hierarchy of market-places, the weekly or bi-weekly village market, or *haat*, occupied the lowest level. A larger volume of trade in a town or large village necessitated the growth of a permanent bazaar, with shops and establishments selling provisions and daily necessities. At the level above that, developed the wholesale mart. In the articulation of simple peasant marketing at the *haat* level with the wider market, crucial roles were played by the itinerant trader and the village-based trader, who may also have been a wealthy farmer. In the *haat*, the peasants and artisans sold their products directly to the consumer and to the middlemen. The *haat* was designed for buying and selling in small lots, the bulk of purchases being made not for resale, but for consumption by the poor peasants and artisans. However, itinerant traders moved about within a limited radius, and their profit margins were generally small.[63] Box F

In some areas of the country, particularly in the South, there was a tendency towards concentration of crafts in larger villages, around the famous temples.[64] Production for the distant market invariably led to the appearance of intermediaries who purchased goods regularly, gave advances for future orders, sometimes provided raw material and reduced the artisans to a dependent position.[65] The subjection of this category of crafts to merchant capital was widespread. For instance, practically all the artisan settlements along the Coromandel Coast were under the control of one trader or another, many of whom were infamously exploitative. One of the most powerful and cruel traders in the seventeenth century, was Kasi Viranna, who had "in his hands all

Box F

HAATS & SHANDIES: VERSATILE PERIODIC MARKETS

The *haat*, or periodic rural market, developed as a forum where the surpluses from a few villages were regularly exchanged by petty traders or producers.[94] The periodic market continues to be a vibrant social institution, and is found in many parts of India – rural, urban and tribal. Commonly known as *shandy* in parts of south India, and *haat* in the North, it is a place where artisans, farmers, vendors and others gather to buy or sell merchandise. For artisans who have limited quantities of merchandise to sell and also lack access to other markets, the *shandy* or *haat* is a vital marketing outlet. Its significance was repeatedly observed during the SRUTI survey. While most *haats* and *shandies* feature a wide range of products and services, some periodic markets specialise in the sale and purchase of particular commodities, such as leather hides (like *Chauri Ghaura* in Uttar Pradesh) or textiles (like the *Mangla Haat* – Calcutta's weekly cloth bazaar).

Periodic markets generally follow a weekly cycle, and are held in different villages on successive, but fixed, days of the week. By and large, *haats* and *shandies* are located within walking distance of the villages they serve. This enables people to visit the market and return home the same day. In hilly and desert areas, where the population is too dispersed to sustain a periodic market, the *shandy* or *haat* is replaced by small shops and annual fairs.[95]

For shopkeepers and traders, the periodic markets are a regular haunt. They do the rounds of weekly markets in their beat, striking the best bargains they can. Transactions start by mid-morning, but it is not till noon that the market place comes alive with the cries of vegetable grocers, food vendors, tea-stall owners, and artisans, all vying for the attention of prospective customers. Leather workers busy themselves with small repair jobs, simultaneously accepting orders for new footwear. Tailors bring along their sewing machines and carry out minor alteration work. They also take orders for new clothes, for completion by the next market date. Cane and bamboo workers negotiate bulk sales of baskets, mats and ropes with shopkeepers and traders. Blacksmiths repair old tools and equipment, fit iron rims to cartwheels or mend horse and other animal shoes. And of course, no periodic market is complete without the services of the tatooist, barber, magician (*jadoo tona wala*), veterinary doctor, fortune teller (*jyothshi*), quack and moneylender. By early evening, the din begins to fade. But for a few stragglers – mainly local people or those from nearby villages – the crowd disperses to make it home before dark. By sunset, the market place wears a deserted look.[96]

The rural market place has witnessed many changes over the last two decades, and is an interesting synthesis of the old and new. Once accessible only on foot or animal drawn vehicles, today buses, cycles, mopeds and motorcycles are a familiar sight. Barter, though still in evidence, has been largely replaced by cash transactions. The most noticeable change has been in the range of products sold at the periodic markets. Once an outlet essentially for rural produce, today periodic markets are being increasingly used by outsiders – from the small urban entrepreneur to the large multi-national corporation – to push their goods. As a result, plastic footwear and containers, talcum powder, toilet soap, perfume, nail polish and other cosmetics are now increasingly visible at these markets, as are aluminium vessels, ready-made garments, and bottled drinks.[97]

Besides their obvious economic role, periodic markets perform other important functions as well. Match making is done here through the offices of marriage brokers, who keep an eye out for prospective brides and grooms, while fortune tellers and astrologers are consulted to draw up horoscopes. *Haats* and *shandies* are also an important venue for settling village disputes. The tea stall is a favorite venue for exchange of gossip and information, and a little time spent there will give an outsider a fairly good idea of political trends, happenings and events in the area. Entertainment is an integral part of periodic markets. The bioscope, jugglers, cock fights and *madaris* (traditional entertainers), are common attractions.[98]

Judging by some micro-studies, a substantial volume of rural spending is done in *haats* and *shandies*, indicating that there is tremendous scope for developing them into rural marketing centres for artisan products. But the extent to which their marketing potential is realised, will depend on the amount of effort that is invested in market research, surveys, and tilting consumer opinion in favour of artisanal products.[99]

the coast from Madras to Armagaon, except Pulicat". Weavers' settlements of this region were known as the "Viranna villages".[66]

Given that artisans continue to function at different levels, and within different work arrangements, their marketing methods are equally varied. Direct sales continue to be made by the artisans, either from their premises, or at the *haats*. The reliance on *haats* and fairs as a marketing outlet, seems to be most pronounced in the case of the cane and bamboo workers. Leather workers and potters, on the other hand, effect most of their sales from their premises. More than half the artisans interviewed by SRUTI, produced goods against orders placed in advance by clients. Most of these artisans were tailors, metal workers and wood workers. This pattern seems to have been neccesitated by the rising cost of raw material inputs. The artisans are caught in a vicious circle in which they neither have the surplus to purchase raw materials in bulk, and nor, therefore, the ability to build up inventories.

SIGNIFICANCE OF THE ARTISANAL SECTOR

Though artisans in India are largely marginalised, till a couple of hundred years ago, they provided society with most of the goods and services needed for its well-being. The historical dependence on the artisanal sector in India, can be judged from the pattern of demand for the artisans' products, their numerical strength, and output.

Demand

During the Delhi Sultanate, textile work was the most important manufacturing activity in terms of employment and output. Next in importance to textile work, especially in urban areas, was the building industry. Forts, palaces and mosques were constructed on a large scale. Allaudin Khalji reportedly employed as many as 70,000 artisans for construction of his buildings. Metallurgy was another craft of significance, especially the fashioning of damascened swords, bronze and brass vessels, and coins.[67]

According to Raychaudhuri, there was an upsurge in demand for manufactured goods during the Mughal period, and the distribution of manufacturing activity catering to local needs was widespread. The "weight of evidence is overwhelmingly against the view that the industrial map of Mughal India was marked by a few oases of manufacturing centres hugging the trunk routes amidst an economic desert of subsistence agriculture."[68] Such centres of specialised production, as existed, catered essentially to the manufacture of export goods, and certain luxury products. These centres were sprinkled across the country, but were more in evidence wherever access to markets was easy, i.e., along trade routes and ports.

During the Mughal period, the most important manufactured items were textiles, dyestuffs, sugar, oils, boats, bullock carts, and other means of transport. From the affluent sections of society came the demand for comfort goods, such as furniture, leather goods, clothes, writing materials, jewellery, perfumes, harness and saddlery. In terms of volume, only a fraction of these goods was made in the imperial workshops. The rest was produced by independent artisans, located in remote parts of the Mughal empire: lacquerwork came from Gujarat, saddlery from Lahore, perfumed pottery from Patna, and paper from Shahzadpur.[69]

The foregoing evidence suggests that "Mughal India had a manufacturing sector marked by great variety, vigour and probably a large volume of aggregate output."[70] After 1800, however, foreign factory produced goods began flooding the Indian market, greatly undermining indigenous handicrafts production.[71] The opening of the Suez Canal, in 1869, further facilitated the import of British goods, and the expansion of railways in India ensured their widespread distribution all over the country. In almost all towns and villages, the textile industry was predominant, and was probably the worst hit by foreign competition. According to Divekar, from about the nineteenth century, Indian fabrics in western India, as probably elsewhere, "were fast yielding to the cheaper machine-made English manufactures. In Broach, for example, in the first quarter of the nineteenth century, English cloth could be obtained at half the price of the best *dhaties*.., the indigenous manufacture, therefore, decayed rapidly. By the middle of the nineteenth century almost all the varieties of cloth came to be imported from England, except coarse cloth and *kambals* (coarse blankets)."[72] As a result of the extensive use of European cloth by the Indian middle class, large numbers of weavers and spinners were thrown out of employment, and "cotton spinning, which was once a great source of employment to women and the poorer classes, ceased to be so..as the use of English yarn in indigenous manufactures was fast increasing".[73]

Other areas of artisanal production were also affected by foreign competition. Till about the end of the 1850s, several villages had iron smelting furnaces. However, with the gradual rise in prices of fuel, and the import of cheap iron sheets from Europe, the indigenous smelting industry was more or less wiped out. The closure of mints and old ordinance factories also threw many artisans out of employment. Stiff competition from imported paper gradually edged indigenous paper manufacturers out of the market.[74] The traditional leather industry, especially tanning in the countryside, also suffered immensely in the nineteenth century. Hides had all along been the

perquisite of the local artisans. However, the tremendous boom in the tanning industry and export of hides to the West accelerated the sale of hides by cattle owners to traders. The traditional tanners could not compete with the tanneries, whose access to capital enabled them to procure hides in bulk. Many of the tanners were forced to become agricultural labourers, while a few migrated to urban tanning units. The discovery of kerosene in the nineteenth century practically wiped out a segment of artisans *(telis)* who made a living out of crushing oil seeds used in making illumination oil.

Talking specifically about urban artisans, Divekar observes that "urban industries, which grew and prospered in the second half of the nineteenth century, showed a definite decline in the first

Box G

SIZE & CONTRIBUTION OF THE ARTISANAL SECTOR

The task of estimating the number of artisans in India, and their contribution to the economy, is fraught with difficulty, both on account of definitional confusion and the absence of a reliable and comprehensive statistical data base on the artisanal sector. Therefore, the estimates presented below should be viewed in the light of the inadequacies and limitations of the existing data.

SIZE OF THE ARTISANAL POPULATION

An attempt was made to generate an estimate of the number of artisans in India, using data from the Economic Census, 1980. Based on an analysis of this data (described at length in Annexure 4), the artisanal population in 1980 can be pegged anywhere between 74.53 lakh and 1.25 crore persons.

CHANGES IN THE ARTISANAL POPULATION 1961-1981

Judging by an analysis of the Population Census of 1961 and 1981, several changes took place in the artisanal population. Annexure 2 These are outlined below:

- There was an overall contraction of around 29 per cent in the artisanal population.
- The employment share of the artisanal sector in relation to the non-household or organised sector declined in all eight industrial groups addressed by this report. This trend was particularly marked in the case of jewellery work, leather work, and textile work. Conversely, there was an expansion in the share of the non-household sector across all the groups. Table A
- There was a net decline in the number of workers employed in three industrial groups, viz., cane and bamboo work, leather work and textile work. On the other hand, there were net increases in the number of workers engaged in jewellery work, metal work, pottery, tailoring and wood work. Further analysis reveals that there was a net decline in the number of workers in the artisanal sector in all the groups. The inverse is true in the case of the non-household sector. Table B
- There was a net decline in the number of female workers in the artisanal sector in all the eight industry groups. In per centage terms, the sharpest decline seems to have been in the case of leather workers, textile workers, jewellery workers and potters. Table C

VALUE ADDED BY THE ARTISANAL SECTOR

A statistical exercise was carried out to assess the value added by the artisanal sector, as an index of its contribution to the Indian economy. Based on the employment estimates discussed above, as well as an analysis of data from a number of micro-level field studies of artisans, two sets of estimates of the valued added by the artisanal sector in 1985-86, were generated. Annexure 4 & 4B These are as follows:

- Estimate 1: Rs.18146.65 to 29316.38 million
- Estimate 2: Rs.23542.55 to 38724.54 million

Table A

INDUSTRY GROUP	*EMPLOYMENT SHARE OF ARTISANAL SECTOR*	
	1961 %	*1981%*
Cane & bamboo work	95	81
Jewellery work	63	28
Leather work	74	42
Metal work	40	21
Pottery	83	59
Tailoring	51	27
Textile work	72	41
Wood work	55	39

Table B

INDUSTRY GROUP	*% CHANGE IN NUMBER OF WORKERS BETWEEN 1961-1981*	
	Artisanal Sector	*Non-Household Sector*
Cane & bamboo work	-24	+222
Jewellery work	-30	+209
Leather work	-56	+76
Metal work	-16	+103
Pottery	-23	+165
Tailoring	-17	+171
Textile work	-48	+99
Wood work	-7	+76

Table C

INDUSTRY GROUP	*% DECLINE IN NUMBER OF WOMEN WORKERS IN ARTISANAL SECTOR BETWEEN 1961-91*
Cane & bamboo work	38
Jewellery work	54
Leather work	81
Metal work	45
Pottery	52
Tailoring	25
Textile work	73
Wood work	25

NOTE

Estimate 1 is based on the assumption that a full-time worker is one who works 183 days in the year, whereas, estimate 2 is based on the assumption that a full-time worker is one who works for 270 days in the year.108

half of the nineteenth century. Only in very... exceptional cases did a few artisans acquire new skills and find new jobs as a result of the import of European articles. Some...blacksmiths... had started repairing watches in the last quarter of the eighteenth century. But other examples are hard to find... there are frequent instances of the decay of a craft forcing the craftsmen to change their traditional occupation at a great disadvantage."[5]

In the twentieth century, the artisanal sector witnessed a further setback when traditional raw materials were replaced by newer materials, notably plastics, which required altogether different technologies. Plastics not only eroded the market for leather footwear; they also undermined the demand for a number of items traditionally made from clay, wood and metal, such as household containers, combs and hairbrushes. Pottery, to a large extent, was replaced by chinaware, and the discovery of aluminium posed a serious threat to ironware. The mass production of goods from these new materials, made possible by the growing factory sector, resulted in a tremendous loss of markets and earnings for traditional artisans. This compelled many of them to give up their traditional occupations.

Size and Output of the Artisanal Sector

While there is no reliable quantitative data, the importance of the artisanal sector during the Mughal period may be assessed from factors such as an ability to keep a population of some hundred million self-sufficient in secondary products, to cater to a vast domestic market in luxury items, to furnish the Mughal state with all items required for the army and in public works, and to adequately meet the demands of a steadily expanding export market.[6] This apparatus is potentially available even today.

As industrial production along capitalist lines began to expand in the second half of the nineteenth century, there was a contraction of India's artisanal population. But in overall terms, the employment and output of the manufacturing sector registered a sharp increase. Between 1911 and 1951, employment increased in the newer industries producing beverages, tobacco, jute and miscellaneous textiles, wood and wooden products, paper and paper products, printing and publishing, rubber, petroleum and coal, chemicals and chemical products, metals and metal products, machinery, electrical equipment and transport equipment. But there was an absolute decline in employment in the traditional manufactures like cotton, silk and wool textiles, leather and leather products and non-metallic mineral products.[7]

According to one set of estimates, while factory employment between 1901-51 rose from 0.6 to 2.9 million, employment in the small-scale sector declined from 12.6 to 11.4 million. But some researchers feel that the "decline in employment in handicrafts may have been somewhat sharper, for employment in some of the new small-scale activities which emerged, like powerlooms, may have offset part of the decline in handicrafts employment". In cotton spinning and weaving alone, the number of small producers declined from 2.4 million in 1911 to 2.1 million in 1951.[8]

That this trend continued unabated into the 1980s is evident from an analysis of Census data. Between 1961 and 1981, the Census data reveals that the number of persons employed in the household manufacturing, repair and services sector declined from 98.62 lakhs to 69.93 lakhs. In the non-household manufacturing sector, on the other hand, employment grew from 68.10 lakhs to 151.11 lakhs between 1961 and 1981.[&c.]

Time-series data on national income reveal dramatic changes in the relative output of the small and large industrial sectors. In 1900-1, the output of the small scale industrial sector was Rs. 1,165 million (at 1982 prices). The number of persons employed in this sector was 13,314,000. In the case of large scale industry, the net output in 1901 was Rs.220 million. The total size of the work force was 539,000 workers. By 1960-61, the output of the large-scale industrial sector in India had risen to Rs.10,700 million, while that of the small-scale industrial sector was Rs.8,452 million. Employment in the former was 3,667,000, and in the latter, 13,535,000. The above estimates indicate that at the turn of the century, the small scale sector was large: almost 5.3 times the size of the large sector in terms of output. By 1961, the large sector was almost one 1.3 times the size of the small sector.[9]

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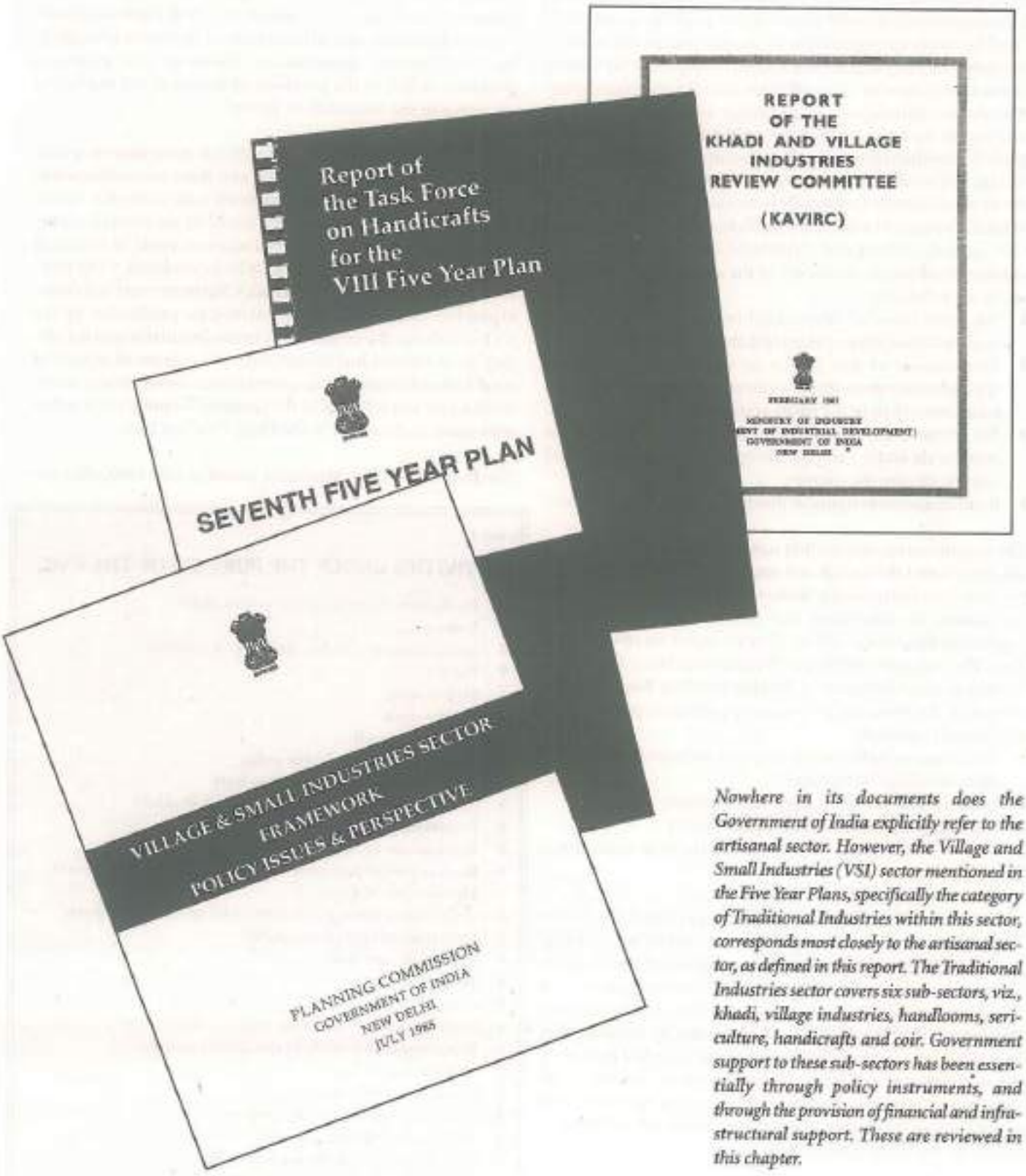
Section I

2

Artisans and the Government

Artisans & the Government: Review of Policies & Programmes



Nowhere in its documents does the Government of India explicitly refer to the artisanal sector. However, the Village and Small Industries (VSI) sector mentioned in the Five Year Plans, specifically the category of Traditional Industries within this sector, corresponds most closely to the artisanal sector, as defined in this report. The Traditional Industries sector covers six sub-sectors, viz., khadi, village industries, handlooms, sericulture, handicrafts and coir. Government support to these sub-sectors has been essentially through policy instruments, and through the provision of financial and infrastructural support. These are reviewed in this chapter.

I POLICIES & PLANS

The Industrial Policy Resolution of 1948 was the Government of India's very first pronouncement on industrial policy. The Resolution stressed the need for strengthening and expanding agricultural and industrial production, and laid special emphasis on the production of capital equipment, of goods and of those commodities which could augment foreign exchange earnings. "Besides arms and ammunition, atomic energy and railway transport, which would be the exclusive monopoly of the Central Government, the state also took upon itself the absolute responsibilty of establishing new undertakings in six basic industries. The rest of the industrial field was left open to private enterprise."[1] Simultaneously, the Resolution recognised that the cottage and small-scale sector had an important role to play in the national economy, especially in terms of efficient utilisation of local resources to achieve self-sufficiency in consumer goods such as food, clothing and agricultural implements. The main arguments advanced in support of the cottage and small-scale sector are as follows:

- For every rupee of value added in this sector, the capital required is roughly one-third of that needed in large industry.
- Employment of one person in large industry requires approximately six to ten times more investment in the large-scale sector than in the small-scale sector.
- For a large and overpopulated country like India, only the small-scale sector can provide opportunities of work and income all over the country.
- It can ensure more equitable distribution of national income.[2]

The Resolution recognised that suitable steps would have to be taken to protect the cottage and small-scale sector against competition from large-scale industry. Based on the Chinese experience, the Resolution also stressed the importance of organising the cottage and small-scale sector on co-operative lines. The directions outlined in the Industrial Policy Resolution of 1948 were incorporated in the First Five Year Plan. The Plan envisaged the need for a common production programme, which would involve:

- Reservation of spheres of production exclusively for the cottage and village industries
- Imposition of a cess on large-scale industry
- Curtailing expansion of large scale industry
- Preferential supply of raw materials to decentralised industries.[3]

In 1955, the Planning Commission appointed the Karve Committee to look into the problems of this sector, and suggest suitable remedial measures. It emphasised the need for technical upgradation in village and traditional industries, and for greater economic decentralisation. The Industrial Policy Resolution of 1956 added a new dimension by stressing that henceforth, the industrial policy of India would be guided by the principles of socialism. This Resolution reiterated the Government's commitment towards the cottage and small-scale sector, by recommending a series of promotional and protective measures for its development.[4]

In the Second Plan, it was felt that all previous measures would have to be supplemented, where feasible, by common marketing arrangements through co-operative organisations, in which the state may participate. While major allocations were made, in the Second Plan, for the development of basic and heavy industries, the demand for consumer goods, it was felt, would have to be met from within the traditional village and small industry sector. The Third, Fourth and Fifth Plans continued to stress the importance of decentralised industries in expanding employment opportunities. However, the emphasis gradually shifted to the provision of technical and marketing assistance to the decentralised sector.[5]

In 1977, with a change in the national government, a new Industrial Policy was announced, and there was a discernible shift in favour of the village and small-scale industries sector. The basic tenet of the new policy, issued by the Janata Government in December 1977, "was that whatever could be produced in the small sector must necessarily be so produced."[6] The measures outlined in the Industrial Policy Statement were as follows: expansion in the list of items reserved for production by the KVIC; curbs on the expansion of urban industries; and the setting up of District Industries Centres to oversee all aspects of rural industrialisation. The government's commitment to the small sector was reflected in the generous financial outlays that were made to the sector in the Draft Five Year Plan.

The Industrial Policy Statement issued in July 1980, after the

Box A

ACTIVITIES UNDER THE PURVIEW OF THE KVIC

- Production of cotton, silk & woolen *khadi*
- Beekeeping
- Manufacture of matches, fireworks & *agarbattis*
- Pottery
- Soap making
- Leather work
- *Ghani* oil extraction
- Manufacture of handmade paper
- Manufacture of *canegur* & *khandsari*
- Manufacture of *palmgur* & other palm products
- Processing of cereals & pulses
- Manufacture of manure & *gobar* gas
- Manufacture of limestone, lime shell & other lime products
- Manufacture of shellac
- Collection of forest plants & fruits for medicinal purposes
- Fruit processing & preservation
- Bamboo & cane work
- Blacksmithy
- Carpentry
- Fibre extraction (other than coir)
- Manufacture of household aluminium utensils
- Manufacture of *katha*
- Manufacture of gum resins
- Manufacture of *lokvastra* & *polyvastra*
- Manufacture of rubber goods
- Services such as laundering & plumbing

Congress Party returned to power, made no attempt to "break away from the direction given to the industrial policy by the Janata government".[7] The Sixth Five Year Plan recommended a series of measures for the promotion of the village and small-scale industries sector, including the following: development and extension of appropriate technologies; creation of buffer stocks to augment availability of critical raw materials; greater flow of institutional funds to artisans; and, selective reservation of items for exclusive manufacture in, and purchase from, the cottage sector.

The Seventh Five Year Plan regarded promotion of the village and small-scale industries sector as one element in the overall strategy to improve the economic situation of communities throughout India. The development programmes recommended for this sector were geared towards:

- Preserving the craftsmanship and art heritage of the country
- Sustaining and creating avenues of self-employment
- Assisting in the growth and dispersal of industries
- Increasing the earning levels of artisans
- Ensuring the regular supply of goods and services, by utilising local skills and resources.

To achieve the above objectives, the Plan suggested measures to improve productivity and quality. It also suggested restructuring the product-mix through upgradation of technology and modernisation. For optimising utilisation of existing capacities, the Plan recommended that appropriate steps be taken to ensure adequate supply of inputs including credit, power and raw materials. To expand the share of products from the village and small industry sector in the domestic market, publicity, standardisation, market support and greater participation in the Government purchase programme were recommended. Finally, the Plan also recommended better working conditions, welfare measures and security of employment for the artisans.[8]

Box B

ACTIVITIES CLASSIFIED AS HANDICRAFTS

- Manufacture of carpets, rugs and druggets
- Hand printing and dyeing of textiles
- Manufacture of artistic textiles such as brocades and shawls
- Manufacture of metalware
- Manufacture of jewellery
- Bangle & bead making (other than glass beads)
- Manufacture of articles from conch shell
- Wood carving & inlay work and manufacture of decorative furniture
- Pottery
- Stone carving & inlay work
- Manufacture of articles from cane, bamboo, willow & straw
- Manufacture of articles from fibre & flax
- Toy & doll making
- Papier mache work
- Manufacture of articles from bone & horn
- Leather work
- Manufacture of musical instruments
- Manufacture of incense & perfumes
- Manufacture of costumes, puppets & masks

One of the priorities of the Eighth Five Year Plan is generation of adequate employment to achieve the "near full employment level by the turn of this century."[9] According to the Plan, the main objectives of the *khadi* and village industries programme would be to "create additional employment opportunities in the non-farm sector and to ensure increased wages/earnings to rural workers."[10] The main objectives spelt out for the handicrafts sector are fairly similar to those for the *khadi* and village industries, i.e., enhancing opportunities for employment and income from crafts. The Plan also stresses the need to augment export earnings from the handicrafts sector, as also the need for a comprehensive data base which could be used for planning and monitoring.

II SUPPORT INFRASTRUCTURE

PROMOTIONAL ORGANISATIONS

A network of support organisations has been created to assist artisans in the six sub-sectors that come under the category of Traditional Industries. These are as follows:

- Khadi & Village Industries Commission (KVIC)
- All India Handlooms & Handicrafts Board (AIHHB)
- Office of the Development Commissioner (Handlooms)
- Office of the Development Commissioner (Handicrafts)
- Central Silk Board
- Coir Board

Profiled below, these organisations assist artisans and agencies working with artisans, with inputs such as marketing, credit, training, and design and product development.

Khadi & Village Industries Commission (KVIC)

The KVIC was set up in 1957, to oversee the development of the *khadi* and village industries sector in India. *Khadi* denotes any cloth woven on handlooms from handspun cotton, silk or woollen yarn, or from a mixture of these yarns. A village industry denotes any industry located in a rural area, which produces goods or renders services, in which the fixed capital investment per artisan or worker does not exceed Rs. 15,000.[Box A]

The KVIC is responsible for planning and implementing programmes for the development of the *khadi* and village industries sector. Its main functions are to:

- train artisans engaged in these industries
- build up a reserve of raw materials and implements and arrange for their supply to artisans
- provide for the sale and marketing of *khadi* and products of the village industries under its purview
- promote research in improved technology, and ensure its dissemination
- encourage the formation of co-operatives among those engaged in the manufacture of *khadi* and village industry products
- provide financial assistance to institutions and individuals engaged in the promotion of *khadi* and village industries

The KVIC provides assistance in the form of finance, subsidies, technical know-how and training to the State Khadi and Village Industries Boards. Each State Board, in turn, is expected to channelise these funds and ensure the effective implementation of the development programmes of the KVIC at the grassroot level. These programmes are implemented through a network of around 31,000 co-operatives and 1138 registered institutions. For marketing products of industries under its purview, the KVIC has set up around 13,000 sales outlets throughout India.

All India Handlooms & Handicrafts Board

The AIHHB was constituted in July 1981, under the Chairmanship of the Minister of Textiles, with the Development Commissioner (Handlooms) and Development Commissioner (Handicrafts) as Member-Secretaries. The AIHHB is essentially an advisory body responsible for formulating development programmes for the handlooms and handicrafts sectors.

The Office of the Development Commissioner (Handicrafts) is the apex departmental organisation for the development of the handicrafts sector. The Office functions through a vast network of organisations such as the Marketing and Service Extension Centres set up in 37 areas of craft concentration, 4 Regional Design and Technical Development Centres, and 524 training centres. The Office also assists the State Handicrafts Development Corporations in formulating schemes for the development of handicrafts in India. The activities of the State Corporations include: technical training, raw material supply, design and product development, and marketing.

The Office of the Development Commissioner, Handlooms, was set up in 1976. It serves as the focal point for development of handlooms in the country, and is responsible for coordinating all the development schemes relating to this sector. Since this includes State plans for handloom development, the Office of the Development Commissioner works in close collaboration with the State Handloom Development Corporations. The Weavers' Service Centres and the Institute of Handloom Technology come within the purview of this office. Box B

The State Handloom Development Corporations are responsible for the overall development of the handloom sector in their respective states. They are primarily concerned with trading activities, i.e., the supply of yarn and the marketing of cloth. Under the handloom development programmes, assistance is provided to weavers for modernisation of looms, training in modern techniques, formation of co-operatives, provision of credit, marketing, and supply of yarn.

Central Silk Board

The Central Silk Board was set up in 1949, and functions under the administrative control of the Ministry of Textiles. The function of this Board is to oversee all aspects relating to the development of sericulture and the silk weaving industry in India. It also produces and distributes silkworm seed. At the State level, the Board's programmes are implemented through the Directorate of Sericulture or the Directorate of Industry.

Box C

OBJECTIVES FOR VILLAGE & SMALL INDUSTRIES

DETAILS OF DOCUMENT	*Employment*
FIRST FIVE YEAR PLAN	Increase rural employment
SECOND FIVE YEAR PLAN	▸ Extend work opportunities ▸ Create immediate & permanent employment on a large scale at relatively little capital cost
THIRD FIVE YEAR PLAN	
FIFTH FIVE YEAR PLAN	No specific objectives mentioned
SIXTH FIVE YEAR PLAN	Create additional employment opportunities on a dispersed & decentralised basis
KARVE COMMITTEE REPORT (Second Five Year Plan)	▸ Avoid as far as possible, during the period of the Second Plan, further technological unemployment such as occurs specially in the traditional village industries ▸ Provide for as large a measure of increased employment as possible during the plan period through different village & small industries

DISCUSSION

According to the Review of the First Five Year Plan, "The central aims in relation to village and small industries which were expressed in the Plan are far from being fulfilled, but important beginnings have been made.." These beginnings relate mainly to the setting up of institutions, such as Boards & Corporations, the recognition of "the role of small industries" and preparing the way for "the steady implementation of larger and more ambitious programmes." This, in fact, typifies the official attitude and performance through 30 years of planning, at least for the handicrafts sector, viz.

- The failure to really assist the craftspersons,
- the proliferation of official agencies ostensibly to tackle this failure, and

(VSI) STATED IN PLAN & GOVERNMENT DOCUMENTS

OBJECTIVES IN RELATION TO		
Income	*Other Specifics*	*General*
Raise incomes & standard of living	Meet a substantial part of the increased demand for consumer goods & facilitate mobilisation of capital & skills which might otherwise remain inadequately utilised, & bring about integration of the development of these industries with the rural economy on the one hand & large scale industry on the other ▸ Improve productivity of the worker & reduce production costs by placing greater emphasis on improvement of skills, supply of technical advice, better equipment & credit ▸ Reduce progressively the role of subsidies, sales, rebates & sheltered markets ▸ Promote the growth of industries in rural areas & small towns ▸ Promote the growth of small-scale industries as ancillaries to large industries ▸ Organise artisans on co-operative lines ▸ Improve progressively the production techniques of small industries so as to enable them to produce quality goods & bring them to a viable level ▸ Promote decentralisation & dispersal of industries ▸ Promote agro-based industries	Bring about a more balanced & integrated rural economy
Improve the levels of production & earnings of the artisans through measures such as upgradation of skills & producer-oriented marketing	▸ Make a significant contribution to growth in the manufacturing sector through fuller utilisation of installed capacities ▸ Establish a wider entrepreneurial base through appropriate training & a package of incentives ▸ Create a viable structure of village & small industries so as to progressively reduce the role of subsidies ▸ Expand efforts in export promotion	
		Provide the basis for an essentially decentralised society & also for progressive economic development at a fairly rapid rate

▸ as a basic solution, even more ambitious planning.

The Second Five Year Plan states that "As the rural economy develops, technical changes will take place in different fields and correspondingly the pattern of rural industrialisation will also change from simple crafts meeting elementary needs to small industries based on steadily improving techniques and designed to satisfy the needs of a more advanced character." We are not quite sure what this means - Is this a recognition of the belief that handicrafts, as expressions of our cultural tradition will eventually die out ? We also question why handicrafts per se cannot satisfy 'advanced' needs ?

Whereas some continuity can be traced in the overall Plan objectives through the years, this continuity is not so apparent in the objectives for the Village and Small Industries (VSI) sector. While the Fifth Plan states no objectives for the VSI sector, the draft plan appears to have two sets of objectives. This could be true for the Second Plan too, which, while it does list certain objectives, also quotes approvingly some others. There is no harm in this if it wasn't for the fact that such ambiguity and overlapping definitely affects the way the actual schemes operate.

SOURCE: Bhasin, B.B. & Kak, K.K.: Towards an Objective for the Handicrafts Sector - An Examination of the Five Year Plans; New Delhi; 1983; (unpublished article)

The infrastructure of the Board is vast, and consists of 75 Regional Offices, 22 Regional Research Stations, 63 Research Extension Centres, Certification Centres, 22 Silkworm Seed Production Centres and 2 Raw Material Banks.

The Coir Board

The Coir Board was set up in 1953 for the overall development of the coir industry in India. Its main activities are to improve, develop and diversify the range of coir products, arrange for their inspection, and market them in India and overseas. The Coir Board oversees the Central Coir Research Institute at Alleppey, and the Central Institute of Coir Technology at Bangalore. Also under the Board's control are several Regional Training cum-Development Centres, show rooms and sales depots located in different parts of the country.

OTHER AGENCIES

Small Industries Development Organisation

The Small Industries Development Organisation (SIDO) was set up in 1954, and functions as an apex body responsible for formulating policies and co-ordinating and monitoring pro-

Box D

OBJECTIVES FOR HANDICRAFTS SECTOR STATED IN PLAN & GOVERNMENT DOCUMENTS

DOCUMENT	*OBJECTIVES IN RELATION TO*			
	Employment	*Income*	*Other Specifics*	*General*
REPORT OF WORKING GROUP ON HANDICRAFTS FOR EARLIER SIXTH PLAN (1978-83)	Make handicrafts an effective instrument for generating employment	Make handicrafts an effective instrument for removing poverty by increasing incomes & purchasing power of artisans	Improve craftsmanship & innovativeness while retaining the foundation of our cultural heritage	Promote the economic independence, social status & individual dignity of the craftspersons
REPORT OF SUB-WORKING GROUP ON SIXTH FIVE YEAR PLAN (1980-85)	Make handicrafts an effective instrument for reducing under-employment specially among the weaker sections of society			▸ Make handicrafts an effective instrument for increasing foreign exchange earnings ▸ Develop handicrafts keeping the social, economic, cultural & artistic perspective in view ▸ Promote economic & individual dignity of craftspersons
ANNUAL REPORT OF ALL INDIA HANDICRAFTS BOARD (1978-79)	Provide employment to an additional six lakh persons		▸ Expansion of domestic & overseas markets ▸ Preservation of traditional skills	▸ Improve the quality of life of the craftspersons
GOVERNMENT OF INDIA, MINISTRY OF INDUSTRY, Resolution No: HB/1/78 dt. 3.6.78, reconstituting the All India Handicrafts Board	Make handicrafts an effective instrument for reducing unemployment & under-employment	Make handicrafts an effective instrument for increasing the incomes of whole-time & part-time producers	Improve craftsmanship and innovativeness while preserving cultural heritage	▸ Develop handicrafts keeping the socio-economic, cultural & artistic perspective in view ▸ Promote economic independence, social status & individual dignity of craftspersons
GOVERNMENT OF INDIA, MINISTRY OF COMMERCE, Resolution No: 1/1/81-AIHHB,dt. 1.7.78, constituting the All India Handlooms & Handicrafts Board	Make handlooms & handicrafts effective instruments for reducing unemployment & under-employment	Achieve higher standards of living for weavers & craftspersons	Meet the clothing needs of the country progressively from the handloom sector	▸ Preserve & promote the craft heritage of our handlooms & handicrafts ▸ Devise strategies for expanding markets for handlooms & handicrafts within the country & abroad ▸ Co-ordinate the developmental efforts of the State Governments & Union Territories in these sectors ▸ Review progress from time to time

grammes for the development of small-scale industries in India. Technical, managerial and related support is provided by SIDO through a network of Small Industries Service Institutes (SISI's), extension centres, product-cum-process development centres, production centres, training centres and field testing stations. SIDO is also the National Coordinator for the District Industries Centres set up for decentralised industries.

District Industries Centres (DICs)

In order to stimulate entrepreneurship in rural areas the District Industries Centres programme was launched in 1978. Each Centre is headed by a General Manager, who in turn, is supported by Functional and Project Managers drawn from different disciplines. The DIC's are expected to coordinate all the schemes designed to assist village industries, and to provide under one roof, the entire package of assistance they require, such as land, building, infrastructure, power, raw materials, marketing, and training. The DIC's also implement the Rural Artisan's Programme and self-employment programmes for the educated unemployed, besides undertaking techno-economic surveys.

DOCUMENT	*OBJECTIVES*
FIRST FIVE YEAR PLAN	No specific objectives listed. Examines the connection between measures needed to improve productino & supply & those required for stimulating demand. Places general emphasis on importance of marketing.
SECOND FIVE YEAR PLAN	No specific objectives listed. The document states that "recent efforts to develop this rich heritage have yielded encouraging results." This could imply recognition of the "cultural foundation".
THIRD FIVE YEAR PLAN	No specific objectives listed, but states that "in the past handicrafts catered mainly to the needs of foreign markets & the higher income groups. In addition to exports, the production of handicrafts has to be oriented towards meeting the needs of customers in different income groups within the country itself & the promotion & development of rural crafts."
FOURTH FIVE YEAR PLAN	▸ Improvement in the productivity of the artisans ▸ Development of those crafts which have an expanding demand in the export market. Both these objectives are only a part of the objectives proposed by the Sub-Group on Handicrafts for the Fourth Plan. The Sub-Group's first suggested objective was "to preserve the skill which is the main foundation of the whole programme and our precious heritage"
FIFTH FIVE YEAR PLAN	No specific objectives listed
SIXTH FIVE YEAR PLAN	No specific objectives listed

DISCUSSION

The draft outline of the Fourth Five Year Plan for Handicrafts proposed by the All India Handicrafts Board clarifies that "during the First and Second Five Year Plan, the approach to the development of handicrafts was largely confined to building up of interest and understanding necessary for launching programmes of rehabilitation and development." It also mentions the Third Plan objectives, though these are not mentioned in the Plan itself, and the Report of the Sub-Group on Handicrafts for the Fourth Plan describes very different objectives for the Third Plan. This kind of confusion is highlighted again by the objectives proposed by the Sub-Group for the Fourth Plan and those proposed by the Draft Outline - both are AIHB documents. The wording of the latter clearly shows that those who wrote it were aware of the former, yet why they differed has not been explained.

It could be argued that the handicrafts sector is far too small to merit a separate mention in a document as wide-ranging as the country's Plan. We cannot agree, because the Plan is a basic document, and must, for purposes of effective implementation, certainly state the official objectives for all sectors listed in it. There is no ceiling on the number of words in the Plan, and if adding a few helps to translate the Plan into action, it must be done. Unfortunately, except in the Fourth Plan, nothing in this connection has been said for this sector. However, all through, there does appear to be a recognition of the value of our heritage and the cultural foundation, and we believe the Government has the distinct responsibility of protecting this heritage.

According to the Report of the Task Force on Handicrafts, January 1973, the major objectives for the development of the handicrafts sector in the Fifth and Sixth Plan should be to "increase production and export, improve the earnings and working conditions of craftsmen and provide greater employment opportunities to the unemployed and under-employed.." "Important objectives", obviously in amplification of this sentence, follow. As, however, the Draft Plan reproduces only two clauses of the sentence, perhaps the "important objectives" proposed by the Task Force did not have unqualified acceptance. The Plans themselves are silent. The AIHB Annual Report for once mentions 'goals', but these are different from those recommended as objectives by the Task Force. The 1978 Government Resolution talks of the "objectives of Government in respect of the handicrafts sector". But it is not clear whether the Resolution is declaring them, or merely reproducing them. This is even less clear in the 1981 Resolution, but if they are being re-stated, then where they have been first officially stated is not clear. The 1978 Working Group and the 1978 Resolution state fairly similar objectives. The additional one in the latter appears to have been retained by the 1980 Sub-Working Group and in a manner of speaking in the next Resolution, in which the last three statements are not really basic objectives at all. Over a span of five years, why two Working Groups, two Government Resolutions and an Annual Report, should propose objectives in as many different ways, and with differences that, followed through seriously in policies and programmes can have far-ranging implications, is inexplicable.

SOURCE: Bhasin, B.B. & Kak, K.K; Towards an Objective for the Handicrafts Sector - An Examination of the Five Year Plans; New Delhi; 1983, (unpublished article)

District Rural Development Agencies (DRDAs)

In 1970, the Lead Bank concept was introduced with the purpose of formulating District Credit Plans (DCP's) based on techno-economic surveys of each district. In conjunction with the Lead Banks, the DRDA's are responsible for preparing programmes for the identified beneficiaries, which are then incorporated in the District Credit Plans and Annual Action Plans of Banks. The DRDA's are also entrusted with the overall implementation of the Integrated Rural Development Programme (IRDP).

Technology Research & Training Institutions

A number of institutions are involved in R & D and training activities for the village industry sector. These include the Jamnalal Bajaj Research Institute, Maganwadi, Wardha; Design Research-cum-Experiment and Extension-Cum-Training Centre, Gopuri, Wardha; Central Village Pottery Institute, Belgaum; Khadi Gramodyog Vidyalaya, Shimpoli; and the Playing-cum-Training-cum-Research Centre, Bombay.

Box E

GOVERNMENT'S CRITIQUE OF IT'S OWN POLICIES & PROGRAMMES

DEFINITION, ROLE & POLICY SUPPORT

- "In our view, the time has come to distinguish village industries from small scale industries, instead of grouping them together in one sector, VSI, and to distinguish measures of support for each of them on a differential basis..."[13]
- "As regards preferential treatment in regard to raw material and infrastructural support, a great deal remains to be done to distinguish the claims of village industries from those of the small scale industries sector who for various reasons have succeeded in monopolising the benefits."[14]
- "...it is necessary to remember that the decentralised sector, particularly *khadi* and village industries, are often adversely affected by decisions taken by Government...under the general drive for modernisation. For example, several traditional bakery units have been displaced as a result of establishment of modern bakeries. Silk waste mills have affected the *charkhas* in parts of Bihar. Small tanners have suffered with the establishment of large scale tanning units. The case of traditional hand pounding...which has disappeared in many areas as a result of introduction of rice hullers, and modern mills is well known."[15]

ADMINISTRATION & CO-ORDINATION

- "The linkages between KVI programmes and general programmes of area development like IRDP, are inadequate. The gaps in performance are partly attributable to the fact that since its inception, KVIC has continued the policy of assisting institutions/private individuals registered with it directly, and consequently the State governments have not been according priority to its programmes"[16]
- "The promotion of rural industries bristles with various problems including coordination both at the grassroot and at the national level as it is looked after by different departments/organisations...in spite of the various coordinating agencies that already exist at the State and Central level, the programmes of the...sector have suffered due to the inter-departmental and inter-Ministerial perceptions."[17]

EMPLOYMENT CREATION

- "...the basic expectation in the plans is to develop the Village and Cottage Industries so as to provide greater and more remunerative employment to the increasing number of labour participants that the population is throwing up (and) even though this has been the stated objective, the comparative analysis of...employment shows that the number...employed in this sector has definitely shrunk. One can safely assume that contrary to our desire, the sector has certainly not provided greater employment..."[18]

PRESERVATION OF SKILLS

- "...continued low return" is..."weaning craftsmen away from their traditional occupations."[19]
- Commenting on the shrinking artisanal sector, the Task Force on Handicrafts observed: "A craft can be said to be languishing when it can be shown that although practised by a larger number in the past, it has ceased to be practised any more, or is practised by a miniscular few whose number is fast dwindling. In most cases the skill is still there, but in danger of disappearing." According to the report, the reasons why this is happening is craft-specific, "Skills are traditionally disseminated from one generation to another, and perfected through practise. It is threatened with disappearance mostly when the newer generation does not show interest in learning it, or having learnt it, in pursuing it as a vocation. Mostly, it is a fall out of the craft's failure in the market; in some cases, non-availability of raw material, alternative economic opportunities..."[20]

ENSURING WELL-BEING OF ARTISANS

- "The primary task of the Board (AIHB) was to make handicrafts an effective instrument of reducing unemployment and underemployment among artisans and to promote economic independence and social status and individual dignity of craftsmen. The Committee regret that the Board had not been able to achieve any concrete results in this regard..."[21]
- "...the...earnings of artisans...are lower than those obtaining in the farm sector."[22]

AVAILABILITY OF RAW MATERIALS

- According to the Report of the Working Group on Village Industries, "A large number of...artisans are facing difficulties due to flight of raw materials from the rural areas...The KVIC is yet to evolve a strategy for supply of raw materials...the artisans are willing to work...but for want of raw materials, they remain without work for long spells".[23]
- "Artisans...face problems in obtaining assured and timely supply of raw materials of requisite quality as well as quantity at reasonable rates to enable them to produce quality goods."[24]
- "Overall availability of raw material...does not always ensure that the craftsman gets it. For the craftsman to get it would require,
  1) that it is available at a point near his place of work;
  2) that he has the funds to buy it. In the absence of such facilities, the craftsman is left at the mercy of the trader-cum-moneylender/raw material supplier..."[25]

SCHEMES OF ASSISTANCE

There are several government schemes under which artisans, and agencies working with artisans, can avail of financial assistance for capital expenditure, working capital, training, marketing, and acquisition of new tools. These schemes are operated by the Central Government, State Governments, financial institutions, such as the Industrial Development Bank of India (IDBI) or National Bank for Agriculture and Rural Development (NABARD), Commercial Banks, Regional Rural Banks (RRBs), and developmental organisations such as the KVIC and Offices of the Development Commissioners for Handlooms and Handicrafts.

The IDBI operates a composite loan scheme for rural artisans, while NABARD provides refinance facilities to individuals and institutions for non-farm activities through State Co-operative Banks (SCBs), Commercial Banks, and RRBs. The SCBs avail of

TRANSFER OF TECHNOLOGY

- "The utilisation of S & T funds by KVI sector has not picked up during the past seven years. There is urgent need to develop new tools, equipment and machines."[26]
- "The process of transfer of technology has...been slow. As a result, many artisans still continue to use traditional tools and equipment and obsolete production technologies."[27]
- "KVIC has, no doubt, been devoting attention to this problem from the very beginning and has brought about several improvements in tools and processes...However, for a long time now, no significant technological improvement has come out of the R & D organisations...and...certain organisational rigidities have stood in the way of better results. We have come across the case of the introduction of the modified cylinder mould in Handmade Paper Industry, where a positive decision could not be taken for years due to the opposition within the Commission...on ideological grounds that using power should not be extended beyond the stage of digestion of pulp in the interest of maintaining the employment potential..."[28]

AVAILABILITY OF CREDIT

- "Though refinance to the handicrafts sector is available from NABARD, the credit available to craftsmen and promotional organisations under these schemes is inadequate..."[29]
- In a SWOT analysis of the handicrafts sector, the Task Force remarked that one of the weaknesses of the sector is the "lack of working capital at the producer's end."[30]

MARKETING FACILITIES

- "...the impact of existing schemes on the marketing of handicrafts has not been significant on account of their implementation without any coordinated thrust and absence of coordinated marketing."[31]
- "The middleman has been a recurring theme in all planning for marketing in this sector. One of the main aims of setting up so many marketing organisations in this sector was to remove the middleman. One of the chief criticisms of the working of these organisations...is that they act like a middleman."[32]

PERFORMANCE OF CO-OPERATIVES

- According to the Eighth Five Year Plan, a "large number of artisans' co-operatives...have continued to remain dormant."[33]
- The KAVIRC was "greatly concerned at the high rate of dormancy" among the artisans' co-operatives. According to the Committee, "dormancy in societies is as high as 47 %."[34]
- "Experience has shown that rural artisans brought together in a co-operative of one kind or another need 'cover organisations' at levels higher than the village, which can command the services of competent professionals. How to build such a 'cover organisation' and how to arrange for professional services at the right time are questions to which satisfactory answers are to be found."[35]
- "Ideally speaking, a co-operative is the best way to organise craftsmen at the local level...But the ideal has not happened in practice, for various reasons, some of which are:
  ...craftsmen...are individualistic in their temperament and working and would not let their identity be merged in a co-operative.
  ...Dispersed population
  ...Lack of leadership"[36]

IMPLEMENTATION OF SCHEMES

- Schemes upto the end of the Seventh Plan have "not been able to provide assistance to large sections of craftsmen in so far as production-related inputs are concerned and the marketing of their products is still left largely to...private trade. Consequently, they have not made any discernible impact on their earnings and standard of living."[37]
- "During the Seventh Plan about 10 lakh youth were trained under TRYSEM of which 47% took up self-employment, and 12% wage employment. The remaining did neither...On the other hand, a sizeable proportion of IRDP beneficiaries who needed training could not receive it."[38]
- "Under IRDP, the very fact that about half the number of beneficiaries have overdues raises doubts about their ability to come out of the debt syndrome. This...is due to a low level of assistance which does not generate enough income to repay the loan and for subsistence. However, banks are reluctant to raise the credit limit because of scepticism regarding the repayment capacity of the target groups. It is estimated that about one-third of them do not even have the original asset that was given to them. The beneficiaries may be forced to sell the asset as they require the money. What is more, even those who have generated sufficient additional income to cross the poverty line may relapse into the category of poor, with additions to the family, loss of assets, and non-viability of the activity chosen by them."[39]
- "There is no dearth of schemes both for working and fixed capital, as far as the individual craftsman is concerned. There is no data on actual utilisation of these schemes by the craftsmen, but the general feedback has been indicative of a very low order. Most of the problems faced are implementation rather than policy related. These include:
  - Reluctance at the branch level
  - Procedural delay
  - Lack of knowledge, awareness of schemes
  - Old debts disqualifying intending borrowers"[40]

refinance facilities on behalf of the Central Co-operative Banks (CCBs) for financing weavers and artisans through co-operatives, viz., Primary Agricultural Credit Societies (PACS), Large-Sized Adivasi Multi-Purpose Societies (LAMPS), and Farmers' Service Societies (FSS's). NABARD also provides refinance for composite loans upto Rs.10,000 per beneficiary. The RRBs were first introduced in 1975, in order to bridge gaps in the existing rural credit system, which the co-operatives and local banks were unable to fill. Every RRB has the status of a scheduled commercial bank, and provides short and term loans directly to small and marginal farmers, agricultural labourers, rural artisans and small entrepreneurs, and also indirectly to all types of co-operative societies. The RRBs also povide loans for production and consumption purposes (See Annexure 5 for a detailed list of various schemes of assistance).

III A REVIEW OF SUPPORT

One way of assessing the impact of government support to the artisanal sector would be in relation to the objectives set out for the sector in successive Plan and other government documents. This in itself is a difficult task, given that there has been no consistency in defining, or even stating objectives for this sector (See p.23, 25 & 153, Annexure2). Nevertheless, based on an analysis of these documents,Box C & D it appears that the two recurring concerns underlying the government's plans for this sector have been: a) to increase rural employment and b) to preserve the country's cultural heritage.

From all the official documents scrutinised, the objectives of planning for the artisanal sector are perhaps best articulated in the Report of the Task Force on Handicrafts for the VIIIth Five Year Plan: "The rationale...of planning for development in this sector is the craftsperson...it will be a travesty of planning if his interests, well-being and...needs are not properly taken into account...the well-being of the craftsperson depends on all the inputs...(raw material, credit, training, design, marketing...) and the extent to which these inputs result in his well-being determines the success of planning."[11]

Excerpts from various government documents, collated in Box E, indicate the extent to which the government has succeeded in achieving the above objectives. By and large, they suggest serious shortcomings in the government's performance. Some of these are attributable to problems at the conceptual, policy and planning level, and others, to faulty administration and implementation. The foremost problem appears to be the lack of clarity about the role and importance of the artisanal sector, and the absence of a clear definition of the sector.

This is not to suggest that the entire government effort has been infructuous. There have been successful interventions, such as the Athani Complex in Belgaum (See p. 62), the Tamil Nadu Co-optex movement and various technological improvements pioneered by the KVIC. However, these have been, at best, isolated successes. The reality is that the artisanal sector is shrinking at an alarming pace, and by the government's own admission, "The growth and development of this sector has been constrained by several factors including technological obsolescence, inadequate and irregular supply of raw materials, lack of organised marketing channels, imperfect knowledge of market conditions, unorganised nature of operations, inadequate availability of credit, constraint of infrastructure facilities including power...and deficient managerial and technical skills. There has been a lack of effective coordination among the various support organisations set up over the period for the promotion and development of these industries."[12]

Midsummer n

The Rs 1,162-crore poisoned packa

By L. C. Jain

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INDUSTRY / Leather

Hidebound policies

Unless this sector is deregulated, it could be in trouble despite its record export earnings in the past five years.

The technology in the industry is so antiquated that even seasoned exporters find it impossible to market Indian labels abroad.

Economic Times, December 1992

Indian Express, May 1993

Section II

3

Boonkar

Artisans who make yarn and weave textiles

Handloom Textile Workers

The textile industry consists of three competing segments: the handloom sector, the powerloom sector and the mill sector. The three sectors represent different levels of technology and production organisation.

Textile workers, for purposes of this section, are those who produce cotton, woollen, silk and other handloom textiles. They include artisans engaged in pre-loom operations (such as carding, spinning, warping and sizing) weaving, and post-loom operations (such as printing and dyeing). Except in the North-East, weaving has traditionally been a male preserve. Spinning and other pre-loom operations, by contrast, are largely performed by women and children.

The Handloom Census of India, undertaken in 1987-88, places the number of handloom textile workers at 65.3 lakh persons, making them the single largest group of artisans in India.[1] Despite their large numbers, they produce merely 26 per cent of the country's total cloth output.[2] Powerlooms, on the other hand, employ around 35 lakh persons, and manufacture 48 per cent of the country's cloth output.[3] Today, it is the intermediate technology of powerlooms that threatens the survival of handlooms much more than the mills, from which competition has been contained somewhat by government policies.

The socio-economic condition of handloom workers continues to be precarious, despite the fact that of all the artisan groups in India, they have enjoyed the greatest infrastructural and financial support from the government ever since Independence. The programme for development of handlooms was intensified after 1976, when, as a result of the recommendations of the High Powered Committee headed by Mr. B. Sivaraman, a number of schemes were initiated. The major thrust of these schemes was the development of handloom co-operatives and marketing facilities. However, the majority of weavers still fall outside the co-operative fold, and continue to sell their products through intermediaries.

The New Textile Policy presented to the government in 1985, and revised subsequently, appears to legitimise the powerloom production system, encourage more blended fabrics, and thereby put more pressure on handloom workers.

I THE ARTISANS

HISTORY

The weaver and the loom are mentioned in classical Indian texts such as the *Rig Veda* and *Atharva Veda*. In these texts, the gradual spreading of darkness and light over the earth is likened to the weaver throwing a shuttle on the loom. '*Tant*' is the Hindi word for loom, and the weaver in many parts of the country is known as *tanti*. In mythological texts, Lord Vishnu is often portrayed as *Tantuvardan*, or the divine weaver, who wove the rays of the sun into a garment for himself.[4] Evidence of madder-dyed fabrics was found in Mohenjodaro and Harappa. The Sangam classics (1 B.C. to 6 A.D.) record the weaving of silk and cotton cloth. Weavers attained importance during the Chola and Vijayanagar dynasties, when they produced for the temples.[5]

Historically, it is possible to discern two streams of development within the Indian textile industry. First, that of resident weavers in villages meeting the local need for coarse cotton fabrics. Secondly, of weavers under the patronage of local nobility producing finely woven fabrics for the urban elite. Understandably, the two groups were affected by the growth of the textile industry within the country, and overseas, in different ways.

No significant changes occurred in the organisation of production of the village weavers. Weaving continues, as in the past, to be a household activity, with all members of the family contributing their labour. With the growth of the textile industry, however, such household units started to rely increasingly on mill spun yarn instead of homespun yarn. Further, the advent of synthetic fibres and cheaper mill cloth, rapidly pauperised such artisans. Today, rural weavers have to augment their incomes through on or off farm work in order to survive.

The weavers settled in concentrations in and around the trading centres faced a variety of changes in the organisation of production, in the technologies used and in the varieties of fabrics produced. These are discussed below.

- **Organisation of Production**
  Cotton carders usually hired out their services. Spinning was undertaken by women and the aged. Weavers were either self-employed, or worked on a piece-rate basis for the merchant. Some worked on a wage basis in the *karkhanas* (workshops) of the Mughal rulers. While production tended to be decentralised, the imperatives of trading with distant markets inevitably gave rise to a class of merchant-middleman. This role was invariably assumed by master craftspersons who had access to capital. In order to gain control over the weavers, the merchants established a vertical link between production and marketing through a system of advances. The European companies reinforced this system by dealing through the merchants, and not the weavers. Under the contracts established between the merchants and European factories, only those pieces which met the quality specifications were paid for. The losses incurred by the merchants on the rejections were recovered by deductions from the weavers' wages. The growing global demand for Indian textiles ushered in further changes in the organisation of production. By the 1780s, indenture regulations were imposed, forcing artisans to sell solely to the East India Company. Very often, coercion was used by *gomastas*, or agents, of the Company. Artisans indebted to the Company were registered as the Company's own weavers. As a result of such coercive methods, a number of weavers gave up their occupation. The global success of Lancashire cloth further ruined the weavers, for they now found themselves without work. The advent of spinning mills in India not only displaced Lancashire cloth, but also the handloom weavers, as they captured the market for coarse yarn and cloth. Matters did not improve in the post-independence period. The freeze on the weaving capacity of mills was intended as a protective measure for handlooms. The result, however, was an unforseen growth of the powerloom sector, which encroached upon both the yarn supply as well as the product range reserved for handlooms.
- **Product Range**
  Records of the early medieval period show the existence of coarse *(kamina)* cloth worn by the poor people, finer

Box A

POPULATION OF HANDLOOM WORKERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families' on the basis of their occupations. Each family bears a code number. There are 9 families each in the Census of 1961 and 1981, which are involved in different aspects of textile work, and broadly correspond to the category of textile workers addressed by this chapter. For the sake of convenience, these families have been regrouped under 5 major categories, as follows:

- Fibre preparers, spinners, winders, warpers, sizers: The activities of these workers (preparing fibres, spinning, winding, warping & sizing) are described in the section on technology, in this chapter
- Weavers: Are those who set and adjust the looms, and operate them to weave textiles
- Carpet makers: Workers in this category weave carpets and druggets
- Bleachers, dyers, finishers: These workers wash, bleach, dye, & calender fibres, yarn & cloth
- Miscellaneous: This includes workers who prepare pattern cards, design textiles & test yarns.

The list of NCO codes in the table below indicates the precise families that have been included under each of the above-mentioned categories.

CATEGORY OF HANDLOOM WORKERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Fibre preparers,	1961	11,38,124	1,70,822 (15)	9,67,302 (85)	2,13,927 (19)	HH	700-703
Spinners, Winders,		3,94,151	2,96,399 (75)	97,752 (25)	2,79,135 (71)	NH	
Warpers, Sizers	1981	2,97,541	1,02,009 (34)	1,95,532 (66)	67,072 (23)	HH	751-753
		741,707	5,50,387 (74)	1,91,320 (26)	4,45,428 (60)	NH	
% Change between 1961-81		-74	-40	-80	-69	HH	
		+88	+86	+96	+60	NH	
Weavers	1961	17,27,488	11,10,510 (64)	6,16,978 (36)	4,92,509 (29)	HH	704
		4,59,521	4,35,968 (95)	23,553 (5)	3,62,843 (79)	NH	
	1981	12,67,077	9,69,053 (76)	2,98,024 (24)	4,89,781 (39)	HH	755
		10,23,508	9,34,597 (91)	88,911 (9)	7,32,076 (72)	NH	
% Change between 1961-81		-27	-13	-52	-1	HH	
		+123	+114	+277	+102	NH	
Carpet makers	1961	56,213	44,976 (80)	11,237 (20)	10,830 (19)	HH	708
		25,130	24,202 (96)	928 (4)	10,573 (42)	NH	
	1981	2,10,800	1,83,660 (87)	27,140 (13)	29,853 (14)	HH	756
		1,42,050	1,33,100 (94)	8,949 (6)	48,099 (34)	NH	
% Change between 1961-81		+275	+308	+142	+176	HH	
		+465	+450	+864	+355	NH	
Bleachers, Dyers, Printers,	1961	77,561	44,620 (58)	32,941 (42)	24,737 (32)	HH	706
Finishers		52,565	48,994 (93)	3,571 (7)	44,555 (85)	NH	
	1981	30,147	22,399 (74)	7,748 (26)	13,481 (45)	HH	758
		1,93,200	1,82,909 (95)	10,291 (5)	1,62,829 (84)	NH	
% Change between 1961-81		-61	-50	-76	-45	HH	
		+268	+273	+188	+265	NH	
Miscellaneous	1961	5,31,211	1,53,671 (29)	3,77,540 (71)	1,23,923 (23)	HH	705/709
		4,30,569	3,77,368 (88)	53,201 (12)	3,63,884 (85)	NH	
	1981	46,569	27,716 (60)	18,853 (40)	20,106 (43)	HH	750/754/759
		6,07,780	5,66,995 (93)	40,785 (7)	5,15,851 (85)	NH	
% Change between 1961-81		-91	-82	-95	-84	HH	
		+41	+50	+23	+42	NH	
TOTAL	1961	35,30,597	15,24,599 (43)	20,05,998 (57)	8,65,926 (25)	HH	
		13,61,936	11,82,931 (87)	1,79,005 (13)	10,60,990 (78)	NH	
	1981	18,52,134	13,04,837 (70)	5,47,297 (30)	6,20,293 (33)	HH	
		27,08,245	23,67,988 (87)	3,40,256 (13)	19,04,283 (70)	NH	
% Change between 1961-81		-48	-14	-73	-28	HH	
		+99	+100	+90	+79	NH	
GRAND TOTAL	1961	48,92,533	27,07,530 (55)	21,85,003 (45)	19,26,916 (39)		
	1981	45,60,379	36,72,825 (81)	8,87,553 (19)	25,24,576 (55)		
% Change between 1961-81		-7	+36	-59	+31		

NOTES

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

(mahin) cloth worn by soldiers and even finer *(barik)* cloth worn only by nobility. By the time the European companies came, as many as 150 different varieties of cloth had been recorded. The product range included extra fine fabric of unimaginable lightness, such as *baft hawa* (woven air), *abe nawan* (flowing water), and *shabnam* (morning dew). The patterns, colours and designs of these fabrics are likened to poetry and music, often combining elemental simplicity with splendour of colour. A large number of these exquisite fabrics are not produced any more, and the technology for making them is lost forever.

- **Technology**

The spinning wheel is known to have existed during the eleventh century, and was possibly introduced into India by the Turkish invaders. The cotton carders' bow also came with the Turks and finds mention in certain eleventh century lexicons. The horizontal loom is known to have existed by the twelfth century. The loom treadle has seen no improvements since the twelfth century. The fly-shuttle, introduced by the British in the late eighteenth century, was initially resisted by the Indian weavers, and found general acceptance only much later. While the basic design remained unchanged, certain innovations were introduced to enable weavers to weave intricate patterns into cloth. Initially, an increasing number of shafts or harnesses, controlling the healds, were used. Later, designs were incorporated by attaching cords to the warp thread, known as the draw loom. The need for an operator was eliminated by the development of an automatic shedding mechanism known as the 'draw boy'. To the mechanical 'draw boy' was added another mechanism which selected cords to be drawn to form the pattern. Selection was controlled by a roll of paper, perforated according to the pattern, which passed around a cylinder. Improvements were made on this by the use of a rectangular perforated card for each shedding motion, the cards being strung together in an endless chain. The jacquard attachment was a further improvement over this.

POPULATION ESTIMATES

Calculations based on the Census of India 1961 and 1981, suggest the following demographic trends with respect to textile workers:[Box A]

- **Total population:**
  The total number of handloom workers in 1981 was 45.6 lakha.
- **Share of household vs. non-household sector:**
  Of the above, 18.5 lakhs (41 per cent) were in the household sector.
- **Rural-urban mix:**
  Of the total population of textile workers, 20.4 lakhs (44.6 per cent) were located in rural areas. In the case of the household sector, 66.5 per cent of the textile workers were located in rural areas. By contrast, 70 per cent of all textile workers in the non-household sector were located in urban areas.
- **Gender mix:**
  Female workers, numbering 8.9 lakhs, accounted for 19 per cent of all textile workers. Of these, 5.5 lakhs were in the household sector.

Box B

HIGHLIGHTS OF THE CENSUS OF HANDLOOMS IN INDIA : 1987-88

Based on the recommendations of the Textile Policy of 1985, the first-ever national level Census of Handlooms was undertaken by the Central Government in 1987-88. The major findings of the Census are as follows:

- **Number of Weaver Households:**
  30.6 lakhs, of which 26.3 lakhs are in rural areas.
- **Number of weavers:**
  43.7 lakhs, of which 22.4 lakhs are full-time weavers.
- **Number of artisans doing preparatory work:**
  21.6 lakhs, of which 10.9 lakhs are full-time workers. 90 per cent of these workers are women and children.
- **Coverage of co-operative societies:**
  4.1 lakh full-time weavers work under co-operative societies and 3.4 lakh weavers under master weavers.
- **Number & distribution of looms:**
  38.9 lakh looms, of which 7 per cent are lying idle. 22.1 lakh are commercial looms and the remaining 16.8 are only used for domestic purposes. In Assam alone, there are 12.3 lakh domestic looms.
  - Number of pit looms: 15.8 lakhs
  - Number of frame looms: 12 lakhs
  - Number of loin looms: 5.2 lakhs
- **Employment pattern:**
  On an average, weavers work for about 194 days in the year. The urban weavers work for over 233 days, while rural weavers work for an average of 188 days in the year.
- **The average output per loom:**
  5.12 metres per day.
- **The average income, from all sources, of a weaver household:**
  Rs.715 per month. The average income of urban households is Rs.935 p.m., while that of rural households is Rs.678 p.m. About 27.1 lakh of the total 30.6 lakh households earn Rs.500 per month or less.
- **Yarn consumption:**
  The total monthly consumption of yarn in the handloom sector is as follows:
  - Cotton yarn: 1,27,000 tonnes
  - Silk yarn: 7000 tonnes
  - Woollen yarn: 10,500 tonnes
  - Viscose and blended yarns: 5000 tonnes
- **Production:**
  The total monthly production of all types of handloom fabrics is 30 crore linear metres. The 7 major items of production are:
  - *Saris*: 759 lakh metres
  - *Dhotis*: 430 lakh metres
  - *Gamchas*: 325 lakh metres
  - Bedsheets: 227 lakh metres
  - *Lungis*: 163 lakh metres
  - Shirting: 143 lakh metres
  - Towels: 134 lakh metres

SOURCE: Census of Handlooms in India 1987-88, Office of the Development Commissioner for Handlooms, Ministry of Textiles, Government of India, New Delhi, 1990, pp xi-xiii

Intercensal shifts:
The total population of textile workers decreased from 48.9 lakhs in 1961 to 45.6 lakhs in 1981, representing a decline of 7 per cent. During the same period, the number of textile workers in the household sector dropped from 35.3 lakhs to 18.5 lakhs, a decline of 48 per cent. The number of workers in the non-household sector, on the other hand, increased by 99 per cent, from 13.6 lakhs in 1961, to 27.1 lakhs in 1981. In the household sector, the most dramatic decline occurred in the case of spinners, fibre preparers and other workers involved in pre-loom activities. In 1961, there were 11.4 lakh such workers. But by 1981, their number had dropped to around 3 lakhs. The worst affected were the female workers. Their population declined from 20.1 lakhs in 1961 to a mere 5.5 lakhs in 1981. There was a sharp rise in the number of carpet makers in the household and non-household sectors. Some categories witnessed a tremendous growth in the non-household sector. The number of fibre preparers, spinners, winders, warpers and sizers increased by 88 per cent from 3.9 lakhs in 1961 to 7.4 lakhs in 1981. The number of weavers grew from 4.6 lakhs in 1961 to 10.2 lakhs in 1981, representing an increase of 123 per cent. Dramatic though this growth may seem, it did not offset the decline that occurred, between 1961 and 1981, in the number of workers engaged in the textile industry as a whole.

The above statistics are based on Census data for 1961 and 1981, and must be treated with caution. Firstly, it is widely recognised that female workers have been largely under-enumerated in the Census. Secondly, in official estimates no calculations are made of seasonal weavers, nor of those who have been compelled by circumstances to abandon weaving in favour of roadside labour and other unskilled tasks. This has led some observers to argue that a more accurate estimate of the number of handloom weavers in India would be 75 lakhs.[6] A second, and more recent set of estimates of the number of handloom workers in the country, is provided by the Census of Handlooms 1987-88.[Box B]

SOCIAL & ECONOMIC ASPECTS

A total of 34 textile workers were interviewed by the SRUTI research team. They accounted for around 7 per cent of the artisans interviewed. The sample of textile workers was largest in the blocks of Daurala (Meerut District, Uttar Pradesh) and Shirahatti (Dharwad District, Karnataka). There were more females (a total of 7) in the sample of textile workers than in any other category of artisans surveyed.

Social Aspects

Textile work was traditionally associated with certain communities and castes. But, as weaving became an important commercial activity, it was no longer confined to particular groups. The active

Box C

OF NIMBLE FINGERS & CARPET BAGGERS

Carpet weaving is believed to have originated in India around 1580 A.D., when the Mughal emperor, Akbar, invited some Persian weavers to set up a workshop in his own palace. However, some scholars[21] hold that carpet weaving was known in India even prior to the Mughal invasion.

Carpet weaving is done in several parts of India, the more renowned centres being Kashmir, Jaipur, Agra, Shahjahanpur, Amritsar, Gwalior, Warangal and Ellaru. Today, the Mirzapur-Bhadoi belt in eastern Uttar Pradesh is the most important carpet weaving centre in India, accounting for nearly 90 per cent of the total production of carpets in the country.[22]

Carpets *(kalin)* are distinguished from rugs *(durries)* by their thickness, or pile. The pile effect is achieved by knotting the yarn, whether woollen, cotton, or silk, around the warp, and then cutting it so as to leave behind a tuft on the outer surface. The quality of a carpet is judged by the number of knots per area. *Durries* are pileless cotton or woollen rugs, and serve as floor coverings and bed spreads.

Most carpet weavers in India use upright wooden looms. The warp is mounted on the upper beam, while the finished portion of the carpet is wound onto the lower beam. Cotton yarn is generally used for the warp, and wool for the weft. Silk and cotton yarn are occasionally used for the weft. Carpets are woven by knotting the weft thread around two adjacent warp threads, in rows. The main tools used while weaving carpets are the following: a *churra* (heavy curved steel knife) for cutting the weft threads after the knot has been tied; a *panja* (comb) made of iron or wood for beating in the weft and pile tufts, and a *kainchi* (pair of scissors), for trimming the pile to a uniform level. The required design is prepared on graph paper. It is interpreted by a graph reader who instructs the weavers to put the knots in the right places. In parts of Kashmir, the design is translated into a script, called *talim*, which is chanted by master weavers to young apprentices as they work at the looms under their guidance.[23]

Children form a significant part of the work force in the carpet industry, which exploits their nimble fingers to the fullest. In 1984, the dimensions of this exploitation became public when 30 child workers, kidnapped by labour contractors from Bilwaria village in Uttar Pradesh were rescued. These children "bore visible marks of physical torture... They were severely beaten with iron rods if they were slow at work, made mistakes in weaving, asked for adequate food, or even if they went to ease themselves without the master's permission. At night they were all locked up in a small room".[24]

According to a recent report, the European Parliament has taken up "an embarassing resolution", which stridently denounces "labour practices at looms where children slave for a pittance". The report also warns: "If the resolution gains acceptance, then India could find doors across Europe closing to a substantial part of its Rs.1200 crores in annual exports".[25]

The European resolution, which was preceded by a Bill in the United States, "draws the Indian government's attention to 300,000 children employed for 'far too low wages, far too long working hours, in poorly lit and poorly ventilated workplaces.' It goes on to state that this slavery is incompatible with the UN convention on the rights of the child".[26] The resolution also demands that each carpet be accompanied by a label certifying that it has not been made by children working in inhuman conditions. "This is a body-blow the carpet industry does not quite know how to take. For far too long it has thrived on cheap labour. For far too long it has cloaked outdated labour and management systems in talk about tradition and craftsmanship".[27]

promotion of weaving by government agencies as part of an employment generation strategy, also helped to break the caste barrier. A large number of the textile workers interviewed (71 per cent) reported that textile work was their traditional family occupation, and that earlier generations had been engaged in the same work. Some of the communities traditionally associated with textile work are as follows: *Patwa, Patri, Saliyar, Sowrashtra, Senier, Sengunthа Mudaliar* (Tamil-nadu); *Padmasali, Togata* (Andhra Pradesh); *Ansaris, Momin, Jolaha* (Uttar Pradesh); *Devanga, Padmashala, Kurubena, Shetty, Baragigaru* (Karnataka).

Box D

SPINNING YARNS

It is estimated that 21.6 lakh persons are engaged in spinning and other pre-loom activities. Nearly 90 per cent of these are women and children.[28] Investigations, however, indicate that the earnings of spinners are extremely low, the supply of raw materials far from adequate, and the technology used, outmoded. The employment it provides to the workers is marginal in most cases, and does not assure them the minimum wages prescribed for unskilled labour.

Khadi spinners are paid piece-rates, which are prescribed by the KVIC. The Centre for Womens' Development Studies (CWDS) cited earnings of 53 paise per day, per spinner, in 1987.[29] While it has been argued that this figure is probably an exaggeration on account of "casual handling of statistical averages",[30] the low returns from spinning cannot be refuted.

According to a study conducted in Bihar, spinners in Nawada District were being paid Rs.1.50 for spinning one *gundi* (a hank of 1000 meters) of silk thread. With an average daily output of 2 *gundis*, the spinners could earn a maximum of Rs.3 per day. In Bhagalpur, the rate was Rs.2-2.50.[31] The SRUTI survey revealed that in village Mendi, near Indore, the wage rate fixed by Kasturbagram, an NGO, for spinning a kilogram of yarn, was Rs.13! This took an average of 3-4 days to spin. The women, however, rarely received even this niggardly sum, since deductions were invariably made to compensate for the loss of cotton during spinning.

The erratic supply of raw material is often responsible for further depressing the spinners' earnings. Women in Mendi, too, complained of an irregular supply. In fact, a number of them had given up spinning altogether. Poor maintenance further eroded the spinners' earnings. During the survey in Mendi, a number of women reported that they had to wait months before they could get their *Ambar Charkhas* repaired.

Life for most handloom weavers revolves around the loom, which takes up nearly all the covered area in the house. The sleeping area, in fact, is often under the loom. Some co-operatives have introduced housing schemes, but the majority of weavers, falling as they do outside the co-operative fold, continue to live in huts with thatched roofs and *kuccha* walls. Some insights into the socio-economic condition of textile workers are provided by a comprehensive study of the contribution of handlooms to the Indian economy.[7] According to this study, the majority of weavers is pessimistic about the future of the craft. Most of the older weavers say they would prefer to educate their children so that they can find alternative occupations. It is not surprising, therefore, that 33 per cent of the textile workers interviewed by SRUTI reported that the younger family members had shifted, or were in the process of shifting to other occupations. As with most other artisans, the shift was generally to daily wage labour, and at times, to government or other jobs. Judging by the fact that none of the workers interviewed by SRUTI reported any ties with *jajmans*, the *jajmani* system seems to be a thing of the past where textile workers are concerned.

In textile work, the entire family tends to be involved in the craft, from dyeing to winding yarn, warping, sizing, weft-winding, making patterns and weaving. Women play a major role in all pre-loom processes such as ginning, carding and spinning. This has been reflected in the Census figures discussed earlier. When it comes to actual weaving, however, women play a marginal role, since most weavers are men. Women also participate actively in post-loom operations such as bleaching, dyeing and finishing. This means that the contribution of women at each stage of value-addition is considerable. The situation is somewhat different in the North-East. There, weaving is generally done by the women, who produce not only for their household requirements, but for the market as well. Children too, help in the ancillary processes, and become apprentices at an early age. Notorious for its exploitation of children is the carpet industry, where the demand for 'nimble fingers' and cheap labour are the driving force behind 'catching them young'.[Box C]

Economic aspects

Income levels of textile workers fluctuate on account of the seasonality of their activity. The economic rewards also vary widely for different categories of textile workers, such as spinners and weavers. According to a study by IDS,[8] the majority of weavers at the time of the study could earn between Rs.7 and 15 a day. Those who wove silk or fabrics with intricate designs that demand a high level of skill, earned upto Rs.25 a day. The incomes of those involved in spinning, dyeing and warping tended to be lower, between Rs.7 and 10 a day.[Box D] Winding operations, performed mostly by women and children, fetched even less: Rs.2 a day for children, and Rs.4 for women. In general, the wages earned by weavers in the co-operative and the export sector were 10-15 per cent higher than those who were either independent or dependent on master weavers.

Even though the sample of textile workers in the SRUTI survey was somewhat small, the survey provides some indication of

the economics of textile work. On an average, textile workers in the sample effected sales of approximately Rs.17,626 p.a. Raw materials accounted for 47 per cent of the sales value; wages accounted for 17 per cent, and incidental costs for 1.4 per cent of the sales value. The average value added by each textile worker in the sample was approximately Rs.9137 p.a. While this seems to be somewhat on the higher side, the reasons for this could not be ascertained. 82 per cent of the artisans in the sample reported that they were involved in textile work for more than 6 months in the year. Their average annual income was Rs.4636, placing them fourth after wood workers, leather workers, and metal workers. A large proportion of textile workers in the sample (44 per cent) had been reduced to wage workers, producing largely against orders. 18 per cent of the textile workers interviewed by SRUTI possessed land. 35 per cent owned livestock and poultry, while 53 per cent owned some means of transport. 47 per cent of the textile workers reported an annual household expenditure of below Rs.5000. 32 per cent reported that their annual household expenditure was in the range of Rs.5000-10,000. The balance had household expenditures that exceeded Rs.10,000 p.a. The incidence of indebtedness among textile workers was high, with 62 per cent of them having taken loans for various social and consumption purposes.

II THEIR WORK

PRODUCTS & RAW MATERIALS

Spinners produce yarn of different qualities. Yarn is a primary product, and serves as an input for the weaving stage. The items most widely produced by handloom weavers in India are: *saris, dhotis, lungis, gamchas*, shawls, rugs, carpets, material for shirts, suits, and other garments, bedsheets, furnishing fabric, towels, bandages, dusters and blankets.[Box E]

Fibre, both natural and man-made, is the principal raw material for spinning yarn. Cotton, wool, and silk are the fibres most commonly used by spinners in the household sector. In recent years, the use of polyester and blended yarns has been propagated by various government agencies.[Box F] Most handloom weavers in India use cotton yarn. The production of woollen and silk textiles

Box B

RANGE OF INDIAN HANDLOOM TEXTILES

ANDHRA PRADESH
- Jacquard *saris* of Venkatgiri and Siddipet
- *Saris* of Uppada and Gadwal
- *Kalamkari* fabrics of Masulipatnam
- Handkerchiefs *(telia rumal)* and *saris* of Pochampalli

ASSAM
- Cotton and silk *mekhla, chaddar, riha* (traditional garments worn by the women)
- *Lasingphee* bedspreads, shawls and mats of Cachar District
- Towels *(gamosa)*

BIHAR
- *Tasar, eri* and *muga* fabrics

GUJARAT
- Tie and dye *(bandhni)* fabrics of Kutch and Jamnagar
- Tie and dye *(patola)* *saris* of Patan
- Shawls and blankets of Kutch, Rajkot, Junagadh and Surendranagar Districts
- Silk *saris (tanchoi)* of Surat

HARYANA
- Fabrics and furnishings of Panipat
- Rugs *(punja durries)* of Panipat, Ambala and Kurri

HIMACHAL PRADESH
- Blankets *(gudma)* of Kulu and Giabong
- Shawls (*pashmina, raffal* and *pattu*)

JAMMU & KASHMIR
- Shawls (*pashmina, kani* and *shahtoosh*)
- Carpets of Srinagar, Baramula and Anantnag
- Printed *(chhint)* fabrics of Samba

KARNATAKA
- Crepe silk and georgette *saris*
- Pure silk *saris*

KERALA
- Cotton crepe (cheese cloth)
- *Saris* with gold borders *(kasavu zari)*

MADHYA PRADESH
- *Nandana* printed fabrics of Nimar
- Carpets of Gwalior
- Delicate *saris* of Maheshwar and Chanderi

MAHARASHTRA
- Silk *saris* of Paithan
- *Himroo* fabrics of Aurangabad

NAGALAND
- Shawls *(tsungko-tepsu)*

ORISSA
- *Tasar* fabrics of Sambalpur and Cuttack
- Tie and dye *(ikat)* fabrics and *saris*

PUNJAB
- Shawls of Amritsar and Ludhiana
- Carpets of Amritsar

RAJASTHAN
- Block-printed fabrics of Bagru, Sanganer and Jaipur
- Tie and dye *(bandhni)* fabrics of Jodhpur, Jaipur, Bikaner, Sikar and Khandela
- Woollen carpets of Jaipur, Ajmer and Bikaner
- Fine cotton weaves *(massoria)* of Kotah

TAMILNADU
- Woven checked fabric (Bleeding Madras)
- Silk *saris* of Kanchipuram

UTTAR PRADESH
- Carpets of Varanasi, Mirzapur, Jaunpur, and Allahabad
- Silk brocades, scarves and *saris* of Varanasi
- Block-printed fabrics of Farrukhabad

WEST BENGAL
- Cotton *saris* (*shantipuri, jamdani and tangail*)
- Silk *saris (baluchar)*

SOURCE: Compiled from Suraf, D.N; Indian Crafts, Development and Potential; Vikas Publishing House; New Delhi; 1982; various pages

is confined to some regions in the country.[Box G & H] Yarns are either hand spun, or mill spun. The term *khadi* refers to fabrics that are made from yarn that has been hand spun and hand woven.

Yarn Supply

According to the Census of Handlooms,[9] the monthly consumption of yarn in the handloom sector is 1.52 lakh tonnes. Of the 36.1 lakh active looms, only 2.5 lakh looms use hand spun yarn, while 33.6 lakh looms use mill spun yarn. Handlooms use yarn in hank form, while powerlooms use cone yarn. One of the most acute problems faced by the handloom sector is the shortage of hank yarn. The government has encouraged the formation of co-operative spinning mills to ensure supplies to the handloom sector, but since their yarn output is negligible, the shortfall continues. The gap between supply and demand for hank yarn is estimated to be 150 million kgs.[10] Handlooms are dependent for yarn supplies on the mill sector. Even though mills are obliged to produce 50 per cent of the yarn in hank form, this obligation is rarely fulfilled. Furthermore, the production and distribution of yarn is controlled by the mill sector. Consequently, it is only after the requirement of the composite mills is met, that any surplus becomes available to the decentralised sector, which has to pay prices that are about 30 per cent higher than those of yarn produced by the composite mills for their own consumption. More often than not, the quality of yarn marketed by the mills is inferior to the yarn they produce for their own weaving requirements.

The yarn shortage is aggravated by the burgeoning powerloom sector. Cone yarn used by the powerloom sector is in short supply. Therefore, it converts hank yarn meant for handlooms into cone yarn by re-reeling it. According to one source, the diversion of hank yarn to powerlooms and other users is around 140 million kg. This represents 40 per cent of the total market delivery of hank yarn.[11] The leakage of yarn to the powerloom sector leads to an overall shortage of supply for the handloom sector. Since the former monopolises the supply of yarn of finer counts, the handloom sector has to settle for coarse counts. This depresses the weavers' earnings, since fabric of coarse counts commands low prices.[Box I]

TECHNOLOGY

Textile weaving involves several processes:

- **Preparation of the fibre:** This includes cleaning and carding to straighten and align fibres with the help of a bow string.

Box F

ACRYLIC: AN ALTERNATIVE TO WOOL

ASAG (Ahmedabad Study Action Group), an NGO based in Ahmedabad, implements projects that benefit low-income segments of the rural and urban population. In 1982, it launched the Acrylic Fibre Rural Applications Development project (AFRAD). This project was "born of the conviction that imported technologies, financed with public money, are contributing to the destabilisation of economic livelihoods of people in traditional occupations, using their own savings".[32]

The main objective of the AFRAD project was to assist existing artisans to acquire the skills to process acrylic fibre. This was made possible by setting up village-level production and processing units whose final output was a locally consumable product, such as a fabric or garment. Despite some initial snags, within a year the project had successfully developed a range of products using solely village-level technology. This included sweaters, hand-knotted carpets, and fabric for shawls, *salwars*, *kurtas*, and shoulder bags. AFRAD had also successfully test-run the spinning of yarn at Dholka *taluka* of Ahmedabad district.

Based on the AFRAD experiment, and the opinions of the 20-25 artisans who participated in it, ASAG felt that it was possible to develop economically viable, attractive acrylic textiles using *charkhas* and handlooms. But, unfortunately, the KVIC, which is the national apex body concerned with decentralised yarn production, did not support the use of acrylic fibre on equipment designed, financed or subsidised by it. ASAG professionals consider it unfortunate that "the development of decentralised yarn production has become a matter of ideology rather than technology".[33] Consequently, "every development that could have afforded the decentralised rural artisans some assistance against the unrelenting onslaught of the organised mill sector has been delayed unconscionably by the question: Is this Gandhian ?" [34]

The yarn is then prepared into laps or slivers for spinning.

- **Spinning:** This involves drawing out and twisting fibres into a thread with some tensile strength with the help of the spinning wheel *(charkha)* or spindle *(takli)*. In hand spun yarn, such as in *khadi*, the spinners draw out the fibres with one hand to thin them down, and turn the spindle with the other, to give the emerging yarn a twist. Next, they wind the yarn onto the spindle. By varying the relative rates of drawing and twisting, spinners can regulate the thickness of the yarn.
- **Winding:** Yarn, once spun, is wound into hanks or skeins.
- **Sizing:** This is done to strengthen the yarn by drawing it through a sizing solution. The formula of the sizing solution varies from region to region. In some areas, tamarind paste is used, and in others, a solution of hot water, oilseed cake and rice.
- **Warping:** This is a tedious process, and involves the arrangement of several strands of yarn into a vertical grid of the required length. This is then wound onto the warp beam of the loom.
- **Drawing:** In this process each of the warp threads is drawn through the reed and healds in the loom frame, and attached to the cloth winding roll.
- **Weft winding:** Once dyed, the weft yarn is wound onto small bobbins that are placed in the shuttle.
- **Weaving:** Weaving is done by pressing and relieving foot levers in the loom to raise and lower the warp threads, and simultaneously throwing the shuttle containing the weft thread across the warp from side to side, to form a tight grid that constitutes cloth.

The loom most extensively used in India is the traditional 'pit loom'. Pitlooms are so constructed that the treadles are placed in a pit, above which sits the weaver. Their main advantage is that they occupy very little space, and are relatively cheap. But their productivity is low, they are cumbersome to operate, and are suitable only for narrow-width fabrics. There are two kinds of pitlooms. In the first, the shuttle that contains the weft threads is thrown manually by the weaver from side to side. This is known as the throw-shuttle pitloom. In the fly-shuttle loom, the shuttle moves automatically with the movement of the sley. The relatively modern frameloom is constructed in much the same way, but is raised on stands with a bench for the weaver to sit on. Both the pitloom and frameloom are horizontal looms. The loom mechanism can also be placed vertically; this type of loom is used in carpet weaving. The loin loom, or back strap loom, is peculiar to the North-East. It is a simple device made from wood and bamboo. In this loom, the warp yarns are stretched between two parallel bamboos. The bamboo at one end is fixed to wooden poles driven into the ground, while the bamboo at the other end is held firm by means of a strap worn by the women weavers around their lower backs.

The basic technology used in the handloom sector remains largely unaltered from that discussed earlier in this chapter (See

Box G

WOOLLEN HANDLOOM TEXTILES

Unlike cotton handloom textiles, which are produced throughout India, the production of woollen handlooms is confined to a few states, viz: Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan and Uttar Pradesh in the North; Manipur and Nagaland in the North-East; and Karnataka and Andhra Pradesh in the South.

The production of hand spun woollen yarn is essentially a part-time activity. The wool spinners are largely women from the shepherd community, who supplement their family incomes by spinning wool. As the yarn produced by them is generally of a coarse quality, weavers have begun preferring mill spun wool, which is softer and of uniform quality. With the expansion of woollen spinning mills, fibre merchants have begun procuring raw wool directly from the shepherds, and supplying it to the mills. The losers in this arrangement are the spinners.

According to the Census of Handlooms, there are around 1.8 lakh woollen handlooms in the household sector, as opposed to 8458 in the non-household sector. The total monthly consumption of woollen yarn by these looms is 10,500 tonnes. The monthly production of woollen textile items from these looms is around 95 lakh meters. Blankets and shawls together account for over 90 per cent of the total woollen meterage.[55]

In many artisan households, the various processes involved in making woollen handloom products are integrated, right from sheep breeding to weaving the final product. In the majority of cases, marketing of the final product is done by the weavers themselves in their own or neighbouring villages. The activity is seasonal, and is generally done in the agricultural slack season.

p. 34). The jacquard attachment is used by very few weavers. This is because the attachment is not only expensive, but by virtue of its height, is difficult to accomodate in the average weaver's mud hut. On the other hand, in the organised sector, many of the cloth production processes have been mechanised. Cotton is cleaned by blowing air-jets through the cotton. At the spinning stage, the twisting of fibre into yarn, as well as winding it onto spindles, are done simultaneously at a constant speed, by the ring frame method. In shuttleless looms, the shuttle, which is a relatively heavy object of about 50 grammes, is replaced by either a lighter projectile, a gripper or a rapier, which picks up yarn at one end and drops it at another. The same can be done by jets of air or water.[12] But these innovations are beyond the reach of the handloom weaver.

Box II

SILK HANDLOOM TEXTILES

India is the world's second largest producer of silk, next to China. Whereas China produces about 48,000 tonnes of silk every year, India's output is expected to reach 10,000 tonnes by the end of 1994. India earns Rs.700 crores annually from silk exports.[36]

Four varieties of silk are produced in India: mulberry, *tasar*, *eri* and *muga*. Of all the varieties, mulberry silk is the most predominant. Most of this is produced in Karnataka, Andhra Pradesh, and Tamil Nadu. Small amounts are also produced in West Bengal and Jammu & Kashmir. Bihar is the major *tasar* producing state, followed by Madhya Pradesh. *Muga* is produced exclusively in Assam, while the principal producers of *eri* are Assam, Orissa, Manipur and Madhya Pradesh.

Cocoon rearing, reeling and weaving are the three essential links in the silk production process. Each of these activities is performed by different groups of workers. The output of one group forms the next group's input; consequently, one group's income the next group's expenditure.

Cocoon rearing is essentially a peasant occupation. Cocoons are of two types: multivoltine and bivoltine. In the case of *tasar*, *muga* and *eri*, cocoon rearing is generally done by tribal families. The cocoons are harvested by hand and graded according to quality, before being sold.

Silk is reeled from cocoons by various methods: palm and thigh twisting, the *charkha*, cottage basin, or filature. In the case of mulberry silk, the choice of technology is dictated by the quality of cocoons. *Tasar* silk is generally reeled by the palm and thigh method, and to a lesser extent, on *charkhas*. The reeling of *muga* and *eri* is done largely with the help of the *takli*, or drop spindle.

According to the Census of Handlooms, there are a total of 21.8 lakh looms manufacturing silk textiles in the household sector.[37] The looms are generally of two types: the pit loom and the raised loom. Silk weavers normally attach one of three design mechanisms to their looms: the jacquard, the dobby or the *adai*. Most of these looms produce *saris*, which account for almost 90 per cent of the domestic market for silk textiles. In the low price market segment, handloom silk *saris* have begun facing competition from those produced on powerlooms, and from synthetic *saris* as well.[38] There are several concentrations of silk weavers in India, some prosperous, some languishing. The key to their survival has been the effectiveness with which they have married their weaving skills to market requirements.[39]

The KVIC has made several improvements in spinning equipment, most notably, the pedal operated New Model Charkha (NMC), with 6 or 12 spindles. Depending on the number of spindles, the NMC is capable of producing 5-10 times more yarn than the traditional spinning wheel. Efforts to improve the loom have been effected mainly in the area of easing the beating motion by attaching a flywheel to the reed, so that the application of force in pulling the reed forward and pushing it back is reduced by the wheel's own momentum.[Box I] The Sevagram loom, developed by the KVIC in 1969-70, is an improved loom with a high pick insertion rate. The KVIC has also developed a semi-automatic, pedal-operated loom, popularly known as the Nepali loom, to facilitate weaving of fabric from hand spun yarn.

ORGANISATION OF PRODUCTION & MARKETS

Weavers and their families constitute the basic unit of production. Not all weavers, however, can operate independently, either due to inadequate capital, or inaccessibility of the market. According to the Census of Handlooms, of the 22.4 lakh full-time weavers, only 12.1 lakh are independent weavers; 3.4 lakh weavers work under master weavers; and 4.5 lakh weavers are members of co-operative societies.[13] Weavers who do undertake independent production generally buy their inputs with money raised at exorbitant rates of interest. Increasingly, therefore, weavers are being forced to depend on master weavers who are themselves skilled weavers and have set themselves up as intermediaries. Master weavers either own a number of looms themselves, or hire the services of weavers who own looms and work out of their homes on piece-rates. The master weavers invest their own capital on looms, accessories and worksheds. Since they also purchase yarn and other inputs from the open market, over which they have no control, master weavers generally cover their risks by depressing the wages of the weavers they employ. Apart from the advantage of regular work, the artisans who are part of such an arrangement, get loans from their master weavers for contingencies.

Weavers may be classified according to the type of production arrangements that they enter into. These are outlined below:

Independent Weavers

- Possess their own looms and accessories
- Purchase inputs from the open market, with money borrowed at exorbitant rates
- Use family labour, at times hired labour
- At times dye the yarn themselves
- Sell to traders and consumers

Dependent Weavers

a. **Attached to Master Weaver:**
- May or may not own a loom
- Work either at home or workshop
- All inputs provided by master weaver
- Marketing taken care of by master weaver
- Work on piece rates

b. **Attached to Manufacturer who is not a weaver and generally in the export sector :** Very much like above, except that weavers enjoy better wages and more regular employment

Members of Production or Service Co-operatives

- May or may not own looms
- Work either at home or in a common shed
- Are provided with inputs like yarn and credit, and services like marketing
- Work on piece rates
- Enjoy greater security

Many members of co-operative societies also work for master weavers in the busy season. In fact, weavers often use co-operative societies as a standby for a minimum level of continuous employment. At the same time, they may also work for a master weaver, since most co-operative societies are unable to provide adequate work to their members.

Production of cloth in the mill sector dropped from 3,528 million meters in 1983 to 2,329 meters in 1992. In contrast, the cloth output of the decentralised sector, which includes handlooms and powerlooms, rose from 8,006 million meters to 18,244 meters in the same period. The trend seems to be clear: the organised sector is getting displaced by the decentralised sector, and in order to survive, the former is shifting its focus to the export sector.[14] According to recent estimates, there were a total of 60 lakh handlooms in 1950, which produced 18,000 million square meters. By 1992-93, the number of handlooms had declined to around 30 lakhs, with an output of only 3000 million square meters. The market share of handlooms had declined from over 60 per cent in 1950 to only 20 per cent in 1992-93.[15]

The market for textile products is four-tiered:

- The self-consumption sector i.e., where products are made for household requirements, and not for sale, as in the North-East.
- The rural market, where the marketing is done largely by the artisans themselves.
- The distant domestic market, largely urban or semi-urban, which is well beyond the reach of the artisans.
- The export market.

Traditionally, handloom weavers used to sell their products directly to the consumer, either through door-to-door sales or at bazaars. Over time, this channel has been replaced by a number of intermediaries: itinerant traders, cloth dealers, merchants, commission agents and co-operative societies. A large proportion of textile workers (44 per cent) interviewed by SRUTI had been reduced to wage workers. The remaining weavers either sold directly from their premises, or disposed of their products to co-operatives or government agencies.

Almost 90 per cent of handloom products are marketed through master weavers and private traders. Itinerant traders contact the master weavers in their beat and purchase what they require. At times, the artisans or manufacturers go to the nearest market centre to sell their products to the trader. The traders either retail these products through their own outlets, or else, act as intermediaries, supplying them to wholesalers or retailers. Not infrequently, the petty traders buy goods from the artisans on credit, and therefore, bear few business risks. Weavers in areas contiguous to towns often sell their cloth to merchants with their own retail outlets. On the other hand, master weavers and manufacturers who control large operations normally by-pass the petty trader and sell directly to the wholesalers and retailers. The independent weavers make no contribution to the export segment of the market, to which they have practically no access. A few co-operatives which have been "adopted" by merchant exporters do so. The bulk of exports are effected through the merchant exporters and manufacturer-exporters. While the former get their supplies from manufacturers or master weavers, the latter have their own production facilities.

III INTERVENTIONS

POLICIES

The government has been fairly active in enacting legislation and evolving policies for the development of the handloom sector. The policies can be classified into two types:

- **Protective:** Protection to the handloom sector in the wake of competition from the mill and powerloom sectors has

Box I

WEAVERS' AGITATION

Handloom weaving is the largest decentralised industry in U.P., employing 15 lakh weavers. Since the weavers' families help in the pre-loom, weaving and post-loom operations, about 65 lakh persons are directly and indirectly involved in the handloom industry of this region. U.P. accounts for 16 per cent of the country's total handloom production and 23 per cent of the Janata cloth produced in India.[40]

The handloom weavers are mostly self-employed. The soaring prices of cotton and silk yarn and the inability of the government to make these available at reasonable prices, led to a weavers' agitation in eastern Uttar Pradesh, in 1987. They demanded that prices be brought down to the September 1986 level. They also wanted the government to provide a guarantee for marketing their textiles, extend facilities for export, and place a ban on the export of yarn. However, despite the agitation and a meeting with the Chief Minister, none of the weavers' demands were met. The agitation intensified, and in early 1988, weavers took part in a massive "*Jail Bharo andolan*" in Gorakhpur District.

The agitation was sparked off by a spurt in yarn prices, from Rs.85 per 5 kg. bundle in September 1986 for the ordinary variety, to Rs.135 in 1987, and eventually to Rs.160 in January 1988. Since the weavers could not sell their products at prices high enough to compensate for the hike in yarn prices, their looms were forced to remain idle. The silk industry of Varanasi was also paralysed because of a a steep rise in yarn prices from Rs.650 in 1987 to Rs.1100 per kg. in 1988, and an acute shortage of the raw material.

"The production of Janata cloth, the target of which was 120 million metres for Uttar Pradesh, has been brought down because of its being uneconomical. Whereas the cost of production of Janata *dhoti* comes to about Rs.45, the government pays Rs.39.50 only. The corruption ridden co-operative institutions are further messing up everything by denying weavers what is due to them".[41]

come in the form of curbs on the capacity of mills and reservation of certain items for production exclusively in the handloom sector. Fiscal controls, such as excise duty, levy and cess were introduced to compensate for the technological advantages of mills and powerlooms vis-a-vis handlooms.

- **Promotional:** The main policy thrust towards dealing with the low demand for handloom products has been to extend subsidies. The result has been a drain of funds on the one hand and appropriation of subsidies by the not-so-poor on the other.[Box K]

Box J

IMPROVEMENTS IN THE LOOM

The TARA loom, developed by Development Alternatives (an NGO based in Delhi) is an improvement over the traditional loom, and has the following features:

1. A Metal Frame: The traditional looms, made of wood, are bulky and unstable. The metal frame loom is made of rolled angle parts which can be easily assembled with the aid of a spanner. As a result, it is:
   - Cheaper (Rs.700 against Rs.1500 for a traditional wooden frame)
   - More durable
   - Simple to construct (due to bolted joints. No welded parts are used)
   - Easy to repair
   - Rigid, eliminating vibration and resulting in better quality fabric
   - Rust proof, being coated with industrial paint
2. A Fly Wheel: This ensures jerk-free weaving, even at a speed of 80 picks per minute. Operating a loom with a fly-wheel is less strenuous, because after the initial effort to put it into motion, it operates on its own momentum. It also facilitates uniform pick spacing by fixing the throw of the beater.
3. Special Take-up Mechanism: Allows for a pick range varying from 14 picks per inch to 90 picks per inch, without changing any gears.
4. Negative Let off: Maintains uniform tension in the warp and increases productivity by releasing the warp automatically instead of it being manually let off.
5. Temples: These ensure uniform width and also increase productivity by cutting down the time required for adjusting the fabric width manually.

Some of the other features of the loom are:

- It can operate at an average speed of 80 picks per minute
- It can use all kinds of yarn, whether silk, cotton or wool
- It can have a single shuttle or a multi-shuttle box attached
- Any number of pedals can be fitted on to it
- A jacquard or a dobby can be attached to it to weave intricate designs. The jacquard has been modified to make it more compact and easy to transport. Its height has been reduced to enable it to fit into a small workshed or hut. The punched cards used traditionally for obtaining different designs have been replaced by a wooden lattice with pegs. The designs can be changed by altering the order in which the pegs are inserted.

Some improvements have also been made in the area of spinning: a multi-spindle pin-winder has been devised to increase the quality and output of the yarn. This has been made possible by the incorporation of:

- Two spindles, which can be wound simultaneously
- Tensioners, which are spring-loaded and provide constant yarn tension, and a grip on the spindle
- Bicycle wheel instead of a wooden one, which ensures light package density due to higher winding tension. It also provides for more yarn on a pin, and therefore, longer, uninterrupted spells on the loom.

INFRASTRUCTURE

Co-operatives

The first weavers' co-operative was set up in Madras in 1905, with the limited objective of giving loans to weavers. In the forties, the role of the co-operatives was expanded to include the distribution of yarn. The number of looms covered by them grew to 0.7 million by 1953, but the movement received a set-back when the controls on the distribution of yarn were lifted. A fund was created for the industry in 1953 and several incentives were offered for the formation of new co-operatives and the strengthening of existing ones. By 1960, the number of looms covered by weavers' co-operatives increased to 1.3 million. According to the Census of Handlooms, in 1987-88, a total of 4.5 lakh full-time weavers were covered by co-operatives. This accounted for merely 20 per cent of all full-time weavers.[16]

The co-operative structure in India is as follows:

- **Primary Weaver's Co-operatives** at the village level comprising two types of societies:
  - Production-cum-sales co-operatives which supply yarn to the members for production of specified varieties of cloth which they undertake to sell after paying the weavers their wages.
  - Service societies which provide various services to members but do not produce cloth.
- **Apex Societies** are federations of primary weavers' co-operatives. Their main function is to supply yarn to primary co-operatives and assist them in marketing their products.

Despite the incentives offered by co-operatives, individual weavers continue to work for master weavers in the busy season. Barring a few, the co-operatives cannot provide adequate work to their members. Many of them face the same problems as individual weavers – shortage of raw material, finance and absence of marketing outlets. There are marked regional variations in the coverage of co-operatives. In Tamil Nadu, a total of 1.8 lakh (or 46 per cent) full-time weavers are covered by co-operative societies. The coverage of co-operatives in Uttar Pradesh is neg-

Box K

TEXTILE POLICY OF 1985 : SOME EXCERPTS

"The textile industry has a unique place in the economy of our country. Its contribution to industrial production, employment and export earnings is very significant... The healthy development and rapid growth of this industry is, therefore, of vital importance.

The existing textile policy sets out a number of objectives. While each of these objectives is important, the multiplicity of objectives has inhibited the achievement of the main task of the textile industry, that is to increase the production of cloth of acceptable quality at reasonable prices to meet the clothing requirements of a growing population. Henceforth, the approach to the textile industry would be guided by this main objective. In pursuit of this main objective, the employment and export potential of the industry shall be kept in view. The availability of cloth at affordable prices for the poorer sections of the population shall be augmented.

The textile industry has, so far, been viewed in a compartmentalised manner either in terms of various sectors namely, organised mills, powerlooms and handlooms, or in terms of fibre use namely, cotton textiles, woollen textiles, man-made textiles and silk textiles.... Such distinctions have led to the application of a policy mix which is sector-specific or fibre-specific resulting in the emergence of special interests on the one hand and fossilisation on the other. To achieve the main objective of the textile policy, it is necessary to eliminate the existing structural rigidities and to evolve a more integrated view of the textile industry.

The proposed restructuring of the textile industry would have the following ...dimensions:

- the industry shall be viewed in terms of the stages of its manufacturing process, namely, spinning, weaving and processing;
- the industry shall be provided with fuller flexibility in the use of various fibres; and
- the industry shall be subject to more pragmatic policies regarding creation or contraction of capacities by units in order to increase competition and promote healthy growth in the industry.

In the spinning sector, all steps will be taken to ensure optimum utilisation of the spinning capacity. The availability of raw materials for the spinning sector would be augmented. The infrastructure for the distribution of yarn would be strengthened. At the same time, necessary measures to encourage and increase spinning in the *Khadi* sector would be taken in view of its large employment potential.

In the weaving sector, the distinct and unique role of the handloom sector shall be preserved. The growth and development of this sector shall receive priority. The composite mills and the powerlooms have their own respective strengths and weaknesses. For the purpose of policy, powerlooms in the organised mill sector and in the unorganised powerloom sector shall, as far as possible, be treated at par and allowed to compete on the basis of their inherent strengths and capabilities.

In the processing sector, the independent power processors and the processing houses in the mills would be treated at par and each would be allowed to operate on the basis of its competitive strength. The small hand-processing units with limited output will receive special consideration.

The unplanned growth of powerlooms in the unorganised sector has mostly tended to concentrate in a few areas. A significant proportion of the powerlooms remain unregistered and unauthorised. Henceforth, there shall be compulsory registration of all powerlooms.... Effective measures would be taken to see that the powerlooms do not encroach upon articles reserved for exclusive production by the handloom.

In order to preserve the unique role of handlooms and enable them to realise their full potential as also to ensure higher earnings for the handloom weavers, the following...steps will be taken:

- The development of handlooms through co-operatives and Central/State level corporations shall be intensified.
- Greater emphasis will be placed on the modernisation of looms and provision of technological and other inputs for improving productivity of handlooms and the quality and finish of handloom products.
- Special efforts would be made to ensure adequate availability of yarn and other raw materials to the handloom sector. The infrastructure for procurement and supply of such inputs at reasonable prices to the handloom weavers shall be strengthened through the operations of the National Handloom Development Corporation and the State level handloom agencies.
- The production of mixed and blended fabrics on handlooms shall be encouraged with a view to improve the wages and earnings of the weavers.
- Protection to handlooms will be provided by reserving articles for their exclusive production in the handloom sector under the Handloom (Reservation of Articles for Production) Act, 1985. The provisions of this Act shall be strictly enforced and the machinery for doing so shall be suitably strengthened.
- To improve the competitiveness of handlooms steps would be taken to remove, as far as possible, the cost handicap of the handlooms vis-a-vis the powerlooms by suitable fiscal measures.
- To improve the marketing of handloom products, infrastructure of marketing complexes, training of marketing personnel and intensive publicity shall be organised. Steps would be taken to upgrade the technical, managerial and administrative skills of personnel employed in the handloom sector.
- To strengthen the data base for the handloom sector for better planning and execution of handloom development programmes, a census of handlooms shall be undertaken. The machinery for implementation, supervision and evaluation of handloom programmes shall be strengthened.

In order to improve the working conditions of the handloom weavers and to provide direct benefit to them, the following schemes, amongst others would be introduced:

- a Contributory Thrift-Fund scheme to provide assistance to the handloom weavers during times of need;
- a Workshed-cum-Housing scheme to provide a better place for work and living to the handloom weavers.

The responsibility for the entire production of controlled cloth shall be transferred to the handloom sector by the end of the Seventh Five Year Plan.

All encouragement would be given to the expansion of the *khadi* programme in view of its large employment and income generating potential in the rural areas, specially among women. Steps would be taken to improve the production process, upgrade the skills of workers, raise productivity, diversify the product range and strengthen the marketing arrangements under the *khadi* programme.

For expeditious modernisation of the handlooms, research for evolution of improved types of handlooms and adequate arrangements for ensuring swift and smooth transfer of technology from the research institutions to the handloom weavers will be given priority."

SOURCE: Statement on Textile Policy; Government of India, Ministry of Supply and Textiles, Department of Textiles; June 1985

ligible: only 5575, or 2 per cent of the full-time weavers are members of co-operative societies. In Maharashtra, co-operatives are fairly widespread, with 41089 (or 62 per cent) full-time weavers having been enlisted as members.[17 Box I. & M]

National Handloom Development Corporation

Given the limited coverage of co-operatives, the government has promoted the formation of state level Handloom Development Corporations, which function under the umbrella of the National Handloom Development Corporation. They are expected to serve the weavers in much the same way as the apex co-operative unions, by supplying yarn to them and marketing their cloth. They do so through a network of emporia throughout the country. These corporations are directed at weavers outside the co-operative movement and the ambit of master weavers.

All India Handlooms & Handicrafts Board

The All India Handlooms and Handicrafts Board was constituted in 1981, with separate offices for the Development Commissioner (Handlooms) and Development Commissioner (Handicrafts). The Board is the principal advisory body to both the Development Commissioners. The Institutes of Handloom Technology and the Weaver's Service Centres function under the supervision of the Development Commissioner (Handlooms).

Other Agencies and Programmes

At the national level, the All India Fabrics Marketing Co-operative Society Limited was set up in 1955 with a loan from the central government and some share capital. Its shareholders are apex co-operative societies, primary co-operative societies and state governments. However, so far, it has only been able to set up eight retail outlets and instead of buying exclusively from

Box I.

THE KANCHIPURAM CO-OPERATIVES: A SUCCESS STORY

"*The Loom of Interdependence*" by Yvonne J. Arterburn,[42] is an instructive account of what makes co-operatives succeed rather than fail. It is based on the author's study of the silk weaving co-operatives in Kanchipuram, Tamil Nadu.

According to Arterburn, co-operatives in India have been largely government initiated. This is not the case with Kanchipuram, where the co-operative movement was an outgrowth of the labour movement in the handloom industry. The moving force behind the movement was a weaver by the name of Parthasarathy who played an active role in the Tamil Nadu Provincial Handloom Weavers' Federation, a cotton weavers' union established in 1944. The union was successful in pressurising the government to institute an inquiry into the working conditions of the handloom workers in 1947.

Based on his experience with the cotton weavers' union, Parthasarathy took the initiative to establish the Kanchipuram Silk Weavers' Union in 1953. In 1954, when the master weavers decided to cut the wages of their dependent weavers, Parthasarathy and the union leaders organised a massive signature campaign, protesting against the wage cut. They presented a memorandum to the Minister for Labour, accompanied by a notification of a strike by the weavers. Despite assurances by the Commissioner for Labour, a peaceful settlement could not be effected, and the weavers struck work for fifteen days. The purpose of the strike was three-fold: first, to prevent the wage cut; second, to secure state funds for establishing silk weavers' co-operatives; and third, to press for the establishment of Cess Funds for these co-operatives. All three objectives were achieved.

The first co-operative – Kamakshiamman Silk Weavers' Co-operative Production and Marketing Society – was set up in 1955, with state assistance. The assistance extended to it from the Cess Fund included a subsidy of Rs.20,200 for purchasing weaving appliances; a loan of Rs.26,575 as a contribution towards share capital; and a working capital loan of Rs.1,32,500.

Members of weavers' co-operatives in Kanchipuram enjoy several benefits:

- They receive higher wages than independent weavers. They also receive part of the society's net profit as bonus, and a dividend on their share capital investment.
- Loom accessories are provided free of charge. Weavers are also permitted to use the Jacquard looms owned by their societies without having to pay rent.
- They may avail of loans for emergencies and also for discharging prior debts to master weavers.
- Most societies have a compulsory thrift fund or other savings plans and life insurance schemes for their members. Some have a Contributory Thrift Fund, in which the members' contributions are matched by the government and the society.
- By participating in the affairs of co-operative societies, weavers gain tremendous experience in different business functions such as purchase, production and marketing.

Besides improving the economic situation of the weavers, the co-operative movement in Kanchipuram has had wider ramifications as well. The co-operatives tend to set the wage level for the industry as a whole. Every increase in co-operative wages is invariably followed by a demand for increases in the wages by weavers attached to master weavers. The growth of co-operative societies has also led to greater government involvement in the industry. This has resulted in a larger inflow of capital, publicity and expansion of markets. The co-operative movement has also raised the social status of the weavers, and narrowed the social distance between them and the master weavers.

Arterburn ascribes the success of the co-operatives to four factors:

- Firstly, silk weaving is inherently profitable. Silk saris and petticoats are luxury items and are an integral part of ceremonial exchanges in many parts of south India. They cannot be duplicated by machine, and therefore they do not face any undue competition from the mill sector.
- Secondly, a coordinated package of assistance has been provided by the government, addressing the technical, capital, raw material and other needs of the weavers.
- Thirdly, the structural organization of the co-operatives has ensured a balance of power between the secretary, the board of directors and the members. This has prevented the abuse of power.
- Fourthly, and most importantly, the weavers have participated actively in the affairs of the co-operative.

"One often hears the complaint that the Indian government has great plans, but that little change occurs in reality. In Kanchipuram the results are concrete and real... The co-operative movement in Kanchipuram did not come from above; it was self-initiated, therefore it has succeeded in part because it was wanted".[43]

the co-operatives as it is supposed to do, it is believed to make a significant proportion of its purchases from master weavers.

The Central Cottage Industries Corporation, set up in 1954 with branches in the major cities, also provides an outlet for handloom fabrics. The Handlooms and Handicrafts Export Corporation, a subsidiary of the State Trading Corporation, is entrusted with the task of developing and promoting exports of handloom fabrics and made-ups.

Despite all these interventions, only about 10 per cent of the marketing of handloom cloth is taken care of by the institutional structure. Of this, 90-95 per cent is marketed through the co-operative system and the remaining 5-10 per cent through bodies such as the handloom corporations. This means that the average weaver continues to remain heavily dependent on the master weaver or contractor.

Though a programme for the intensive development of groups of handloom weavers outside the co-operative sector has been started, the results are far from encouraging. A similar scheme has been launched for the intensive development of looms for export production. Both the schemes seek to:

- Meet the yarn requirements of weavers to sustain a steady level of production
- Arrange for the modernisation of handlooms and training of weavers
- Fulfill the credit requirements of weavers
- Arrange to market the cloth produced by the weavers
- Introduce improved technology and better designs with the assistance of the Weaver's Service Centres
- Maintain a raw material bank for a continuous supply of inputs and organise suitable processing facilities where necessary.

During the Seventh Plan, the emphasis of development programmes for the handloom sector was on the formation of co-operatives, strengthening of Central and State level corporations, modernisation of handlooms, design development, training of weavers and assured minimum earnings through the Janata Cloth scheme. Training and design inputs were provided through the Weavers' Service Centres (WSC's). Primary and Apex Societies were given share capital and other assistance. The National Handloom Development Corporation (NHDC) stepped up its activity of supplying hank yarn, dyes and chemicals, while the National Co-operative Development Corporation (NCDC) assisted handloom weavers' co-operatives to establish, modernise and expand yarn spinning mills to augment spindleage and availability of hank yarn. The Janata Cloth Scheme was operational in 18 States. While this scheme was partially successful in providing consistent wages to weavers and making cheap cloth available to weaker sections, it has led to a deskilling of weavers.[38]

According to the Eighth Plan, inspite of the various measures implemented under the Seventh Plan, the economic condition of handloom weavers did not improve as envisaged. Co-operative coverage is limited to 30 per cent of the total population of weavers. The challenging of the Handloom Reservation Act of 1985 in several High Courts by powerloom operators resulted in continued encroachment on handloom products. Steep increases in cotton yarn prices, accumulation of inventories, and delayed payments to primary societies by apex societies have further aggravated the weavers' condition. The Eighth Plan seeks to address some of these problems through the following programmes:

- Phasing out the Janata Cloth Scheme
- Placing the Handloom Reservation Act, 1985, under Schedule IX of the Constitution
- Setting up integrated handloom villages at select places, equipped with worksheds and houses, pre- and post-loom facilities, depots for raw materials, marketing infrastructure, banks and communication facilities

The Eighth Plan also states that *khadi* products are unable to withstand competition from the organised sector, and recognises the importance of adopting an aggressive marketing approach and promoting those activities which are economically viable, without the support of subsidies. It stresses the importance of diversifying the product mix and of experimenting with blended fabrics.[39]

Box M

BOGUS CO-OPERATIVES

Wherever investments have been made by the central government in setting up weaver's co-operatives, avarice has invariably followed. Judging by an investigation of co-operative societies in Uttar Pradesh, vested interests have cornered huge sums of money by floating bogus weavers' co-operatives, with fictitious members, untraceable office-bearers and fake addresses. In three specific instances reported from Kanpur, a *paan* (beetle-nut) shop, an electronic goods factory, and a restaurant were found at the addresses where the co-operatives were supposed to be located![44] Crores of rupees have been embezzled in this manner in the towns of Gorakhpur, Varanasi, Azamgarh and Lucknow.

Ishaq Ahmed, as reported in "*India Today*",[45] was a weaver who took to driving a cycle rickshaw, since weaving was not providing even a subsistence wage. He alleged that society office-bearers were cornering all the money; looms were never bought but documents falsified so that looms belonging to someone else were shown as the property of the society. Ishaq lamented: "These leaders have used the money to buy tempos or taxis. Some have even bought buses and are running them at a healthy profit, whereas the looms are languishing".

Nandnagri is a resettlement colony on the outskirts of Delhi with a fairly large concentration of handloom weavers. There are no precise statistics on the number of co-operative societies in Nandnagri, with estimates ranging anywhere between 50 and 2000. However, many of these exist in name alone. Master weavers, to obtain low interest loans from the co-operative banks, register themselves as secretaries of the co-operatives. As Sonpal, a weaver, facetiously remarked, "At present I am the *khazanchi* (treasurer) of one society, though I have yet to see the *khazaana* (treasure)." Masterji, formerly an accountant in one of these co-operatives, said that losses are deliberately shown so as to avail of further subsidies and write off previous loans.[46]

In 1993, the Textile Minister announced a Rs.1162 crore assistance package for the handloom sector. The two main components of this package are as follows: provision of looms to 3.27 lakh loomless weavers, and establishment of 3000 handloom development centers. Some observers view this as a futile exercise, since "lakhs of handloom workers already possessing looms are without work for want of raw materials or due to ..encroachment on their market by powerlooms and mills".[20] The need of the hour is additional work, and not looms. This has been amply demonstrated by the findings of the National Census of Handlooms, which revealed that almost 2.8 lakh looms (or 7 per cent of the existing looms) were lying idle.

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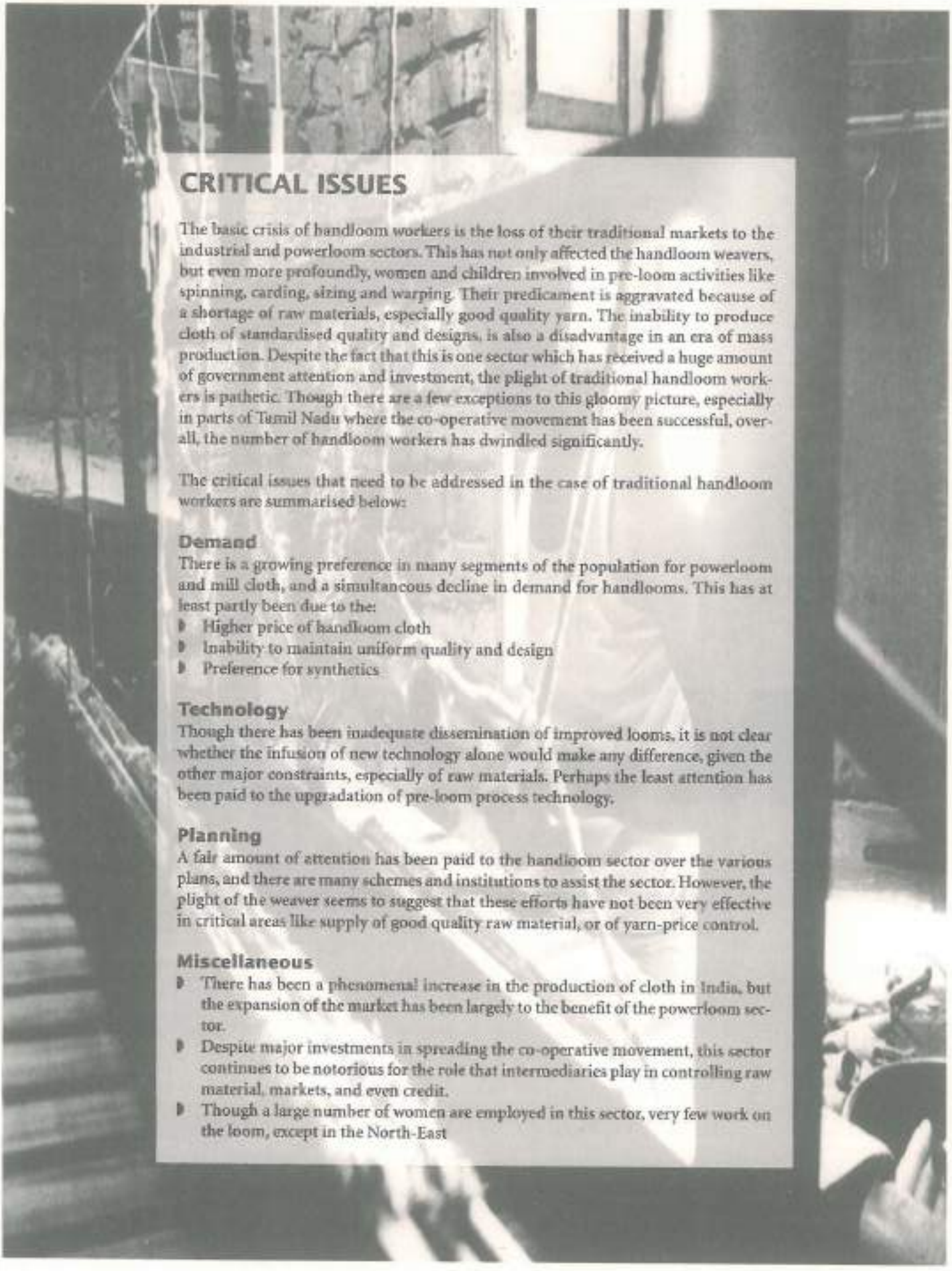

CRITICAL ISSUES

The basic crisis of handloom workers is the loss of their traditional markets to the industrial and powerloom sectors. This has not only affected the handloom weavers, but even more profoundly, women and children involved in pre-loom activities like spinning, carding, sizing and warping. Their predicament is aggravated because of a shortage of raw materials, especially good quality yarn. The inability to produce cloth of standardised quality and designs, is also a disadvantage in an era of mass production. Despite the fact that this is one sector which has received a huge amount of government attention and investment, the plight of traditional handloom workers is pathetic. Though there are a few exceptions to this gloomy picture, especially in parts of Tamil Nadu where the co-operative movement has been successful, overall, the number of handloom workers has dwindled significantly.

The critical issues that need to be addressed in the case of traditional handloom workers are summarised below:

Demand

There is a growing preference in many segments of the population for powerloom and mill cloth, and a simultaneous decline in demand for handlooms. This has at least partly been due to the:

- Higher price of handloom cloth
- Inability to maintain uniform quality and design
- Preference for synthetics

Technology

Though there has been inadequate dissemination of improved looms, it is not clear whether the infusion of new technology alone would make any difference, given the other major constraints, especially of raw materials. Perhaps the least attention has been paid to the upgradation of pre-loom process technology.

Planning

A fair amount of attention has been paid to the handloom sector over the various plans, and there are many schemes and institutions to assist the sector. However, the plight of the weaver seems to suggest that these efforts have not been very effective in critical areas like supply of good quality raw material, or of yarn-price control.

Miscellaneous

- There has been a phenomenal increase in the production of cloth in India, but the expansion of the market has been largely to the benefit of the powerloom sector.
- Despite major investments in spreading the co-operative movement, this sector continues to be notorious for the role that intermediaries play in controlling raw material, markets, and even credit.
- Though a large number of women are employed in this sector, very few work on the loom, except in the North-East

Section II

4

Mochee

Artisans who make leather and leather products

Leather Workers

In India, the use of leather objects was first reported around three thousand five hundred years ago.[1] "In the time of the Rig Veda, leather mashaks for water are well known... For Agastya (2000 B.C.), in his poison neutralising mantra says 'I deposit the poison in the solar orb, like a leather bottle in the house of a vendor of spirits'."[2]

Flayers, tanners and leather goods producers, though collectively referred to as 'leather workers', have distinct skills and spheres of activity. Flaying is the process of retrieving raw hides and skins from dead animals. Tanning is the process by which these hides and skins are made into leather. Shoes, bags, saddles, and harnesses are some of the common products manufactured from leather.

Once a largely village-level activity, leather work has gradually developed into a multi-tiered, multi-crore industry. Flaying, tanning, manufacturing and marketing, are carried out at the household and factory levels; within the organised and unorganised sectors; involving domestic and international trade linkages.

In recent years, technological advances, and the rapid growth of international trade in leather and leather goods, have triggered off major structural changes in the Indian leather industry. As overseas demand for Indian leather grew, raw hides and skins were increasingly diverted from the villages to tanneries in India and abroad. The development of chrome tanning technology further shifted the focus away from traditional tanners and vegetable tanned leather.

Competition from chrome leather, raw material shortages and rising leather prices together have forced a large number of traditional leather workers to abandon their vocation. As a result, the population of leather workers in the household sector dwindled sharply, from an estimated 10 lakhs at the turn of the century,[3] to approximately 2.6 lakhs in 1981.

I THE ARTISANS

HISTORY

There are several theories, but few facts, regarding the precise origins of leather work in India.[Box A] That it existed as early as 1600 B.C., is clear from references to leather products in the *Rig Veda*, written around that time. What is not clear, however, is whether its origins preceded the Aryan invasion of India. The *Vedas* also make some of the earliest known references to leather workers (*Charamakars*) as a distinct functional group.[4]

Some historians trace the ancestry of leather workers to tribes such as the *Doms*, *Cheros* and *Kanjars*,[5] maintaining that whether it is the *Chamars* of Northern India, the *Mahars* of Maharashtra, or the *Paraiyans* of south India (all leather-working castes), "they were the original settlers of land, later displaced by those who imposed the caste system on them." The *Mahars*, for instance, are often referred to in ethnographic literature as '*dharni che put*' or, 'sons of the soil'.[6] Irrespective of the beliefs about their origins, it is generally accepted that they were "recruited from Non-Aryan elements".[7] But how this group came to be relegated to the lowest echelons of the social hierarchy is a matter of conjecture.

Other than stray references, for instance, to an overseas trade with Arabia in 13 A.D., or to the growth of urban centers of leather work under the Mughal influence, there is scant information on the subsequent evolution of the leather work sector. Perhaps there were no significant developments in this sector right through till the nineteenth century: in all probability, the industry continued to function as it had since *RigVedic* times, i.e., as a village-based one.

Over the years, the leather-working communities came to be organised into a hierarchy of sub-castes, some of which specialised in one or other aspect of leather work. In Uttar Pradesh, for instance, the *Rangias* specialised in tanning; the *Mochis* of West Bengal, Gujarat and Maharashtra took to cobbling shoes; flaying in Maharashtra came to be the preserve of the *Mahars*. Interestingly, while some communities confined themselves to distinct aspects of leather work, others, like the *Matangis* of Chandrapur in Maharashtra, engaged simultaneously in flaying, tanning and making footwear.[Box B]

As a general rule, flaying was considered to be a highly degrading occupation. Flayers were regarded as the most inferior of all leather workers, whereas those engaged in the manufacture of leather products enjoyed the highest status within the leather-working community. Tanners occupied an intermediary position. As a result of gradual stratification and specialisation, traditional leather workers today are known by a variety of names, such as *Regars*, *Mochis*, *Madigas*, *Holers*, and so on. But of all the known epithets, it is '*Chamar*' that is most widely encountered, more so in north India. The term is used almost generically to refer to all leather workers, irrespective of their specific locations, specialisations or caste affiliations.

Like most traditional artisanal trades in India, leather work too was governed by the *jajmani* system (for details of the *jajmani* system see p.5). Each village/cluster of villages had a complement of leather workers who catered to local demand without intermediaries. The leather workers had their own constituency of patrons, or *jajmans*, whose dead animals they were entitled to, and to whom they supplied leather products. This relationship went beyond a simple exchange of raw material and finished products. The artisan's household provided a number of services outside the scope of leather work to the *jajmans*, and as compensation received a fixed quota of foodgrains, free residential sites, access to common property resources, farm residues and sometimes lease rights on a small part of the *jajman's* farm lands. In essence, the *jajmani* system provided a rudimentary form of social security. The wide range of duties performed besides leather work did not, however, mitigate the stigma of handling carcasses and hides, which gave leather workers their low status. Their work was considered defiling, and in time, they came to be labelled as untouchables. In most parts of the country, they were compelled to reside in separate settlements on the outskirts of the villages, known as *chamartolas* in U.P. These set-

Box A

ORIGIN OF LEATHER WORKERS

Mythical accounts of the origin of leather workers are legion. In one legend, five *Brahman* brothers chanced upon the carcass of a cow while on a walk. Ignoring the dead cow, four of them walked on, while the fifth stopped and dragged the carcass off the road. "For this act, his brothers excommunicated him, and ever after it was his lot and that of his descendants, the *Chamars*, to remove polluted and polluting dead cattle".[24]

In the 24 Parganas (of Bengal), legend ascribes the origin of leather workers and the leather industry to *Rui Das*, (also known as *Raydas* and *Luidas*). "Under the instructions of *Biswakarma*, (the Vulcan of Hindu mythology) *Rui Das* skinned *Mahadeo's* sacred bull to provide *Kartikeya* (the God of War, who waged war with the *Asuras*) with shoes".[25]

In Bankura, it is believed that whenever the Divine Being required shoes, "he would call upon *Luidas* to supply them, granting him permission at the same time to take off sufficient skin, for the purpose, from the body of a living cow. Under the direction of the God, the skinless part was plastered over with cowdung which caused it to be covered with new skin and the wound to heal. On one occasion *Luidas*, out of avarice, took off more skin than was needed, and the prescribed method of treatment consequently failed. The cow complained to the God, and the latter cursed *Luidas* saying – 'Your descendants shall have to earn their livelihood by working in hides and skins of dead animals... Thus your progeny shall have to follow an abominable profession, and shall occupy a very low position in human society'".[26]

While these myths vary in detail from place to place, the underlying message seems to be uniform: that the leather workers' low social status is of their own making, being the result of some former misdeed. It is more likely, however, that society sought the support of these myths and legends to rationalise and reinforce the oppression of leather workers.

tlements exist, even today, in several parts of India.

Extensive changes started taking place in the traditional leather industry in the late nineteenth century. These were propelled by the gradual growth of factories on the one hand, and the spreading awareness about untouchability and the tyranny of the caste system, on the other. The sudden boom in export demand gave rise to a thriving hide trade, and this prompted many *jajmans* to dispense with the services of the traditional leather workers, and to demand compensation for their dead cattle. The flayers were the most affected in the process, and many of them were forced to take up unskilled work in the railways, docks and the army. Some of them became neo-Buddhists in the hope of escaping from the confines of the caste system. Box C

The traditional village tanners and leather product manufacturers were adversely affected by the large-scale tanneries which were established in Kanpur and Madras by the nineteenth century. The demand for raw hides and skins from the tanneries was substantial, and the traditional tanners could not compete with them for raw material. Besides, the supply of hides through the traditional channel of flayers had dwindled considerably. While a few tanners were absorbed by the modern leather industry, a large number of them were compelled to seek other forms of employment.

The advent of chrome tanning and product substitutes dealt yet another blow to the rural tanner. The widespread distribution of chrome leather shoes and the arrival of alternative materials, such as galvanised iron sheets and plastic, destroyed the market for leather buckets, rope, traditional footwear, and other items made by the village artisan. Chrome tanning also put an end to the export demand for crude vegetable tanned hides and skins from India. The demand from India was now for unprocessed hides and skins; in other words, for raw materials which could keep the chrome tanneries of the West in business.

The spurt in demand for raw hides and skins, forced up their prices and also gave rise to a new merchant class, that operated through a network of agents. The agents bought raw hides and skins directly from the flayers, often by out-bidding the local tanners. These were subsequently sold to tanneries situated in the cities, or in the West. The exported skins and hides often found their way back into the country, either as finished leather, or as manufactured articles. The establishment of tanneries in Madras and Kanpur, was followed by the growth of factories manufacturing leather goods in urban areas, notably Agra and Kanpur. These were owned largely by Europeans who had access to capital and the latest know-how. This, and the subsequent breakdown of traditional linkages between flayers, tanners and manufacturers, practically wiped out a thriving traditional industry. A majority of the leather workers became agricultural labourers or moved to urban centres to become shoe repairers and shoe-shines.

POPULATION ESTIMATES

Calculations based on the Census of India 1961 and 1981, suggest the following demographic trends with respect to leather workers: Box D1

- **Total population:**
  The total number of leather workers in 1981 was 6.3 lakhs.
- **Share of household vs. non-household sector:**
  Of the above, 2.6 lakhs (41.6 per cent) were in the household sector.
- **Rural-urban mix:**
  Of the total population of leather workers, 3.3 lakhs (51.3

Box B

COMMUNITIES ASSOCIATED WITH LEATHER WORK

	BENGAL	MAHARASHTRA	KARNATAKA	ANDHRA PRADESH	UTTAR PRADESH
FLAYING	*Chamar, Dhusia, Gareya, Dohar, Dom or Dombo*	*Mahar, Matangi, Madiga, Madagi*	*Adi Karnatak, Katigar, Madar, Mochi, Madiga, Harijan, Kalal, Halal, Haliha, Adi Jambava, Chamar, Virkakkaya*	*Madiga, Harijan*	*Chamar, Kureel, Raidasa, Dunuk, Maihtar*
TANNING	*Chamar*	*Dhor*	*Dhor, Madar*	*Madiga, Mala, Harijan Madiga*	*Jatav, Kureel, Raidas Jatav, Siraj, Chabha*
MAKING LEATHER GOODS	*Mochi*	*Chambar, Mang, Dhor, Madagi, Matangi*	*Haralayya, Samagar, Mochi, Adi Karnataka, Adi Jambava*		

SOURCE: Vaikunthbhai Mehta Smarak Trust; Study of Scheduled Caste Leather Workers, Maharashtra, Karnataka, Andhra Pradesh and Uttar Pradesh; Bombay; 1985; Various pages for distribution in all States except Bengal.

per cent) were located in rural areas. In the case of the household sector, 73.1 per cent of the leather workers were located in rural areas. By contrast, 75 per cent of all leather workers in the non-household sector were located in urban areas.

- **Gender mix:**
  Females, numbering 22,756 accounted for 4 per cent of the population of leather workers in 1981.
- **Intercensal shifts:**
  The total population of leather workers decreased from 8.1 lakhs in 1961 to 6.3 lakhs in 1961, representing a decline of 21 per cent. During the same period, the number of leather workers in the household sector dropped from close to 6 lakhs to 2.6 lakhs, a decline of almost 56 per cent. In the household sector, numerically speaking, the most dramatic decline occurred in the case of shoe-makers and repairers-from 5.3 lakhs in 1961 to 2.5 lakhs in 1981 (a 53 per cent

Box C

ECONOMIC AND SOCIAL MOBILITY OF LEATHER WORKERS

The history of leather workers over the last century is marked by movements of various kinds: occupational, geographical, social and political.

There has been a dramatic decline in the population of leather workers. According to one estimate, there were over one million leather workers at the turn of the century.[27] More recent estimates (see pp. 51-52) indicate that there were 8.1 lakh leather workers in 1961, and 6.3 lakhs in 1981. This suggests a massive occupational shift of leather workers to other professions. For many, especially the flayers, this shift merely signified a partial loss of income. Under the *jajmani* system, it may be recalled, these artisans were essentially field and household servants; leather work constituted one of their many chores, for which they were compensated in cash or kind.

Some leather workers displayed remarkable resilience. They clung tenaciously to their traditional occupation by effecting adjustments in their work patterns. Often, this meant moving from flaying to tanning, and from tanning to making leather goods. Traditional shoe-makers began experimenting with western designs, while others migrated to urban areas to take up repair work, which proved to be fairly remunerative.

Occupational movement within leather work often entailed a parallel shift viz., from the narrow confines of the village and household, to the organised, city-based factories. Some of the important geographical movements among leather workers took place when Madras, Dharavi (Bombay), Jajmau and Calcutta emerged as important tanning centres, and Kanpur and Agra as focal points of the shoe industry.

While most of the migration was of an intra-regional, rural-urban kind, some inter-regional movements also took place. The workers in Dharavi, for instance, were, and continue to be, largely recruited from Tamil Nadu. Their superior skills, combined with the unwillingness of the local, traditional tanners to join the factories, accounted for their migration on such a massive scale. These geographical and occupational shifts were complemented by powerful social and political movements, two of which are discussed below.

BABASAHEB AMBEDKAR AND THE NAV BODH MOVEMENT

Through a process of *Sanskritisation*,[28] leather-working communities such as the *Jatavs* in and around Agra had long attempted to struggle free of the stigma of untouchability. But, *Sanskritisation*, as a means adopted by communities to improve their position within the caste hierarchy, is based on a tacit acceptance of the caste system.

By questioning the sanctity of the caste system, Baba Saheb Ambedkar[29] caused a drastic revision in the world-view of *Jatavs* and other Scheduled Castes. Born a *Mahar*,[30] he asserted that stigma and untouchability were synonymous with Hinduism and the caste system. Only by outright rejection of Hinduism, and the tenets on which discrimination was based, could they hope to liberate themselves from these social handicaps.[31]

According to him "the untouchables were... survivors of the indigenous tribes conquered by invading... agriculturalists, the *Brahmans*." Because the former were Buddhists, they were hated by the *Brahmans*. "Buddhism was antithetical to the Brahmanic religion, which at that time practiced cow sacrifice. When the *Brahmans* saw that they were losing the masses of the non-*Brahmans* to Buddhism, which forbade the slaughtering of the cow but not meat-eating, they were forced to engage in one-upmanship in order to regain their leadership from the Buddhists. They gave up all meat eating and declared the cow sacred, which it was not to the Buddhists".[32]

"Thereafter, the survivors of the indigenous tribes" became untouchables. Furthermore, because "of their poverty, they were forced to eat carcasses of the now sacred cow, and by doing so, they became polluted outcastes. In this way, Ambedkar identified the modern untouchables with the ancient Buddhists... The true...carriers of valid Indian tradition. The *Brahmans*, on the other hand, descendants of the invading conquerors of the past, are the purveyors of oppression". Convinced that "as soon as I convert...I will not remain a Scheduled Caste," Babasaheb became a Buddhist, and exhorted the *Jatavs* to follow suit. In a counter appeal, Jagjivan Ram, the Congress Party leader of the untouchables, and former Minister for Railways, said "I cannot change my religion. He who converts is a coward. Such people cannot do any service for the *Jatav* community". But the "*Jatavs* chose to follow Ambedkar in the path of alienation both from Hinduism and from the Congress Party", the latter having come to be identified with the *Brahmans*.[33]

Mass conversions took place subsequently.[34] The *Nav Bodh* Movement was significant in that it represented a distinct psychological break with the past. This was evident from the new and powerful body of Dalit literature that emerged, voicing ideas and feelings hitherto repressed. The Republican Party, founded by Babasaheb Ambedkar, gave political substance to the *Nav Bodh* Movement. For the *Jatavs* in U.P., and the *Mahars* in Maharashtra, the Party was an "adaptive response to a political system in which their interests were not articulated" to the desired extent.[35]

The persistent demand of the Republican Party for the reservation of seats and posts for scheduled castes and tribes, led to the formulation of a policy of 'protective discrimination' by the Government. This brought about important structural changes, since *Jatavs* and other leather-working castes were for the first time able to move into "status positions earlier closed to them. More and more of them were placed in higher levels of state and national organisations, in the administrative structure, educational institutions and the economy".[36]

decline). In percentage terms, however, the sharpest drop (75 per cent) occurred amongst tanners, fell-mongers and pelt-dressers. Not surprisingly, it is these very categories that witnessed a tremendous growth in the non-household sector, with the number of shoe-makers and repairers having increased by 75 per cent from 1.9 lakhs in 1961 to 3.3 lakhs in 1981; and that of tanners, fell-mongers and pelt-dressers having grown from 0.21 lakhs in 1961 to 0.4 lakhs in 1981, representing a growth of 89 per cent. Dramatic, though this growth may seem, it did not offset the absolute decline that occurred, between 1961 and 1981, in the number of workers engaged in the leather industry as a whole.

The massive decline in the number of leather workers in the household sector – from over 10 lakhs at the beginning of the century, to 2.6 lakhs in 1981 – was not solely the result of the economic changes brought about by the organisation of leather production on capital-intensive lines. It was also the consequence of a struggle on the part of leather workers to break away from the past and the social stigma attached to their profession. This led to two main courses of action: (i) adoption of other professions; (ii) renunciation of Hinduism and the inherent casteist oppression, and adoption of Buddhism, Christianity or Islam instead.

It might be pertinent to point out that the figures discussed above are at variance with those mentioned in the Report of the Working Group on the Development of Scheduled Castes, 1980-85 (September, 1980). According to this Report, the number of leather workers in the cottage sector was 10.77 lakhs.[Box D2]

The Party also performed another integrative function, that of "uniting castes horizontally, on a regional and interregional scale".[37] The *Jatavs* of Agra came into contact with *Jatavs* in other parts of U.P., as well as other scheduled castes in eastern Uttar Pradesh. Strong links were also formed with the *Mahars* of Maharashtra.

REFORM MOVEMENTS INITIATED BY THE RAIGARS

The *Raigars* are a leather-working community encountered predominantly in Rajasthan. Even though they began questioning their low status as far back as 1895, one of their earliest overt struggles was with the Rajputs in 1916, when they wrested for their women the right, earlier denied to them, of wearing ornaments. By that time, a number of *Raigars* had already adopted vegetarianism. Between 1932-42, a large number of them became *Arya Samajis*.[38]

On November 2, 1944, the first All India Raigar Conference (*Pratham Akhil Bharatiya Raigar Maha Sammelan*) was convened at Dosha. A second one followed in 1946. Resolutions adopted in the course of these two conferences exhorted *Raigars* to refrain from:

- eating the flesh of dead animals
- flaying dead animals and repairing shoes
- rendering any assistance to the farmers

As the caste *panchayats* began enforcing these decisions, often using tyrannical and coercive tactics to do so, "the *Raigars* were caught between the well-to-do of their own caste and the farmers".[39] To start with, the most lucrative activities were banned: the hides that they earlier got free by virtue of flaying dead animals, now had to be procured from distant markets. As a result, the prices of all leather products went up manifold – by almost 500 per cent over a seven-year span. This was resented by the villagers, who accused the *Raigars* of reneging on their traditional duties. Hostility and antagonism on the part of other castes began mounting and several atrocities were committed against the *Raigars*. To compound matters, the farmers began denying them access to land and water, which made tanning – the next most profitable activity – virtually impossible. As a result, the *Raigars* had to more or less confine themselves to manufacturing leather goods, or opt for agricultural labour.[40]

The caste leaders (more often than not the well-to-do), had banned those traditional caste activities which were "perceived to be the most socially undesirable"[41] in the hope of raising their social status. But, it would appear from the preceding account, that they were instrumental in creating "an increasing degree of economic destitution among the *Raigars*".[42]

Similar reform initiatives have been taken by caste *panchayats* in other parts of India as well. According to some authors [43] the response to the *panchayats'* calls has been positive in areas where flaying is no longer economical. Workers for whom flaying and other activities were still profitable, ignored the caste directives, ostracism, and other pressures brought to bear on them.

SOCIAL & ECONOMIC ASPECTS

A total of 53 leather workers were interviewed by the SRUTI research team. They accounted for around 11 per cent of all the artisans interviewed. The sample of leather workers was largest in the three agriculturally backward blocks of Mhow (Indore District, Madhya Pradesh), Shirahatti (Dharwad District, Karnataka) and Hyethnagar (Ranga Reddy District, Andhra Pradesh). There was only one female artisan in the entire sample.

Social Aspects

Virtually all the leather workers interviewed (83 per cent) reported that leather work was their traditional family occupation, and that earlier generations had been engaged in the same work. Even the 9 leather workers who reported that preceding generations had not been involved in the same occupation, actually belonged to leather-working castes. The leather workers in the sample were from the following communities: *Parmar, Kotia, Jatav* and *Chamar* in the northern region, and *Medar* and *Madiga* in the southern region. Many of the traditional leather workers were found to have given up flaying. The *Khalpas* in Vyara block (Surat District, Gujarat), who have migrated overseas in large numbers are a case in point. Their place was being taken by workers from castes lower in the social hierarchy, such as the *Doms* and *Bhangis*. In Alibag block (Raigad District, Maharashtra), there was a virtual absence of tanning and flaying activity. As a result, farmers generally buried their dead animals.

Almost 50 per cent of the leather workers interviewed reported that the younger members in their families had shifted, or were in the process of shifting to other occupations. Generally, the shift was to daily wage labour, and only rarely, to government or other jobs. It was found that most of the leather workers had severed links with their traditional patrons, or *jajmans*. Only 20 per cent

Box D1

POPULATION OF LEATHER WORKERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families' on the basis of their occupations. Each family bears a code number. In all, there are 5 families in the 1961 Census and 9 families in the 1981 Census which are involved in various aspects of leather work, and best correspond to the category of leather workers addressed by this chapter. For the sake of convenience, the individual families have been regrouped under two major categories, as follows:

- Flayers & tanners: This category includes workers who flay dead animals to remove their hides and skins, as well as those who tan and process the skins and hides into finished leather.
- Shoe-makers & leather goods makers: This category consists of workers who make and repair leather articles such as shoes, harnesses, saddles, wallets and so on.

The list of NCO codes in the table below indicates the precise families that have been included under each of the above-mentioned categories.

CATEGORY OF LEATHER WORKERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Tanners, Fell-mongers,	1961	65,402	49,439 (76)	15,963 (24)	7,732 (12)	HH	853
Pelt-dressers		21,104	19,890 (94)	1,214 (6)	13,575 (64)	NH	
	1981	16,400	14,634 (89)	1,766 (11)	6,031 (37)	HH	760-762/769
		39,909	37,208 (93)	2,701 (7)	27,113 (68)	NH	
% Change between 1961-81		-75	-70	-89	-22	HH	
		+89	+87	+122	+100	NH	
Shoe-makers,	1961	5,29,221	4,74,807 (90)	54,414 (10)	87,112 (16)	HH	720-722/729
Leather goods makers		1,89,024	1,85,107 (98)	3,917 (2)	1,38,947 (74)	NH	
	1981	3,46,565	2,34,653 (95)	11,913 (5)	64,729 (26)	HH	800-803/809
		3,30,226	3,23,850 (98)	6,376 (2)	2,10,214 (64)	NH	
% Change between 1961-81		-53	-51	-78	-26	HH	
		+75	+75	+63	+51	NH	
TOTAL	1961	5,94,623	5,24,246 (88)	70,377 (12)	94,844 (16)	HH	
		2,10,128	2,04,997 (98)	5,131 (2)	1,52,522 (73)	NH	
	1981	2,62,965	2,49,287 (95)	13,679 (5)	70,760 (27)	HH	
		3,70,135	3,61,058 (98)	9,077 (2)	2,37,327 (64)	NH	
% Change between 1961-81		-56	-52	-81	-25	HH	
		+76	+76	+77	+56	NH	
G. TOTAL	1961	8,04,751	7,29,243 (91)	75,508 (9)	2,47,366 (31)		
	1981	6,33,100	6,10,345 (96)	22,756 (4)	3,08,087 (49)		
% Change between 1961-81		-21	-16	-70	+25		

NOTES

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

Box D2

STATISTICS OF LEATHER WORKERS ENGAGED IN DIFFERENT SECTORS

SECTOR	*FLAYING*	*TANNING*	*FOOTWEAR FINISHING*	*OTHER PRODUCTS*	*TOTAL (in lakhs)*
Cottage Sector	5.00	2.28	3.40	0.09	10.77
Small sector (Organised)	0.33	0.64	0.20		1.17
Large Scale (Industries)		0.05	0.06		0.11
TOTAL	5.00	2.66	4.10	0.29	12.05

SOURCE: Government of India: Report of the Working Group on the Development of Scheduled Castes, 1980-85, 1980

of the artisans in the sample indicated that they still supplied goods and services to their *jajmans*. In fact, Shiruhatti was the only block where leather workers still enjoyed their traditional right to claim the dead animals of their *jajmans*. Some of them reluctantly admitted that they would not be able to leave their traditional occupation even if they had the opportunity to do so. One reason for this could be that they were socially or financially indebted to their *jajmans*.

Economic Aspects

37 per cent of the leather workers interviewed possessed land. 47 per cent owned livestock and poultry, while 35 per cent owned some means of transport. 45 per cent of the leather workers reported an annual household expenditure of below Rs.5000. 24 per cent reported that their annual household expenditure was in the range of Rs.5000-10,000. The balance had household expenditures that

exceeded Rs.10,000 p.a. 45 per cent of the leather workers had incurred debts for various social and consumption purposes.

Most leather workers in the household sector are self-employed. They procure the raw material on their own, and after processing, market it either within the village, or in the nearby market centres. Usually, a household specialises in one of the three stages of leather processing. However, it is not uncommon for households to be engaged in both flaying and tanning, or tanning and fabrication. The economic benefit of carrying out more than one activity is obvious. The majority of the leather workers (59 per cent) in the SRUTI sample were engaged in making leather products, mostly shoes, *juttis* and musical instruments. A few (21 per cent) were involved in a combination of manufacturing goods and repair work. Some artisans (11 per cent) undertook all aspects of leather work, viz. flaying, tanning and manufacturing. A handful (7 per cent) did only repair work. Only one artisan in the sample specialised in tanning. Not a single artisan in the sample was engaged exclusively in flaying.

87 per cent of the artisans in the sample reported that they were involved in leather work for more than 6 months in the year. Their average annual income was Rs.5036, placing them second after wood workers, who had the highest annual income of all the artisans surveyed. The survey also provided some indication of the economics of leather work. On an average, leather workers effected sales of approximately Rs.7690 p.a., with raw materials accounting for 46 per cent of the sales value. The average value added by each leather worker in the sample was approximately Rs.3814 p.a.

Flayers

Most traditional flayers today continue to be self-employed. But a few have managed to secure jobs in organised flaying centres. The rest work as casual wage-labourers, often for flaying contractors. By and large, flaying among the self-employed workers is a casual, marginal and seasonal activity. But since it is dependent on the recovery of hides from 'fallen' animals, the self-employed flayer can hope to recover no more than two to three hides a month.

The returns from flaying are poor not only on account of the low availability of carcasses, but also because of the inferior quality of hides recovered. Costs incurred on travel, transportation of the carcass and payments to the cattle owner further reduce the profit margin. According to a study conducted in Gorakhpur (U.P.), an average of 10 hides were flayed by each *gaonka* (traditional flayer) every year. The total earnings from the sale of all these hides averaged around Rs.250 per annum in 1983.[8] According to a study done by VMST in four states, most self-employed flayers were able to flay between 2-4 hides per month, or 24-48 hides per year, with each hide fetching them a net earning of not more than Rs.9. According to the same study, flayers who worked on a wage basis with contractors in Uttar Pradesh earned Rs.200 p.m. Those who worked in flaying centres such as the one at Gannavaram in Andhra Pradesh, earned Rs.300 p.m. For those working with contrac-

Box E

BALAK RAM THE TANNER

Forty-five year old Balak Ram is a traditional tanner residing in Sansarpur village (U.P.). Tanning once engaged most members of his caste. But today, it is practiced by only the few families who have, as he puts it, been able to brave the stigma that is attached to this traditional occupation.

An overpowering stench greets one upon approaching the *Chamra* yard, situated on the outskirts of the village. Before the brick and tin structure came up here, Balak and his fellow tanners used to work at the doorsteps of their homes. But in deference to the sentiments of the other residents of the village, who complained persistently about the foul smell, the U.P. government intervened, pushing Balak Ram and the other tanners to a remote corner of the village.

For Balak, there is a clear divide between his world – (*Desh*) and the world of the aliens – (*Videsh*) "It is the *Videshis*", he says bitterly, "who have destroyed our trade. They appropriate the bulk of the hides from the villages and send them by the truck load to the large tanneries of Kanpur. This has severely curtailed the availability of raw hides for individual tanners like myself. Only hides of inferior quality are left behind, and it is these that find their way to the weekly markets for sale." Balak Ram himself purchases hides from the Tuesday market in nearby Daudpara.

According to Balak Ram, the price of raw hides has more than doubled over the last five years. A hide today can cost anywhere between Rs.50 and Rs.300, depending on the size. The tanning process generally takes a week to complete. Balak normally works on 4-5 hides at any given time. The process is laborious, and involves stitching, soaking, dyeing and drying. Balak invariably puts in 10-12 hours of work a day.

"Once dyed, the hides are put out in the sun to dry. The finished hides are then transported by us to the Friday leather market in Saharanpur. Owing to objections by other passengers, I am often forced to place my bundle, however small, on top of the bus", says Balak.

Purchasing and processing a hide calls for an average investment of Rs.100. The processed hide can generally be sold for Rs.120, fetching a return of about 20 per cent. "But not only are payments deferred by a week, they are often withheld by the traders", he adds.

Balak Ram processes around 20 hides every month. Given the low returns, he cannot afford any let-up in his pace of work. Though he constantly ploughs his earnings back into the trade, he has not been able to increase his level of investment. In his village, nobody is prepared to advance a loan to him, since he possesses neither land nor jewellery which he can mortgage. While he is vaguely aware that the government disburses loans to *Harijans*, he says he has not bothered to apply for one, because that would entail a lot of running around, and bribing. "And then, who would carry on my work and keep the home fires burning while I run around in pursuit of a loan?"

One of Balak's biggest apprehensions concerns the marriage of his children. "No one wants to give away their daughters in marriage to a *Chamrawallah's* son.".

SOURCE: Overview of Artisans in India; SRUTI, New Delhi, 1987 (mimeo)

tors, and at flaying centres, flaying was the primary occupation. But, according to the study, while the relative importance of flaying as a source of income varied greatly between different categories of flayers, it was invariably supplemented by other activities, chiefly agricultural labour. However, even after pooling estimates of income from all sources, it was found that most flaying households continued to subsist below the poverty line.[9]

Tanners

Unable to cope with the competition for raw hides, and the simultaneous decline in demand for vegetable-tanned leather, a large number of tanners opted out of their hereditary occupation. As a result, in areas such as Gorakhpur in U.P., tanners, "in contrast to the thousands of village collection and flaying units", are "virtually extinct".[10] Tanners who clung to their traditional occupation, managed to do so "by catering entirely to traditional village demand, or by congregating around the major markets where a peripheral demand for traditional tanned leather still existed".[11] Today, tanners are compelled to purchase raw hides from the open market, where the only ones that are available – or rather, affordable – are 'seconds'. These are generally inferior quality hides that have been rejected by wholesalers. By paying a relatively lower price for such hides, tanners minimise their requirement of working capital; but in so doing, they end up producing a coarse product for which the market is limited.

Tanners can be segregated into three categories: (i) self-employed tanners working in their own homes, with or without the assistance of family members; (ii) wage-earners employed as skilled labour by small proprietors and (iii) those who do a combination of flaying, tanning, and footwear manufacture, in the same household. For most rural tanners, tanning is a seasonal activity, the peak season being October to March. The activity declines with the onset of the monsoons, since humidity accelerates decay. According to one study, in the winter in U.P., the average tanner "is likely to have two batches of hides undergoing the tanning process at any time. Each Saturday, a batch of 2-3 leathers purchased a fortnight previously is sold, and part of the proceeds are used to purchase a new batch of 'rejected' hides for processing. In the summer, the much slower tempo of the market reduces the number of hides available and tanned leather demanded so that no more than one batch is tanned at any one time, at an average of 4 hides per month".[12]

The major problem faced by rural tanners today is the uncertain availability of hides. The long period involved in tanning also blocks

Box F

OPTIMUM UTILISATION OF THE CARCASS

Optimum recovery and utilisation of the carcass and its by-products can be achieved with the help of a processing unit, equipped with a cooker and disintegrator. Some of the minor by-products, such as hooves and horns, can be removed and sold, while others can be composted to obtain rich organic manure.

The remains of the carcass are chopped into small pieces and fed into a specially designed cooker. Here, they are boiled for between two and four hours, until such time as the bone and meat separate, and the tallow floats to the surface. The tallow is collected, purified and sold for uses such as soap making. The bones are first sun-dried and then pulverised in the disintegrator. Depending on the amount of additional equipment that the unit possesses, the powdered bone can either be sold as manure, or processed further into bone meal, ossein and gelatin, and then sold. The meat is sun-dried, and pulverised in the same disintegrator. The finer particles are sold as poultry feed, and the larger ones as meat manure.

Meat can be processed using either the wet or the dry rendering method. The dry rendering method is more advanced, and uses high pressure steam – as opposed to water – for processing the meat. It not only involves a shorter process cycle, but also facilitates the production of sterilised, enriched meat meal, a higher output of tallow, while also obviating the need for further drying. This model has been developed by the Vaijnath Leather Complex in Gujarat.[44]

Box G

VAIJNATH LEATHER COMPLEX: INTENSIVE BUT NOT EXTENSIVE

The Vaijnath Leather Complex (VLC) is situated about 20 kilometers from Vyara in Surat district of Gujarat. It has become the final destination for animals dying within a radius of several miles. Shortly after its inception in 1961, Parikh and Dave, the founders of VLC, were joined in their efforts by Sheikh, a former flaying instructor. Together, they went about the task of securing funds for erecting a permanent flaying platform and acquiring some basic tools and equipment.

The first obstacle they encountered was when the local flayers – the *Khalpas* – refused to lift dead animals. They were swift in finding a remedy, i.e. recruiting *Chamars* from the neighbouring state of Maharashtra. A two-pronged system for collecting carcasses (a) directly from the surrounding villages on an individual basis, and (b) on contract from the municipality, was put into effect. Individual owners were lured into surrendering their dead animals with incentives such as cash compensation of upto Rs.25 per dead animal, and the offer of bone meal and meat manure on a preferential basis. A network of informants was simultaneously developed, to relay timely information about fallen animals, which were transported to the flaying complex in the VLC tractor-trolley.

Although VLC operations are conducted on a modest scale, they clearly demonstrate that there is much more to an animal carcass than just a hide, and that scientific recovery of various carcass by-products such as tallow, bone meal and meat manure can substantially improve the earnings from flaying.

It has not been smooth sailing all the way, even though VLC has come to be regarded as a centre of excellence. Funds, which come from the Khadi Board, were abruptly cut off for as many as five years, and resumed in 1986. One of the problems VLC has had to grapple with is the limited availability of fallen animals, which has kept it from realising its full potential. The deficit is sought to be made up by direct purchases from traders all over the state.

The VLC more or less pioneered the concept of vertical integration between different facets of the leather industry. Today, it serves not merely as a centre for flaying and recovery of carcass by-products, but also for vegetable and chrome tanning and manufacture of a range of footwear.

This intensive experiment calls for extensive replication.

SOURCE: SRUTI field survey

their capital. Some tanner-cum-footwear makers partially overcome this problem by using a "single lot of working capital"[13] for two manufacturing activities. Despite the seasonality and other difficulties, traditional tanners are, by and large, better off than flayers. Their work is not considered as demeaning, and their income is higher. In the VMST survey quoted earlier, the monthly incomes of tanners varied widely between locations, as follows:

- Uttar Pradesh : Rs.449 to Rs.1666 p.m.
- Maharashtra: Rs.296 to Rs.1514 p.m.
- Karnataka: Rs.236 to Rs.758 p.m.

Footwear Makers

The steep decline in demand for traditional leather items such as *desi-juttis*, saddles and water buckets has led a number of leather workers to take up other professions, or become labourers. Some enterprising shoe-makers have given up fabricating traditional goods from vegetable tanned leather, and switched to making western style shoes, sandals and slippers using chrome leather, rubber, acrylic pastes and other non-traditional materials. They imitate the styles and designs of footwear manufactured by big firms, but they are severely handicapped by their financial inability to purchase shoe lasts (wooden or metal models for shaping shoes) for the latest designs. The best they can do, under the circumstances, is periodically reshape old lasts with the aid of a chisel. The monthly incomes of footwear makers in the four states surveyed by VMST, were as follows:

- Karnataka: Rs.246 to Rs.284 p.m.
- Andhra Pradesh: Rs.230 to Rs.888 p.m.
- Maharashtra: Rs.300 to Rs.547 p.m.
- Uttar Pradesh: Rs.405 to Rs.752 p.m.

II THEIR WORK

PRODUCTS & RAW MATERIALS

As discussed earlier, the majority of leather workers in the household sector manufactures footwear. This includes a variety of slippers, sandals and shoes. Musical instruments, puppets, water-buckets, water-bags, harnesses and saddles are some of the other items they produce. More recently, some leather workers have ventured into making non-traditional leather items such as industrial washers used in hand pumps and tubewells, transistor covers, grips for badminton racquets, cricket balls, hockey balls and footballs, sling bags, waist-belts, bags for postmen and ticket conductors, and seat covers.

Raw Hides and Skins

Cows, bullocks, and buffaloes (bovines), and goats and sheep (ovines), are the primary source of raw material for the leather industry. The raw material is obtained by removing the protective coat of these animals shortly after their death, through a process known as flaying. In industry jargon, 'hides' are distinguished from 'skins' and 'furs', the former being of bovine origin, and the latter derived from ovines or other animal species.

In India, it is estimated that 70 per cent of all hides and skins are obtained from fallen animals (i.e. those that have died a natural death) and the balance from slaughter houses. Given the widespread ban on cow slaughter, most hides are obtained from fallen animals, whereas the majority of skins are derived from slaughtered ones. The availability of raw hides and skins in India is a function of variables such as:

- the livestock population
- the mortality rate, especially of bovines
- the incidence of vegetarianism, and hence of animal slaughter
- recovery rate of raw hides and skins from fallen animals
- legal and social restrictions

Though India has the world's largest livestock population, it still imports leather. This is partly on account of the low recovery rate of hides. According to government sources, about 9 million hides and an equivalent number of skins are lost annually due to non-recovery of hides by slaughter houses.[14] 33 million

Box H

CARCASS COLLECTION & FLAYING

- CLAIMING & TRANSPORTING THE CARCASS TO THE FLAYING SITE
  News of an animal's death is conveyed by a messenger, or directly by its owner to the local flayer. The flayer claims the carcass against payment, and drags it to the flaying site, or transports it by other means.
- PREPARING THE CARCASS FOR FLAYING
  The dead animal is placed on its back. One incision is made from the neck to the tail, and four more across the legs with an opening knife, to part the skin.
- FLAYING
  With a flaying knife, the skin is separated bit by bit from the flesh, using the incisions as a starting point.
- CURING
  Salt is rubbed into the fleshy side of the removed hide. This preserves the hide for later tanning by removing excess moisture.
- CARCASS DISPOSAL
  The flayed carcass is abandoned and allowed to decay
- RECOVERY OF BY-PRODUCTS
  Bones & hooves are occasionally retrieved by flayers & scavengers.

processed cattle skins and 63 million sheep skins are produced in India annually, accounting for 13 per cent of the total world production.[15] According to a survey conducted by the Central Leather Research Institute (CLRI), during 1986, a total of 37 million hides and 107 million skins were recovered in India. But, according to the same survey, an additional 19 million hides and skins, valued at a staggering Rs.33 crores, could have been recovered. In Kerala alone, reportedly no hides and skins were recovered in 1986 because of the virtual absence of flayers. The loss on account of non-recovery of these skins and hides, was of the order of Rs.4 crores.[16]

The leather industry in India is facing an acute shortage of raw hides and skins. This is because of the increase in demand as a result of the boom in the manufacture of leather goods, largely for the export market. While part of the deficit can be made up by augmenting the recovery rates, an overall shortage is likely to persist. The government is addressing this problem by permitting duty-free import of raw hides and skins.

Semi-Finished & Finished Leathers

Raw hides and skins are 'primary products' that serve as the raw material inputs for the tanning stage. Tanning is the process of converting the raw hides and skins into what is commonly understood as leather. The different technologies employed in the tanning process result in leathers of various qualities. Crust and vegetable tanned leather is the end product of indigenous tanning techniques. Leather that has undergone chrome tanning and related end-processes, on the other hand, is referred to as chrome leather. Hides and skins that have been treated upto an intermediary stage in the chrome tanning process are known as wet blue or semi-finished chrome leather. Depending on the end use, vegetable tanned leather is at times subjected to further tanning and finishing. Wet blue leather, too, requires further finishing before it can be manufactured into leather goods.

Tanning Materials

The most important raw material in the tanning process is the tanning agent, which is responsible for converting the raw hides

Box 1

CHROME TANNING

Chrome tanning derives its name from the chrome salts that are used as a tanning agent. Invented in America in the late nineteenth century, chrome tanning produces high quality leather that is light in weight, water-repellent, strong, flexible and of uniform thickness. Vegetable tanned leather, by contrast, not only tends to be hard and uneven, but also emanates an unpleasant odour.

The steps involved in preparing leather for eventual tanning are similar in both methods. But, while vegetable tanning processes are essentially manual, chrome tanning requires sophisticated power driven machines, which compress the entire tanning cycle into 30 days. The most common technique is the single bath process, in which the hide is treated with a chromium sulphate solution of increasing strengths, in rotating drums. Chrome tanning also calls for a number of finishing processes, such as buffing, scudding, splitting and hot plating.

Chrome tanning has a distinct advantage over traditional techniques because it is quicker and also produces superior quality leather. However, chrome tanning is a highly capital-intensive technique which involves the use of costly power-driven equipment. A hydraulic embossing press and band knife splitting machine together were estimated to cost Rs.5.5 lakhs.[17] The greatest drawback of this technique, is the environmental pollution caused by the chemical effluents released by the tanneries.

WET BLUE TANNING

Chrome tanning is not viable at the village level. But wet blue tanning is an intermediate technology which requires relatively modest infrastructure and investment. It is another term for the chrome tanning process that stops short of the finishing stage, eliminating the expenditure on heavy machinery which is required in the end processes. It involves a sequenced soaking of hides in chemical solutions in pits and drums. It is fairly labour intensive, and a unit with a capacity of 1500 hides per month can be set up at an investment of Rs.3.5 lakhs.[18]

PROCESS	*DURATION*	*EQUIPMENT & CHEMICALS*	*DESCRIPTION & PURPOSE*
WET BLUE TANNING			
Soaking	12 hrs.	In pits with water and preservatives	To regain moisture lost in curing
Liming	2 days	In lime pits	For dehairing and flesh removal
Defleshing	30 mins	Done with knives	To remove water, flesh & hair
Deliming	3-4 hrs	In drums with fresh water	To remove lime
Pickling	1 1/2 hrs	In drums with salt & sulphuric acid	To control the PH level
Chrome tanning	8 hrs	In drums with chromium salts, soda & fungicide	To stabilise the skin & make it shrink resistant
CHROME TANNING			
Shaving		Shaving machine	To produce even surface
Drying		In the sun	To decrease moisture content
Splitting		Splitting machine	To split the leather longitudinally
Shredding		Shredding machine	To soften the leather and give it a smooth feel
Buffing		Buffing machine	To obtain uniform surface & specified grain arrangement
Dyeing		Dyes	To impart the desired color to the leather
Lacquering		Lac	To give the leather a sheen
Hot plating		Plating machine	To remove wrinkles

SOURCE: The above table is adapted from Sen, B.; 'Leather – From Carcass Extraction to Tanning', in Moving Technology, Vol 3, No 2, April 1988, p.5

and skins into leather. 'Tannin' is the agent used in vegetable tanning, and is found in a number of berries, barks and leaves. Some common sources of tannin in India are the bark of the *babul (Acacia arabica)*, fruit of the myrabolan or *harda (Terminalia chebula)*, leaves of the *aval (Phyllanthus emblica)*, bark of the *tarwar (Cassia auriculata)*, and bark of the *amaltas (Cassia fistula)*.

TECHNOLOGY

There are several stages in the manufacture of leather and leather products: carcass recovery and flaying, tanning, and fabrication of leather products. There is a linear link between the three processes, the finished product from one stage forming the input for the next stage. Traditionally, these three stages were carried out within a village, or within a cluster of villages. However, the links have been weakened or severed over the past several decades and, with a few exceptions, the communities engaged in each of the three activities work independently of one another. The stages are briefly discussed in the following sections.

Carcass Recovery and Disposal

Traditionally, upon hearing of an animal's death, flayers exercised their customary rights by claiming the carcass from the owner at little or no cost. Thereafter, they proceeded to flay and dispose of the carcass. But erosion of these rights, and the emergence of flaying contractors, has made carcass recovery a highly competitive activity, reducing the availability of carcasses for the independent flayers. To compensate for this loss, flayers have been forced to enlarge their 'beat' to cover many more villages than hitherto. But news of cattle deaths is often slow to reach (if it reaches at all), and time spent in transit, long. Consequently, flayers are often unable to recover carcasses in time, i.e., before they rot, or before the owners bury them. Once flayed, the carcass is characteristically left to decay. Considering that the hide accounts for only a fraction of the total value of the dead animal, abandoning the carcass once the hide is recovered is a very wasteful practice. Occasionally, the bones, horns and hooves are retrieved by communities such as the *Doms*, for subsequent sale. According to one source,[17] the total marketable value of a carcass weighing 250 kgs. is Rs.195.24. The value of the hide amounts to Rs.35.50. There is, therefore, scope for improving the income of flayers through proper utilisation of carcass by-products. Boxes F & G

Flaying

Once claimed, the carcass is dragged to the flaying site, causing irreparable damage to the hide, and drastically reducing its value. Some flayers engage labourers to carry the carcass, suspended from a pole. Depending on the size of the carcass, upto six labourers may be required for this. Using hand-pulled or animal-drawn carts would obviously be a more convenient and

Box J

VEGETABLE TANNING & FINISHING

PROCESS	*DESCRIPTION*
Soaking /Rinsing	The salted hide is washed with water, and left to soak in a pit containing a soap solution to soften it and re-move the dirt, blood and salt and restore its original texture.
Liming	Lime paste is smeared onto the hide which is then immersed in a pit containing lime solution. This opens up the fibre structure and loosens the hair.
Dehairing	The hide is removed from the pit and scraped with a blunt knife to remove the hair.
Defleshing	The excess flesh is shaved away with a sharp knife.
Scudding	The raw hide is scraped with a blunt knife to remove dirt, and any remaining hair and hair tufts.
Deliming	The hide is washed with clear water to remove the lime and clean out the pores.
Bating	It is soaked in diluted tanning liquor to make it soft and flaccid.
Pit tanning (Steeping)	The hide is soaked in a pit containing a tanning solution made up of babul bark and myrobolan extracts mixed with water.
Bag tanning (Infiltration)	The hides are stitched into bags, and are filled with the same tanning solution which is allowed to drain through the hide. The bags are reversed, and the same process repeated. This allows the tannin to fully impregnate the hide.
Washing /Dyeing	The tanned hides are opened up and washed to remove the tanning liquor and then left to dry in the sun.
Staking	The tanned hide is stretched and nailed to the ground to remove creases.
Buffing	The hide is rubbed with a stone or oil to smoothen and soften it.

efficient mode of transporting the carcass, but few flayers possess either. In the past, land set aside for flaying was reasonably close to the village. Growing awareness of the pollution caused by flaying, together with the pressure on land has led to flayers being driven further away from the village.

As a rule, carcass flaying must be completed within a few hours of the animal's death. The actual process of flaying takes no more than one to one and a half hours. Rudimentary tools are used for the purpose, and great skill is required to recover a perfect hide, unmarred by flaying cuts and abrasions. Once flayed, the hide is cured by rubbing salt into the fleshy side, and then left in the sun to dry. The salt accelerates drying and if done thoroughly, staves off decay for as many as two to three weeks. Unfortunately, to economise, flayers omit this step and then sell the hides in a 'wet' or 'green' state, at prices well below those commanded by cured ones.[Box H]

Tanning

The conversion of raw hide or skin into finished leather involves a number of processes such as soaking, rinsing, dehairing, defleshing, scudding, tanning, drying, and finishing. The most important and complex of these processes is tanning, whereby "the hide or skin as it comes from the back of the animal soft, raw and putrescible, is converted into the tough, imputrescible material known as leather".[18] Tanning not only prevents the hide from decaying, but imparts to it qualities such as firmness, durability, finish, and resistance to damage of various kinds.

The methods by which tanning is done vary in detail, but are based on a common principle, viz. the precipitation of the easily decomposable gelatine, the chief constituent of the hide, by means of some agent with which it forms an insoluble and non-decomposable compound. Tanning can be done by either the vegetable or chrome tanning method.

- Vegetable tanning, also known as indigenous tanning, is the method traditionally used by individual tanner households in the village. The tanning agents used in this method are derived from natural ingredients such as barks and nuts.
- Chrome tanning, on the other hand, is a modern method which makes use of chemical tanning agents and a variety of finishing processes. Being capital-intensive, chrome tanning is used only in factories. Wet blue tanning is an intermediary stage in the chrome tanning process and can be adopted by small groups of leather artisans at the village-level.[Box I]

The two methods impart different qualities to the hide. Vegetable tanned leather tends to be tough and inflexible, and is used to make products such as *juttis*, belts and saddles, for an essentially rural clientele. Chrome tanning, in which finishing processes play an important role, produces leather that is soft, flexible and easy to dye. Chrome tanned leather is used to man-

Box K

BARABANKI CO-OPERATIVE: TRIAL WITH TRIBULATION

With the introduction of the licensing system for disposal of carcasses in U.P., leather contractors jumped into the fray, gradually edging traditional flayers out of the business. In an effort to check this trend, the U.P. administration began actively encouraging the formation of flayers' collectives. In response to this, a group of traditional workers in Barabanki district came together to form a flaying and carcass utilisation co-operative. But little did they know what was in store for them.

Styling themselves PAUAS (*Pasusavchedan Utpadan Audyogik Samiti*), they registered their co-operative with the Directorate of Industries, Kanpur, in February 1982. Initially 15 members pooled their resources to raise Rs.3,000 as license fees for the Dhekauli *Nyaya Panchayat* for the year 1982-83. But they soon discovered that the *zilla parishad* had granted licenses to four other parties! Given that the annual availability of carcasses in that area was around 640 per annum, conflict between the license holders was inevitable. Even the State Industries Department (vide letter no. 7678/1216 General 31/81-82, dated Feb 19, Kanpur) had recommended that the area of operation of each co-operative should be at least one administrative block.

The PAUAS members decided to take recourse to the law. On November, 1982, they filed a writ petition in the Lucknow bench of the High Court. Their plea was that the *zilla parishad* grant only one license per *nyaya panchayat*. The High Court ruled that while awarding licenses, priority be given to co-operatives over individuals. This was unsuccessfully challenged by the *zilla parishad* in the Supreme Court. In another writ petition (no. 63 of 1983) under Article 226 of the Constitution of India, the Lucknow bench observed "... that if in respect of one area more than one person is granted a license then that would lead to possible violence between the rival license holders... Accordingly, it is clearly desirable that not only preference should be given to a co-operative society but it should be further ensured that after such a license is granted to a co-operative society other middlemen should not be allowed to enter into the field... and thereby make the venture of the co-operative society unprofitable. If there be any *nyaya panchayat* circle which has a wide territorial area, provision could be made for splitting of such circle, but whatever territorial area is assigned for all licensees, it should preferably exclusively be allotted to him".

Ordinarily, the matter should have rested there. But, some contractors took advantage of a legal loophole, and registered a carcass marketing and labour co-operative with the Deputy Registrar, Co-operative Societies, Faizabad. The nature of business of PAUAS and the new co-operative (called PSCVSS) was virtually identical. However, the authority to register carcass utilisation co-operatives rests exclusively with the Directorate of Industries, Kanpur. The High Court, therefore, in its order dated 15/4/87, quashed the registration of PSCVSS as illegal.

According to PAUAS members, they fought a total of 15 court cases since 1982. This had cost them about Rs.50,000, the entire amount having been raised from members. They pointed out that the economic viability of their activity had been adversely affected by the restrictions imposed on their area of operation. Their problems were compounded by the exorbitant fees levied by the *zilla parishad*: the fees rose from approximately Rs.27,000 in the year 1983-84, to Rs.70,254 in 1987-88. The escalation was largely attributable to the growing number of co-operatives and private contractors who had entered this field of activity. Profit margins declined markedly for the PAUAS members, who were unable to pass on the higher procurement costs to the traders.

SOURCE: Manab Chakravarty

ufacture leather garments, shoe-uppers and bags, largely for an urban and export market. A brief outline of the vegetable tanning process as it is practiced by rural tanners is given below.

Vegetable Tanning: The agent traditionally used for tanning in India is a natural substance known as 'tannin', of which the most common sources are the bark of the *babul* tree and nuts from the myrabolan tree. Hence the term 'vegetable tanning', for this technique which uses natural 'vegetable' ingredients. Vegetable tanning is a protracted operation, and can take 45-60 days to complete. Various preparatory processes precede the actual tanning – the hide is soaked, softened, limed, de-haired and de-fleshed, to make it permeable. The actual tanning is carried out by exposing the hide to varying concentrations of tanning solution, so as to allow the 'tannin' to act and bring about the desired changes in the hide's composition. This is traditionally done either by the 'pit' or the 'bag' tanning method.

In the former method, the raw hides are immersed in pits containing tanning solution, whose concentration is gradually increased over the course of several days. But since large volumes of water and adequate space are pre-requisites for pit-tanning, it seems to be practiced only in regions where these two resources are abundant. The bag-tanning method seems to be more widely practiced, as it makes more efficient use of water and space. The hides are sewn into the shape of bags which are filled with tanning solution, and suspended. The solution is allowed to drain through the pores, drop by drop, into a receptacle below. The process is repeated by turning the bags inside out, and filling them with the same solution. Once completed, the bags are opened and subjected to the necessary finishing work, which in both bag and pit-tanning, tends to be very perfunctory. The leather is then left in the sun to dry.[Box 1]

Manufacture of Leather Goods

Footwear accounts for the bulk of items fabricated by traditional leather artisans in India. Most traditional footwear makers use vegetable tanned leather to make their products. Buffalo hide is generally used for the soles and heels, and cow or goat hide for the uppers. They purchase the tanned leather from the open market, either weekly or fortnightly. The leather is dipped in plain water to soften it and then rubbed with mustard oil in order to ward off fungus. The complement of tools and equipment generally includes an iron or wooden last, a pair of scissors,

Box 1.

THE EXPORT MARKET

Prior to Independence, the leather industry of Agra thrived on the export of footwear to the Middle East, that of Madras on tanned hides, and of Calcutta on the export of raw hides. After partition, many of the Muslim traders – who virtually controlled the export of leather goods – migrated to Pakistan. As a result, Agra lost the Middle East market. But it soon found new ones in the communist block of eastern Europe and the erstwhile U.S.S.R.

The growth in leather exports in recent times has been dramatic. In 1980-81, exports had just about crossed the Rs.300 crore mark.[47] In 1987-88, they exceeded the planned target, touching Rs.1200 crores.[48] In 1991-92, this figure stood at Rs.3200 crores, making leather the fifth largest foreign currency earner for India.[49]

An important feature of the growth curve is the changes that have taken place in the product mix, largely in response to government policies oriented towards raising the share of value added products. Initially, exports from India consisted only of raw hides and skins. But after Independence, the government realised that India had the capacity to produce and export processed leather and leather products. The balance of payment problem also spurred the government to maximise export earnings. In the mid-fifties, therefore, restrictions were imposed on the export of raw hides. But the real foundation for the industry's transformation was laid in 1973, when, based on the recommendation of the Seetharamayya Committee, the government banned export of raw hides and skins, restricted export of semi-finished leather, and encouraged production of finished leather and leather products.[50] This policy succeeded in pushing up the share of leather products in the total value of leather exports. Footwear and footwear components still account for the major share of exports, followed by finished leather and leather garments.

Inspite of the export boom, India's share in the world leather trade is a mere 3.5 per cent. The Government is now taking steps to raise India's share of the world market to 10 per cent by the year 2000 A.D.[51] But to achieve these targets, India will have to step up the import of raw hides, for despite all-out efforts to augment the indigenous recovery of raw hides, the supply will fall short of demand. To bridge this gap, the government now not only permits duty free imports of (raw) hides, under the Open General License, but it has also banned the export of semi-finished leather since 1991-92.

The demand for Indian leather and leather goods comes mainly from Germany and the countries of the former U.S.S.R. Other important markets are the U.S.A., Italy, Great Britain and France. Japan is also emerging as a major market. While India is now competing in the world market with Hong Kong, Taiwan, the Republic of Korea, China and Brazil, rising labour costs in some of these countries may tilt the balance in favour of India. The wage rates in Korea, for instance, are three times those prevailing in India.

The licensing policy for production of leather goods has been liberalised to facilitate the establishment of new units and the expansion of existing ones, with 75 per cent export obligation, in centrally notified backward areas, with concessional benefits. The export obligation takes effect from the third year of commercial production. While this has encouraged foreign collaborations, it has also given multinationals an entry point into the domestic market. Some years ago, both Bata and Carona were locked in a struggle with the government on the issue of export obligations. For its proposed tie-up with Adidas, Bata wanted the government to reduce the export obligation to 25 per cent from the stipulated 75 per cent, and permit the rest of its production to be diverted to the domestic market.[52]

To maintain and enhance its position in the export market, India must keep abreast of the latest developments in technology and design. In recognition of this need, a Computer Aided Design (CAD) package has been developed by the CLRI (Madras). Furthermore, the Footwear and Design Development Institute has been set up in Delhi. With the increasing sophistication that is entering the industry, new skills will be required of leather workers. It remains to be seen how the traditional artisans will adapt to the changing scenario.

a hammer, a plier, a chisel, an awl and punches. These tools have seen virtually no change over the generations. While the majority of operations continue to be performed manually, an increasing number of artisans have begun using sewing machines to stitch the 'uppers'. Artisans who do not own machines, often sub-contract this work to those who do.

Box M

CHARMALAYA IN ATHANI

Did you know that *Kolhapuri* chappals actually originated in Athani, a small town in Belgaum district, Karnataka?

The footwear traditionally manufactured in Athani was sturdy and thick, and particularly suitable for rocky terrain. The story goes that in the late 1920s an Athani-based family modified the traditional design, to produce a chappal which was thinner, had two side flaps, and tops with decorative designs. Small consignments were sold in Bombay through J.J. and Sons, prominent footwear traders. Demand soared and reportedly, the name *'Kolhapuri chappal'* was used by J.J. and Sons to conceal the true source of this popular design from their competitors.

The *Kolhapuri chappal* industry virtually collapsed in 1965, when export demand plummeted all of a sudden. Gripped by insecurity, middlemen and traders withheld payment to the artisans. The resultant deterioration in the living conditions of the artisans was brought to the notice of the Parliament in 1966, and a committee was appointed to look into their situation. Based on its recommendations, the KVIC set up an organisation by the name of 'Charmalaya', in Athani, to provide a marketing alternative to the artisans.

Headed by the dynamic Mr. Palani, Charmalaya observed the following guidelines in its work with the artisans:

- accepting *chappals* in small lots
- refraining from giving advances
- receiving *chappal* lots at any time of the day
- carrying out strict quality control
- making on-the-spot payments[55]

The last factor proved extremely important, since it bolstered the confidence of the artisans in Charmalaya. KVIC marketed these *chappals* through its retail outlets throughout the country. The artisans were also permitted to sell independently. The impact of the KVIC intervention is obvious from the fact that Charmalaya has no commercial borrowing and long ago repaid the seed capital provided by the KVIC. Its intervention provided stable employment and a regular income to the artisans, who were hitherto exploited by unscrupulous traders. Today there are around 200 families engaged in the manufacture of *Kolhapuri chappals*. It is a home-based activity, in which all the members of the family participate. Most of the families belong to the *Chamar* community.

Charmalaya's initial emphasis was on the procurement and marketing of the *chappals*. But, over the years, it has succeeded in introducing over 130 new designs. It has plans to set up a common facility centre for the artisans.

SOURCE: Manab Chakravarty

ORGANISATION OF PRODUCTION & MARKETS

Leather workers seek a market for their wares at one or more of three stages: Flayers market their hides and skins, tanners their tanned leather, and leather goods manufacturers their finished products. The sale of by-products like hooves, hair, blood and flesh, are not strictly a part of the leather trade and therefore not discussed here. A large number of leather workers (64 per cent) interviewed by SRUTI effected sales directly from their own premises. The *haat* was also an important sales outlet for the leather workers. Sales through traders or co-operatives seemed to be negligible.

Raw Hides

Carcass collection is a highly dispersed, village-level activity. Carcasses are claimed either by independent flayers, or by those employed by flaying contractors, and are generally flayed on the spot. In some states, such as Uttar Pradesh and Haryana, carcass collection is regulated by government bodies. In Uttar Pradesh, for instance, the *zilla parishad* regulates this activity through a dual system of licenses and contracts. Annual licenses authorising carcass collection and flaying are issued by the *zilla parishad* either to individual contractors or flayers' co-operatives against payment of a fee. Block-wise contracts are then awarded to the highest bidder among the licensees at auctions organised by the *zilla parishad*. The contract entitles an individual or group to collect, flay and dispose of all the carcasses from the block for which the contract is valid. According to Prasad[19] the minimum value of these contracts in U.P. escalated from Rs.800 in 1971 to Rs.52,000 in 1985. These exorbitant rates have put contracts beyond the reach of traditional flayers who end up working for contractors on wage-rates. Groups of flayers are assigned by contractors to specific villages where all the available carcasses are flayed. The hides and other by-products, if any, are brought to a central collection point for subsequent disposal.[Box K] Cured hides are often sold by independent flayers directly to the village tanner. Alternatively, they are sold to intermediaries, and at times, at hide markets.

Tanned Hides

Cured hides are bought by traders, either directly from the flayers or from flaying contractors. Tanning units, in turn, buy cured hides from traders either in the wholesale or retail market. Many of the smaller tanneries process hides only upto the intermediary wet blue stage. Wet blue hides are sold to larger tanneries where they are processed into finished leather. Finished leather is either exported overseas, or sold to leather goods manufacturers, largely in the organised factory sector. Rejected tanned hides are normally sold through the trade network to small cobblers and household units.

Leather Goods

Factories purchase various qualities of leather for the goods they produce. Most of these factories use assembly-line production

and a wide range of mechanical processes, with which the traditional artisan is unfamiliar. Factory-produced leather goods, notably shoe-uppers, have begun capturing a growing segment of the international market.[Box L] In the unorganised sector, there are two kinds of leather goods' producers. Both buy their leather, usually of poor, or rejected quality, through a trader network, from the nearest hide *mandi*. The first type of producer is located in major manufacturing centres such as Agra or Kanpur, where specialisation and trade networks are well established. The second type of producer is the home-based independent artisan situated in small towns and villages. Using second-grade leather, rejected by tanneries, both sets of producers manufacture goods largely for low-income consumers.

III INTERVENTIONS

The basic concern of the Government over the last 40 years has been to augment the export of leather and leather goods in order to maximise foreign exchange earnings. The Government is making an effort to raise India's share of leather goods in the world market from the present level of 3.5 per cent to 10 per cent by the year 2000 A.D. About Rs.28.75 crore has been set apart during the eighth Plan for modernising abattoirs and establishing carcass utilisation centres. Export-oriented slaughter houses will also be given financial assistance.[20] The UNDP has extended a $15 million grant to India for modernising its leather industry. In the meantime, the Council for Leather Exports, in association with the government, is in the process of drawing up a perspective plan for the leather industry, to help it achieve an export target of $6 billion by 2000 A.D., representing 10 per cent of the projected global market for that year. According to the Council's studies, if this target is to be met 4200 million square meters of leather will be required, as against a projected domestic availability of merely 2000 million square meters.[21] The leather industry is also awaiting implementation of the recommendations of the E.N. Murthy Commission, set up in October 1992, to formulate suggestions for promoting growth in the leather industry. Some of the Commission's recommendations are: dereservation of machine-made footwear and footwear components from the small sector, delicensing, joint ventures, and augmentation of domestic raw material availability.[22]

The Government has provided attractive incentives to industrial units involved in leather exports, such as tax concessions, permits for import of machinery and access to institutional capital. These incentives have helped the large units to consolidate and expand their share of the domestic market. In less than a decade, between 1972 and 1982, the organised sector almost tripled its gross output.[23] There was also a tremendous spurt in the number of industrial licenses issued, as well as foreign collaborations approved, in the area of leather goods' manufacture. As giants like Bata grew, village cobblers were unknowingly drawn into a

Box N

CENTRAL LEATHER RESEARCH INSTITUTE

By the second half of this century, India had begun exporting the bulk of its raw hides and skins for processing in tanneries overseas. These were re-imported for various industrial applications. Foreseeing a growth in demand for finished leather and leather goods, the country's planners realised that traditional technologies/processes needed to be upgraded substantially. Based on the recommendations of the Central Research Committee, the Central Leather Research Institute (CLRI) was set up in Madras in 1953 as a premier R & D institute, servicing the leather industry. CLRI's major contributions in the area of leather technology are outlined below:

TANNING

CLRI's primary contribution to the leather industry has been in the field of tanning, especially in the following areas:

- Identifying and developing dependable, indigenous tanning agents such as myrabolan, mineral and synthetic tanning agents, which have reduced the country's dependence on imported tanning agents such as wattle.
- Reducing the lengthy process cycle of indigenous tanning through the use of rapid tanning technologies and chemical auxiliaries.
- Adapting the wet blue tanning process to Indian conditions.

LEATHER PROCESSING/FINISHING:

- Upgrading inferior leather through processes such as tie-and-dye, screen printing, electrostatic flocking and leather lamination.
- Development of process know-how for manufacture of upholstery leather, oil seal leather, nappa, (leather made from skin of sheep or goat), and aniline leather.

MACHINERY & EQUIPMENT:

- Designs of the pin-wheel measuring machine (to measure surface area of leather), level-bed glazing machine (to glaze leather surface), strap cutting machine, and hydraulic clicking press (to press leather and leather cuttings at a high speed).

PROCESSING BY-PRODUCTS:

- Surgical sutures, sausage casings, sports gloves and edible glue from the intestines.
- Blood meal, glue, gelatine and protein based detergents from hide fleshings and trimmings.
- Bristle hair products.

CLRI's contribution to the leather industry is indisputable. But while technologies were developed for the large and medium sectors, there was a substantial time lag in developing suitable technologies for the cottage sector. This was a reflection not so much of CLRI's policies, but of the overall thrust of the industrial policy which accorded far greater priority to the organised sector. Unfortunately, this time lag enabled the large sector to establish a firm hold over the leather industry. In overall terms, it would be fair to say that much of the advantage of CLRI's R&D initiatives has accrued to the organised segment of the industry. Realising the importance of the cottage sector to the leather industry, the CLRI has begun reaching out to leather workers through five regional centres for extension and development. Located at Bombay, Calcutta, Jalandhar, Kanpur and Rajkot, these centres organise periodic demonstrations of improved technologies for rural artisans.

losing battle with PVC shoes and *chappals* over their traditional clientele: the farming community.

For some time now, the Government has been concerned about the domestic shortage of hides and skins, and the need for qualitative upgradation of leather and leather manufactures. The Task Force on Leather and Leather Manufactures (1979), recommended indigenous utilisation of semi-finished hides (hitherto exported), and liberal import of wet blue stock. This policy of import for eventual export does not necessarily further the interests of village artisans, geared as it is towards satisfying the requirements of the organised sector.

Role and Impact of the KVIC

The KVIC is the foremost agency concerned with the development of the village leather industry. While it provides a comprehensive range of inputs, its impact, in overall terms, seems to have been limited. Judging by the results of the SRUTI survey, the level of awareness of KVIC sponsored schemes was very poor among leather workers. Only 2 out of the sample of 53 leather workers knew of these schemes.

The KVIC's emphasis has been on all-round development of flaying, tanning and manufacture of footwear, through a four-faceted program of:

- Propagating scientific methods of carcass recovery and flaying. The KVIC provides assistance for the establishment of flaying and carcass recovery centres; flaying platforms; glue and bone meal manufacturing centres.
- Providing modern tanning equipment and related know-how to artisans in areas with a large availability of hides.
- Assisting artisans in setting up improved tanning pits.
- Supplying machines, equipment and raw materials on soft terms for the manufacture of footwear and other utility items.
- Assisting in marketing through retail shops throughout the country.

Though the KVIC and its affiliated bodies have not been able to arrest the decline of the village leather sector, their interventions, in some cases, have met with considerable success. At Vaijnath Leather Complex (Gujarat), KVIC's integrated development strategy has yielded dividends. The Charmalaya in Athani (Karnataka) is another successful attempt at revitalising a sagging village leather industry.[Box M] These interventions notwithstanding, the gross output of the organised sector of the industry far outstrips that of the KVIC village leather units.

Other Development Agencies

Apart from the KVIC, there is a network of development agencies that directly or indirectly service the needs of the village leather industry. These are as follows:

- State Corporations, such as LIDCAP (Leather Industries Development Corporation of Andhra Pradesh), LIDKAR (Karnataka Leather Industries Corporation) and Bharat Leather Corporation.
- Government departments such as Animal Husbandry, Social Welfare, Rural Development and District Industries Centres.
- Technical research and design institutes such as the Central Leather Research Institute, National Institute of Design and National Research and Development Corporation.[Box N]
- Voluntary agencies/registered societies and co-operatives such as the Vaijnath Leather Complex and Jawaja Leather Co-operative.[Box O]

These agencies assist with marketing, finances, technology and welfare. Unfortunately, there is no comprehensive policy which addresses the entire spectrum of issues concerning the village leather industry. Despite the inherently integrated nature of the traditional leather industry, most agencies deal with either flaying or tanning, rarely both. The provision of financial inputs is also segmented, and agencies provide either credit or marketing facilities, but rarely both. Recently, however, some development agencies have begun actively promoting the concept of integrated leather units which undertake flaying, tanning and manufacture of goods. They also provide all the necessary inputs in the form of credit, raw materials, tools, technical know-how and marketing support. State leather development agencies, such as LIDKAR and LIDCAP have established raw material depots at several places, where the cobbler can have access to all the inputs under one roof. They have also set up leather emporia in key cities, and periodically participate in exhibition-cum-sales. In several towns, cobblers have been assisted in installing wayside cabins to sell their products. LIDKAR, for instance, provides Rs.3000 for wayside cabins to individual cobblers. The Andhra Pradesh Government has taken the initiative of establishing integrated flaying-cum-tanning

Box 0

THE JAWAJA EXPERIMENT

The Jawaja experiment grew out of Prof. Ravi Mathai's idea of establishing a Rural University. "The Rural University assumes that the development of rural India will occur... through the development of people... People must learn to help themselves, to help others... Self-reliance and mutuality are basic to the idea of the Rural University. The University is a locator, enabler, provider and organiser of learning spaces... at a villager's hut,... round a tanning pit,... a cooperative society... its main initial thrust is directed towards the disadvantaged for whom learning can be the base from which they might extricate themselves from the web of circumstances which has held them economically and socially captive".[56]

The collaborators in the Jawaja experiment were the National Institute of Design (NID) and the Indian Institute of Management, Ahmedabad (IIM-A). The aim of the experiment was to help the *Raigars*, a group of traditional leather craftspersons, to organise themselves into viable working groups and manage some aspects of their economic activity and environment, with new skills. This learning, it was hoped, would help improve their income and make them economically self-reliant. The experiment was launched in Jawaja, a backward block in Ajmer district of Rajasthan. The lessons learnt from it are relevant to many artisan groups today, specifically those engaged in making functional products. The strategy was to make new products for a new market. There were two reasons for this:

- First, the traditional products made by the *Raigars* were shoes, leather water buckets and animal harnesses. The increasing costs of leather affected the price of the shoes which were easily substituted by mass-produced plastic ones. The water buckets were also being replaced by water pumps, thus leaving a very limited means of livelihood. Clearly, the product range had to be widened.
- Second, the moneylender often plays the role of an intermediary between the craftsperson and the market and, in the process, exploits the craftsperson. The assumption was that if products were made for a market unfamiliar to the moneylender, he\she would be unable to exploit the craftsperson easily. Moreover, this would provide an opportunity to the craftsperson to establish a direct link with the buyer, allowing him\her to retain more of the product price.

Once it was decided that products would be made for a new market, the quality of leather had to be improved. Tanning processes using new chemicals were taught to the *Raigars* by the CLRI. Though it was quicker, and improved the substance and properties of the leather, it remained a completely manual operation.

The products initially produced were school bags and pouches which did not demand the sophistication of well-finished leather, and braided belts where the braiding de-emphasised the defects. The products received limited exposure in the market through exhibitions. But they sold mainly because of a sympathetic response to the philosophy of the Rural University experiment.

Through the years, the quality of the tanned leather improved and the range of products widened. However, the rough, unsophisticated and somewhat unfinished look which was the essential character of the products, hardly changed. This was the period when the *Raigars* learnt other aspects of their craft. Practice improved the quality and finish of the tanned leather; they learnt to deal with bank loans and accounting systems. Simultaneously, they were exposed to new markets. They slowly began to understand these markets by taking the products to the point of sale so that consumer feedback could be direct. A few orders came through regular commercial channels. But the bulk of the sales was to institutions, and through exhibitions.

The major gain during this time was not in the volume of sales but in the skills of the craftspersons themselves. Their self-confidence increased. They were able to communicate directly with the CLRI when they wanted more information on the tanning process. They were also able to visit urban centers and liaise with the buyers they knew. The role of NID and IIM–A was largely that of providing moral support and access to other institutions and systems.

In 1984, eight years after the *Raigars* had first learnt new processes of tanning, orders were at a low ebb and it was felt that the standard of skills must be raised and the products diversified. An attempt was made to shift the emphasis from selling 'rural development' to selling competitive products with an inherent value. The idea was to design a range that covered the needs of different consumer groups. Hence shoulder bags for college students and office -goers, folders, belts and small containers for desk tops were made. The products were selected on the basis of a collective experience of the market rather than scientific market research.

The characteristics of the products were also changed. Brass hardware and dyed leather made the finished products more attractive. Leather stitching remained but became more decorative. Since the leather was still completely hand tanned, and therefore had its limitations, the selection of material for the products was more rigorous.

The Central Cottage Industries Emporium agreed to sponsor an exhibition-cum-sale. While working towards this exhibition, a number of problems surfaced that would probably be applicable to any group of craftspersons:

- The first set had to do with understanding market requirements: Deciding what products should be developed, who would buy them, where they should be sold, and at what price?
- The next set related to finance: How were the craftspersons to earn a living while they were learning the new skills? Who would pay for their training? Who would finance the raw materials that were necessary for the new product range? How was the new production to be financed before it was sold?

Together, the NID, the IIM-A and the craftspersons, found solutions to these problems on an ad hoc basis. Design development, however, was handled entirely by NID, which also trained the craftspersons to make the new products.

What are the conclusions from this experience?

It is important for craftspersons to be able to understand the needs of their customers. If this is not possible through direct contact, they must have access to the kind of market information that would help them understand these needs. The market information has to be translated into a product through design and product development. For this, technical and financial assistance is necessary. The craftspersons must learn to make the new product and know where to sell it. More importantly, they must want to improve their craft and be receptive to the inputs that could be provided.

It is evident from the foregoing account that craftspersons need a wide range of inputs if they are to function effectively. Is it possible, therefore, to develop a structure, or system, that is sympathetic to them, but does not create dependence?

SOURCE: Based on a paper by Neelam Iyer

complexes in 10 districts. Each complex, catering to 25 households, is provided with housing, a flaying platform, common workshed, and tanning pits. In Netrapalli (Krishna district), the Government plans to supply live animals from nearby cattle markets to the flayers who, in turn, will provide raw hides to the tanners within the complex. Such interlocking of value adding activities helps to cut down dependence on intermediaries. LIDKAR, too, has started a tanning complex, including common facility centres at Dharwad and Bangalore. With Dutch assistance, LIDKAR has provided housing and educational facilities to leather workers at 14 locations in Karnataka.

KVIC institutions, Animal Husbandry Departments and Small Industries Service Institutes have also been rendering technical assistance to leather workers. KVIC affiliated bodies regularly conduct short-term courses in carcass recovery, tanning, footwear production and salesmanship. The model training-cum-production centre, run at Lucknow by the U.P. Directorate of Animal Husbandry, and the Gannavaram co-operative in Andhra Pradesh, are two good examples of integrated leather processing units. LIDKAR has adopted the training and visit (TV) system to expose groups of leather artisans to advanced technologies.

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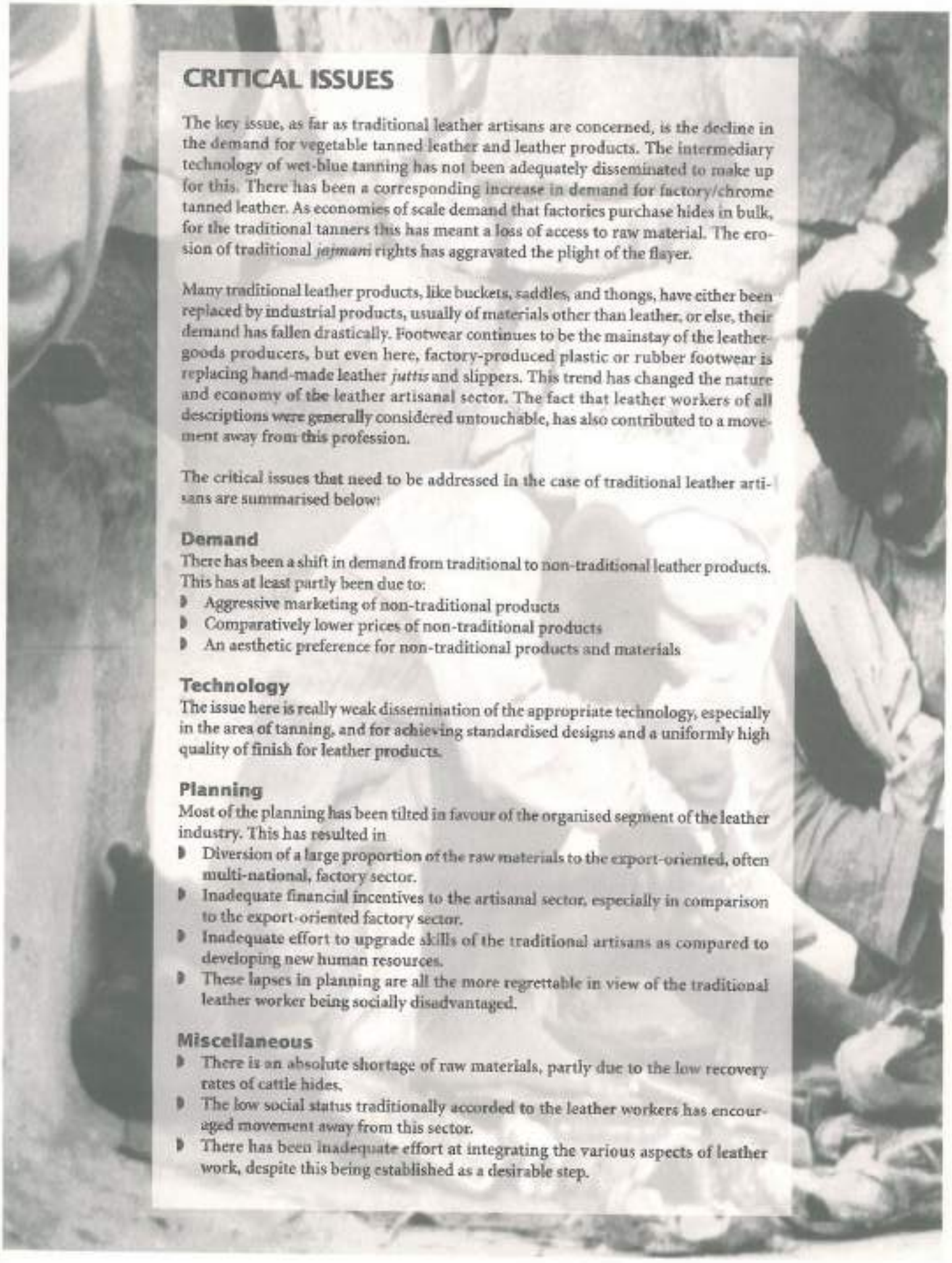

CRITICAL ISSUES

The key issue, as far as traditional leather artisans are concerned, is the decline in the demand for vegetable tanned leather and leather products. The intermediary technology of wet-blue tanning has not been adequately disseminated to make up for this. There has been a corresponding increase in demand for factory/chrome tanned leather. As economies of scale demand that factories purchase hides in bulk, for the traditional tanners this has meant a loss of access to raw material. The erosion of traditional *jajmani* rights has aggravated the plight of the flayer.

Many traditional leather products, like buckets, saddles, and thongs, have either been replaced by industrial products, usually of materials other than leather, or else, their demand has fallen drastically. Footwear continues to be the mainstay of the leather-goods producers, but even here, factory-produced plastic or rubber footwear is replacing hand-made leather *juttis* and slippers. This trend has changed the nature and economy of the leather artisanal sector. The fact that leather workers of all descriptions were generally considered untouchable, has also contributed to a movement away from this profession.

The critical issues that need to be addressed in the case of traditional leather artisans are summarised below:

Demand

There has been a shift in demand from traditional to non-traditional leather products. This has at least partly been due to:

- Aggressive marketing of non-traditional products
- Comparatively lower prices of non-traditional products
- An aesthetic preference for non-traditional products and materials

Technology

The issue here is really weak dissemination of the appropriate technology, especially in the area of tanning, and for achieving standardised designs and a uniformly high quality of finish for leather products.

Planning

Most of the planning has been tilted in favour of the organised segment of the leather industry. This has resulted in

- Diversion of a large proportion of the raw materials to the export-oriented, often multi-national, factory sector.
- Inadequate financial incentives to the artisanal sector, especially in comparison to the export-oriented factory sector.
- Inadequate effort to upgrade skills of the traditional artisans as compared to developing new human resources.
- These lapses in planning are all the more regrettable in view of the traditional leather worker being socially disadvantaged.

Miscellaneous

- There is an absolute shortage of raw materials, partly due to the low recovery rates of cattle hides.
- The low social status traditionally accorded to the leather workers has encouraged movement away from this sector.
- There has been inadequate effort at integrating the various aspects of leather work, despite this being established as a desirable step.

Section II

5

Lohar

Artisans who make products from non-precious metals

Metal Workers

Metal workers are an essential link in the traditional village economy of India, producing vital agricultural equipment (like sickles, metal basins and crowbars), as well as items of domestic use (like pans, pots, vessels and gates). Although metal workers' incomes are higher than those of most other artisans, raw material and fuel constraints have adversely affected the economics of their trade. Their traditional technology and products lost out initially to British technology, and later, to the factory sector in the race for raw materials and markets.

According to some estimates, in spite of the technological and other interventions in favour of the factory sector, home-based metal workers still do two-thirds of the total work related to production and repair of agricultural implements and machinery.[1] Traditional metal workers, however, are handicapped by the absence of technical and financial assistance for upgrading their skills and entering new product lines which would give them access to more remunerative markets.

As metal workers make items that are essential for day-to-day living, they are dispersed all over the towns and countryside. There are, nevertheless, some centres of specialised production, such as Aligarh for locks and Meerut for scissors. However, much of this production takes place outside the household sector.

I THE ARTISANS

HISTORY

The history of metal workers is linked to the discovery of metals. Archaeological evidence indicates that ancient Indians gradually progressed from the use of wood, bone, horn and stone to that of gold, copper, bronze and somewhat later, iron. "Gold was the first metal to draw the attention of man, and it therefore rightly received the name *Ayas*, or that which attracts, which name was subsequently transferred to iron, owing probably to its magnetic properties."[2]

Copper and bronze, along with stone, were the main materials in use during the Indus Valley Civilisation (2600-1600 B.C.). The Harappan excavations point to a high level of skill in forging, hammering and casting of these metals. Iron was a subsequent discovery. One of the earliest references to iron and its uses is found in the *Yajurveda*. *Syamamayas*, or iron, is also mentioned in the *Atharva Veda*. Similar references are found in later *Vedic* texts such as *Satapata Brahmanas* and the *Suttanipata*. All these references indicate that by 700 B.C., the use of iron had become common in agriculture. It is believed that the discovery of iron and its uses helped the eastward expansion of the invading Aryans. The iron axes, ploughshares and other tools helped clear the dense jungles and make them habitable and cultivable.[3]

The *Vedas* contain references to various metal objects such as the bow and arrow, swords, spears, javelins, lances, hatchets and the discus. There are also numerous references to protective armour. The *Dhanurveda*, which lays down canons for archery, mentions a special arrow, the *naracha*, whose peculiarity was that it was made entirely of iron, (as opposed to other arrows where only the head was made of metal).[4]

The *karmara*, or ironsmith, is among the various artisans mentioned in *Vedic* literature,[5] and the following quotation from the *Yajurveda* indicates the respect in which the *karmara* was held: "*Namah kulalebhyah karmarebhyascha*" (I bow to the family of the *karmara* who is as the Lord himself).[6] In the hilly districts of West Bengal, metal workers are said to have evolved out of the aboriginal or semi-aboriginal iron smelters. In time, they were differentiated according to the metals with which they worked or the products that they made. In Bengal, therefore, *lohar kamars* were associated with iron work; *pitule kamars* with brass; *kansari kamars* with bronze; *swarna kamars* with gold; *dhokra kamars* and *tamra kamars* with iron and copper.[7] Box A & B

The Mauryan period (322-180 B.C.) witnessed a growth of towns, and rigid control came to be exercised over mines, metallurgy and the activities of artisans in general.[8] Excavations at Taxila and Sanchi indicate further progress in iron technology under the Kusanas and the Satvahanas (200 B.C.-200 A.D.). There is evidence, that under the Kusanas, blacksmiths had acquired tremendous status and prosperity. The excavation of Kusana sites has yielded specimens of iron crucibles, chisels, axes, blacksmith's tools, arms and ammunition, and similar objects in brass and bronze. Literature also points to the export of Indian iron and steel from the Gulf of Cambay to the African coast. This suggests that metal work under the Kusanas was well established.[9] The iron pillar at Qutab Minar in Delhi was erected around 400 A.D. by Kumaragupta. Despite its age, it shows no signs of rusting, testifying to the high level of metal working technology attained during that period. Under the Delhi Sultanate (1200-1500 A.D.), high grade iron ore was mined in Kutch, Rajasthan and Gwalior. The iron was used to produce damascened steel, which enjoyed world-wide renown. In the Deccan, around this time, the bronze and brass industry was thriving. Vessels and utensils were produced for customers in Aden, who also sent broken pieces to India to be remade.[10]

During the Mughal period (1500-1750 A.D.), there was a substantial demand for weapons. Iron was produced in Bengal, Allahabad, Agra, Berar, Gujarat, Delhi and Kashmir. In the 1660s, the Dutch began to export iron products from Coromandel to Batavia. In 1667, the volume of exports was staggering: 1,05,000 lbs of nails and 1,88,000 lbs of cannon balls. Sometime during the Mughal rule, a certain amount of differentiation came about between artisans catering for the market and those tied to the village community. This was especially true of metal workers manufacturing weapons.[11] This period also witnessed the growth of imperial *karkhanas*, or workshops, which employed large numbers of artisans, notably armourers, to cater to the needs of the court and army.[12] Literature pertaining to the Mughal period also contains references to strong organisations of artisans. The *Kammalan* caste in Tamil Nadu, which included blacksmiths and coppersmiths, was one such group. The *Kammalans* from different regions congregated from time to time to make collective grants to temples. Violation of their social rights evoked widespread protest in the form of mass migration or strikes.[13]

Historical accounts of the period 1757-1857 A.D. distinguish between various levels of artisanal production and organisation.

Box A

MYTHOLOGY AND METAL WORKERS

In some parts of the country, metal workers claim descent from *Vishwakarma*, the framer of the universe. According to mythological accounts, the *Lohar* was created by *Bhavani Mata* to prepare a discus to kill a demon who was proof against all other weapons. In another legend, a mighty demon rose to power and drove away the minor deities from their celestial possessions. Taking pity on the fugitive gods, *Siva* created a man to fight the demon, and sent him down to earth fully equipped with the blacksmith's tools. Upon meeting the demon, the man challenged him to a combat, defying him to enter his furnace. With customary stupidity, the demon readily complied. The man began to blow his bellows hard, but the stubborn demon refused to leave the furnace. In no time, his body was reduced to molten masses of iron, copper and other metals. This was the origin of the metals and metal workers.

SOURCE: Scudamore, W.V.; A Monograph on Iron & Steel Work in Bombay Presidency, in Art in Industry through the Ages, Monograph Series of Bombay, Navrang, Delhi, 1976

At one end of the continuum were artisans who worked out of their homes, assisted by their family members. The products they manufactured were directly marketed or exchanged. At the other end were production units which included artisans other than family members, each performing different functions. Such units were integrated with the market through one or more middlepersons, who took over the function of supplying raw materials to these units, and selling their products. These levels of operation were evident in metal work. The *Agarias* in Bihar, for whom iron smelting was a traditional household industry, represented the primary level of production. The enterprises of Birbhum, on the other hand, were far more advanced in their internal organisation, division of labour, technology and integration with the market.[14] Another form of organisation among metal workers at the turn of the century is reported from the Santhal Parganas: "The blacksmiths often group themselves into a band of six men to conduct a workshop conveniently situated under a grove or a shady tree in the village, while another man supplies the implements and capital. All the six men go on working the whole day, and out of seven articles manufactured, each of the labourers gets one, while the seventh one is given to the man who supplied the implements and capital".[15]

By and large, the artisans worked individually or in small groups, gathering their own ore and making their own charcoal for use as fuel. Since the ore was smelted in small furnaces, which were unable to generate large blasts of air, this not only limited the rate of metal extraction, but made it impossible to liquefy the metal. This ruled out the possibility of producing cast metal. Cannons were made by forging strips of wrought iron together, a method that was not only labour intensive, but also resulted in an inferior product. In England, by contrast, large furnaces powered by water-driven bellows had been in use ever since the 14th century. Since these furnaces generated large air blasts needed for producing cast iron, England was far ahead of India in the production of cast iron goods.[16]

The advent of British colonialism led to a substitution of indigenous iron with imported iron in the early eighteenth century. British iron technology was more advanced, and imports of English ironware wiped out parts of the domestic iron industry in Birbhum and Monghyr. The latter had supplied the old Mughal nobility with guns for which the British had little use. The production of swords and daggers became a curiosity in places where Western arms became popular.

The principle of screw-motion was known in Europe since Hellenic times. The use of a screw as a fastener or joining element began only in the fifteenth century. But once known, its use spread quickly, replacing soldering and riveting with obvious advantages. The development of powerful lathes to cut grooves in screws followed soon thereafter. However, as late as 1666, Thevenot observed that Indian blacksmiths simply "fastened to each of the two pieces that are to enter into one another, some Iron, Copper, or Silver wire, turned Screw wise, without any other art than of souldering the Wire to the pieces", indicating the absence of lathes and cutting tools.[17]

By the end of the eighteenth century, anchors of cast iron were produced in Orissa. They were of indifferent quality, though, since blast furnaces were not used for casting iron. India had, however, forged ahead of the West in other areas of metallurgy.

Box B

DIFFERENTIATION AMONGST METAL WORKERS

COMMUNITY	*REGION*	*PRODUCT/REMARKS*
Ragi	Andhra Pradesh	A recent arrival in Telengana working with copper.
Vishwabrahmana/ Vishwakarma	Andhra/ Tamil Nadu	Consider themselves special, created by *Brahma* to fulfill human needs.
Kanseras	Gujarat	Copper, brass and bell-metal work.
Musaris	Kerala	Bell-metal artisans. Originally from Tamil Nadu.
Thaters	Madhya Pradesh	*Tameras* and *Thaters* make copper
Tameras	Uttar Pradesh	alloy utensils. They claim descent
Kasers	Bihar and Orissa	from the *Haihaya Kshatriya* clan. *Kasers* are also traders or merchants.
Pathars	Tamil Nadu	Brass and bell-metal workers.
Stapathis	Tamil Nadu	Excel in making religious images.
Tamtas	Uttar Pradesh	Copper artisans of Kumaon, claim to be *Vaishyas* from Rajasthan.
Tamrabaniks	West Bengal	Once copper traders, they also make alloy articles.
Kangsabaniks	West Bengal	Bell metal traders and artisans.
Karmakar	West Bengal	Work with copper alloys. Concentrated in Bishnupur. They also work with iron.

SOURCE: Compiled from Mukherjee, M.; Metalcraftsmen of India; Anthropological Survey of India; Calcutta; 1978

Crucible forged steel made in India was more ductile and malleable than English iron. It was exported to Persia and other countries. Zinc smelting was practised in India though the process was undertaken in Europe roughly a hundred years later. Zinc was used for making brass in combination with copper which gave impetus to a new craft, i.e., *Bidri*-work.

By the late 1800s, Amritsar, Ambala, Ludhiana, Jalandhar and Lahore had emerged as centres for the manufacture of brass utensils. Kashmir and Moradabad acquired renown as centres of brass artware. According to a report from the early twentieth century, "the manufacture of copper, brass and bronze utensils is perhaps the only important industry which has not suffered from foreign competition or machine-made articles...the industry all over the country may be said to be a prosperous one."[18]

POPULATION ESTIMATES

Calculations based on the Census of India 1961 and 1981, suggest the following demographic trends with respect to metal

Box C

POPULATION OF METAL WORKERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families', on the basis of their occupations. Each 'family' bears a code number. There are 14 families in the 1961 Census and 23 families in the 1981 Census, which are involved in different aspects of metal work, and best correspond to the category of metal workers addressed by this chapter. For the sake of convenience, the individual families have been regrouped under three major categories, as follows:

- Metal Processors: These are workers who operate furnaces, treat metals, form them into the required shape and size mechanically or manually by melting, rolling, forging, moulding or other processes.
- Blacksmiths, Hammersmiths and Forgemen: This category refers to workers who forge metals by hand or machine to the required shape and size by heating, bending or hammering.
- Welders, Sheet metal workers and Tool makers: These workers form, assemble or repair articles from sheet metal by hand or machine, braze or solder them, and tin-coat utensils. Workers in this category also make tools, and weld and cut metal parts.

The list of NCO codes in the table below indicates the precise families that have been included under each of the above-mentioned categories.

CATEGORY OF METAL WORKERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Metal Processors	1961	26,964	24,400 (90)	2564 (10)	10,227 (38)	HH	730-732/734/735
		1,31,504	1,30,193 (99)	1,311 (1)	1,02,796 (78)	NH	739/758
	1981	14,131	13,325 (94)	807 (6)	8,201 (58)	HH	720-729
		3,01,081	2,94,244 (98)	6,837 (2)	2,18,124 (72)	NH	
% Change between 1961-81		-48	-45	-69	-20	HH	
		+129	+126	+472	+112	NH	
Blacksmiths	1961	3,74,034	3,34,211 (89)	39,823 (11)	36,831 (10)	HH	733
Hammersmiths, Forgemen		1,39,599	1,36,900 (98)	2,699 (2)	83,647 (60)	NH	
	1981	2,94,455	2,75,108 (93)	19,347 (7)	37,879 (13)	HH	831
		2,60,835	2,54,991 (98)	5,845 (2)	1,22,426 (47)	NH	
% Change between 1961-81		-21	-18	-51	+3	HH	
		+87	+86	+117	+46	NH	
Welders, Tool makers,	1961	72,738	67,496 (93)	5,242 (7)	30,971 (43)	HH	750/751/754/756/
Sheet metal workers		4,54,850	4,51,666 (99)	3,184 (1)	3,69,744 (81)	NH	757/759
	1981	88,725	82,599 (93)	6,125 (7)	37,838 (43)	HH	830/832-836/839/
		9,14,302	9,03,041 (99)	11,260 (1)	7,17,212 (78)	NH	870/872-874/879
% Change between 1961-81		+22	+22	+17	+22	HH	
		+101	+100	+254	+94	NH	
TOTAL	1961	4,73,736	4,26,107 (90)	47,629 (10)	78,029 (16)	HH	
		7,25,953	7,18,759 (99)	7,194 (1)	5,56,187 (77)	NH	
	1981	3,97,311	3,71,032 (93)	26,279 (7)	83,918 (21)	HH	
		14,76,218	14,52,276 (98)	23,942 (2)	10,57,762 (72)	NH	
% Change between 1961-81		-16	-13	-45	+8	HH	
		+103	+102	+233	+90	NH	
G. TOTAL	1961	11,99,689	11,44,866 (95)	54,823 (5)	6,34,216 (53)		
	1981	18,73,529	18,23,308 (97)	50,221 (3)	11,41,680 (61)		
% Change between 1961-81		+56	+59	-8	+80		

NOTES

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

workers:[Box C]

- **Total population:**
  The total number of metal workers in 1981 was 18.7 lakhs.
- **Share of household vs. non-household sector:**
  Of the above, 3.97 lakhs (21.2 per cent) were in the household sector.
- **Rural-urban mix:**
  Of the total population of metal workers, 7.3 lakhs (39 per cent) were located in rural areas. In the case of the household sector, 79 per cent of the metal workers were located in rural areas. By contrast, 72 per cent of all metal workers in the non-household sector were located in urban areas.
- **Gender mix:**
  Females, numbering 50,221, accounted for 3 per cent of the population of metal workers in 1981.
- **Intercensal shifts:**
  The total population of metal workers increased from around 12 lakhs in 1961 to 18.7 lakhs in 1981, representing an increase of 56 per cent. The number of metal workers in the household sector in 1981 was approximately 4 lakhs, compared to 4.7 lakhs in 1961. This represents a decline of around 16 per cent. In stark contrast, the number of metal workers in the non-household sector increased by 50 per cent during this period, from 7.3 lakhs to 14.8 lakhs.While in 1961, the household sector accounted for almost 40 per cent of the total population of metal workers, in 1981 its share plummeted to 21 per cent.

  There was a sharp increase in the number of welders, sheet metal workers and tool makers in the non-household sector, from 4.5 lakhs in 1961, to 9.1 lakhs in 1981. In percentage terms, however, the most dramatic increase occurred in the case of metal processors in the non-household sector. Other than a marginal increase in the number of welders, sheet metal workers and tool makers (from 0.73 lakhs in 1961 to 0.89 lakhs in 1981), all other categories of metal workers in the household sector registered a decline. This decline can be attributed to increasing competition from the factory sector, and the rising demand for machine-made goods. The fact that in overall terms, the number of metal workers (both household and non-household sectors) swelled from around 12 lakhs in 1961 to 18.7 lakhs in 1981, would indicate that metal work is a dynamic sector. It is possible, that given the right inputs and interventions, the situation of traditional metal workers can be strengthened, and the trend of outmigration stemmed.

SOCIAL & ECONOMIC ASPECTS

A total of 48 metal workers were interviewed by the SRUTI research team. They accounted for around 10 per cent of the sample. The concentration of metal workers was largest in Daurala (Meerut District, U.P.) and Nimdih (Singhbhum District, Bihar).

Social Aspects

Virtually all the metal workers interviewed (92 per cent) reported that metal work was their traditional family occupation. Only four of the artisans were first generation metal workers. This suggests that migration into metal work in rural areas is negligible. Correspondingly, 50 per cent of the metal workers were still functioning under the *jajmani* system. The metal workers in the sample were from the following communities: *Karmakar, Kammari, Vishwakarma, Panchal, Patidar, Suthar, Yadav, Lohar.* Other communities associated with metal work are outlined in Box B.

Inter-caste mobility involving metal workers has been observed during periods of economic distress. "Our family profession is goldsmithy", revealed one metal worker. "There simply wasn't enough work for our family in goldsmithy. So I decided to learn another skill," he adds. The most common form of mobility among metal workers is a lateral shift to carpentry. This is not surprising, since in many villages, the same artisan often functions both as a wood worker and a metal worker.

SRUTI's survey revealed that only in 9 of the 48 metal workers' households did the women participate in the artisanal activity. Eight of these households were located in Nimdih district, a tribal area. But very few of the women workers were engaged in actually beating the metal. Most of them were involved in heating and finishing work. Among the *Gaadiya Lohars*, a group of nomadic metal workers,[Box D] the women often operate the bellows, but rarely participate in the hammering process.

Box D

GAADIYA LOHARS: THE ITINERANT BLACKSMITHS

Gaadiya Lohars are nomadic blacksmiths. Their *Rajput* forefathers were proud residents of Chittorgarh in Rajasthan. When the fort city was captured by Akbar in the sixteenth century, they left, vowing not to return until they had won the city back. Ever since, they have been itinerant blacksmiths, wandering from place to place, with their worldly possessions laden in quaint brass-studded carts. Until recently, they travelled in small groups of eight to ten families, mending or forging household and agricultural implements, in exchange for goods and the services of midwives, *hakims* and carpenters.

Many of their traditions have stood the test of time. They have a *panchayat* whose decisions are binding. Community feeling is strong, and few members defect. Children, by and large, are not sent to school, in the expectation that they will continue the family trade.

Over the years, little has changed in their work methods and technologies. Some of them have switched from leather bellows to wheel operated blowers to fan their fires. But otherwise, their tools are much the same as their ancestors used generations earlier, simple and primitive. The women often help in operating the bellows, but rarely do they participate in the hammering process.

Gaadiya Lohars situated in and around Delhi, make occasional trips to Bhiwani or Hissar to buy their distinctive carts. To supplement their incomes, they often buy cattle from the surrounding villages and sell them in the cities. "Some things are changing", says Sohan Lal. "For instance, we travel less with our carts. We have no animals to pull them with. Cash has replaced barter. Some of us have even began sending our children to school."

SOURCE: SRUTI Field survey

Based on a study of the traditional division of labour in the crafts in South India, one author has classified artisans into 'left' and 'right' castes. Whereas craftswomen are found in all the 'right' castes, in the left castes, only men are engaged in crafts production. According to this classification, the *Vishwakarma* caste is a left caste and comprises blacksmiths, carpenters, coppersmiths, sculptors and goldsmiths.[19] Another author has developed a three-fold classification of castes, viz., 1) castes which allow the female members to participate in the crafts; 2) castes in which wives may assist their husbands in the crafts; and 3) castes which do not permit the participation of women at all. Blacksmithy, according to the author, falls into the second category. While the wife of a blacksmith may assist her husband in operating the bellows, touching the forge or the fire is altogether taboo. Coppersmithy belongs to the category of caste-based crafts in which women do not participate at all.[20]

Box E

CHILDREN OF ALIGARH: LOCKED IN POVERTY

The lock-making industry of Aligarh is over one hundred years old. Many of the traditional lock-makers in Aligarh were Muslims, who shifted to Pakistan at the time of Partition. Their place was soon taken by Punjabi migrants, who set up small units with hired labour.

Locks and their components are made in practically every home in the Old City of Aligarh, and in some adjoining villages. Approximately 80 per cent of the country's locks are said to originate from here. The number of workers in the lock industry is estimated to be between 80,000 and 90,000. Specialisation among the workers seems to have developed along caste and community lines. For instance, casting is generally done by the *Kohlis*, a scheduled caste community, while Muslim artisans generally specialise in polishing and intermediary processes such as manufacturing levers and keys. The final assembly work is undertaken by the *Jatavs*, *Muslim Sufis* and *Mathur Brahmans*.

The lock industry relies heavily on child labour. The number of children in the work force is believed to range between 7000 and 10,000. Other than physically demanding processes such as casting and cutting iron sheets, children participate in all aspects of lock-making. However, while they account for about 10 per cent of the total work force in the lock industry, the concentration of children is highest in hazardous processes such as electroplating and spray painting. Electroplating involves prolonged contact with dangerous chemicals such as potassium cyanide, and the children, "like the proverbial cat die when the curiosity to taste these foul liquids seizes them". Children working in spray painting units inhale large doses of thinners, causing severe chest disorders.

The oppressive features of the unorganised industrial sector exist here too – long hours of work, insecurity of employment, unpaid holidays, and absence of safeguards against accidents. But, for children born into impoverished families, employment in the lock industry seems inevitable. These children work for 12-14 hours a day in small spaces, cramped amidst machines and chemicals. After an apprenticeship period of 6-12 months, they start earning between Rs.50 – Rs.150 per month. Their wages are linked to neither time nor productivity, with arbitrary deductions and adjustments being made in the event of power failures, closures and holidays.

SOURCE: Burra, N, A Report on Child Labour in the Lock Industry of Aligarh, Uttar Pradesh, India; 1987; mimeo, prepared for UNICEF

There is virtually no data on the participation of children in metal work. For an account of child labour in the lock industry, see Box E.

Economic Aspects

The Gujarat Institute of Area Planning (GIAP) reports widespread under-employment among metal workers, attributing it to the increasing availability of factory-made agricultural tools.[21] Hence, metal workers often end up doing repair, rather than fabrication work. This finding was corroborated by the SRUTI survey as well. According to a survey carried out in Yavatmal district (Maharashtra), rural blacksmiths seem to be faced with a similar situation.[22] As a result of the under-employment, despite their high daily earnings, 38 of the 50 households surveyed lived below the poverty line. According to this survey, the average annual family income of blacksmiths was Rs.3640. Incomes varied widely across families and villages, from Rs.2044 to Rs.6623. Many blacksmith households supplemented their income from blacksmithy through cultivation, agricultural wage labour or carpentry. Families with higher incomes were found to be either using improved technology and producing non-conventional items such as water tanks, iron gates, and grills, or combining blacksmithy with carpentry. Metal workers who produced part of the fuel themselves and had passed on the burden of procuring the raw materials to their customers, through job work, also tended to be better off. In Jangaon block of Warangal district (Andhra Pradesh) nearly 50 per cent of the blacksmiths earned less than Rs.4000 a year, with 21 per cent earning even less than Rs.2000.[23]

According to the SRUTI survey, 77 per cent of the metal workers were employed in their artisanal activity for more than 6 months in the year. Their average annual income was Rs.4741, placing them third after wood workers and leather workers. With their annual expenditure outstripping their income, indebtedness among the metal workers is common. 67 per cent of the metal workers in the SRUTI sample were found to have taken loans, largely for consumption purposes. 26 per cent of the metal workers interviewed possessed land. 54 per cent owned livestock and poultry, as well as some means of transport. 29 per cent of the metal workers reported an annual household expenditure of below Rs.5000. 52 per cent reported that their annual household expenditure was in the range of Rs.5000-10,000. The balance had household expenditures that exceeded Rs.10,000 p.a. The SRUTI survey also revealed that on an average, metal workers effected sales of approximately Rs.7941 p.a. Raw materials accounted for 36 per cent of the sales value, while wages and incidental costs together accounted for 8 per cent of the total sales value. The average value added by each metal worker in the sample was approximately Rs.4716 per annum.[Box F & G]

The advantages of superior technology, access to raw materials and higher incomes, are relatively common in urban areas where metal workers are able to earn substantially more than their rural counterparts. Take the instance of Anand Pal, 36, of Dehra Dun (U.P.), who set up a small workshop in 1981. With an initial investment of about Rs.5000, he bought a second-hand welding set, a power drill and a new set of hand tools. He

makes gates, grills, doors and railings for buildings and does welding repairs on tractors and trucks in addition to other odd jobs. His monthly turnover is about Rs.6000 and his net income averages about Rs.2500 a month. (SRUTI interview, 1988)

II THEIR WORK

PRODUCTS & RAW MATERIALS

The main products manufactured by metal workers are knives, spades, scissors, cooking vessels, sickles, crowbars, basins, spoons, cart wheel rims, plough blades, window frames and grills. Besides these utility items, a number of art metalwares, such as icons, are produced in different parts of the country.[Box H] More recently, metal workers have taken to manufacturing petromaxes, stoves and ovens. In stray instances, they have ventured into manufacturing threshers and chaff cutters as well.

Metal workers in India work with both ferrous and non-ferrous metals and alloys. The main non-ferrous materials that they work with are copper and its alloys, brass (copper and zinc) and bronze (copper and tin), including bell metal. Zinc forms the base material for the *bidri* technique of decorating metalware (See p.72). Copper is preferred for ritualware. Cooking and eating utensils are usually made of bell metal, since it does not tarnish, and needs no tinning, like copper. Cast aluminium, also known as white metal, a relatively new non-ferrous material, is also used by metal workers.

Traditionally, artisans smelted the metals they needed from ores that were available locally. The charcoal needed to blast their furnaces was also produced by them. The depletion of traditional sources of ore, and of wood for charcoal, combined with the loss of access to these natural resources, resulted in metal workers having to pay for inputs that were once free. Iron, bronze, brass and other metals now have to be procured from the open market. Lack of financial resources inhibits the artisans from purchasing good quality raw materials in the quantities that would enable them to enlarge their scale of operation.

Box F

HAMEED THE BLACKSMITH

Abdul Hameed, the blacksmith of village Kothri, is responsible for repairing and maintaining the farm implements of 24 households in his village. In return for his services, he receives fixed amounts of farm produce from all but one of these households – the farmer Mohammed Zahoor pays him nothing. But that does not deter Hameed from working for Zahoor. Their bond dates back to 1947, when Zahoor provided shelter to Hameed's father who had come to Kothri as a refugee from the Punjab.

Hameed was barely ten years old, when his father, Karimuddin, died. He was subsequently brought up by his uncle, who initiated him into their ancestral trade, at the age of fourteen.

"I used to pick up the hammer quite unconsciously to help my uncle, and would often injure myself in the bargain. But by the time I turned fourteen, I had grown accustomed to hammering out red hot iron, to flattening this, or sharpening that. The more intricate work, such as fastening wooden stocks onto implements, I would leave to my uncle. But, in course of time, I could do that too."

By the age of 25, Hameed had mastered more or less all aspects of the trade. He then decided to break away from his uncle, and set up shop independently. He paid Zahoor five hundred rupees in exchange for a small piece of land on which he built his small mud and thatch workshop.

In the past five years, the number of households for whom he works has multiplied. This is due, in part, to divisions that have taken place within some families, and in part, to the fact that two other blacksmiths have left the village. Hameed gets 20 kgs of grain, generally maize, from each of his patrons every six months. There has been no change in the rate of payment – 20 kgs – for as long as he can remember. And often, when the crops fail, he undergoes much hardship, since there are drastic cuts in his wages.

Hameed takes a keen interest in agriculture. For one, his income depends on the productivity of the soil. For another, he has long cherished the thought of some day owning a small plot of land, which would enable him to supplement his income. "The Government might help me realise my dreams", he says wistfully. Brushing aside the idea of applying for a loan with a laugh, Hameed asks "What is the point of investing more money in my workshop? Where are the buyers and customers for the things I make?"

Over and above the work that he does for his *jajmans*, the occasional customer visits his workshop to purchase implements such as spades and sickles. Whenever a new house is constructed in the village, he receives orders for making latches and fasteners for doors and windows. "But that is very rare," he says. He rarely purchases raw material, since he cannot afford to stock it. He generally requests his customers or *jajmans* to supply him with the same. At other times, after rummaging around patiently, he is able to retrieve what is needed from his scrap heap, accumulated over the years.

Hameed works by himself in his cramped workshop, quite immune to the heat of the furnace. Of late, he has begun feeling the strain of his work, especially after the death of his two young sons – both died within a span of a year, after a brief illness. "I could not afford the cost of proper medical treatment" he says, despondently. While Hameed's other sons are as yet too young to lend him a hand at his work, they tend to the cow and take it out to graze. Only one of them goes to the local primary school, and Hameed does not see any prospects of educating him much further. "My health and strength are on the wane, and my sons must help me in my work as soon as they are physically able", he explains.

The premature death of his sons has taken its toll. But yet, he hammers and forges away relentlessly, day and night, spurred on by the dream of one day possessing some land of his own. He admits that given his meagre income this dream may never come true. "But Allah is great, and my faith in Him, greater."

SOURCE: Overview of Artisans in India; SRUTI; New Delhi; 1987; mimeo

Most of the metal workers interviewed by the SRUTI team reported that they had been forced into doing job work, since they were unable to cope with the high cost of raw materials. In Mhow, in Madhya Pradesh, the metal workers were, by and large, engaged in welding jobs. The price of raw materials here varied from Rs.12 per kg for sheet iron, to Rs.30 per kg for iron railings. In Shirahatti, Nimdih and Hyethnagar, because of the high cost of iron and coal, artisans were generally involved in job work. In Shirahatti, the prices of both iron and coal were relatively higher than in other areas surveyed by SRUTI – Rs.60 per kg of iron, and Rs.12 per kg of coal. Coal was formerly supplied by the *jajmans*, but is now procured by the artisans themselves, by filling tenders at the railway station. In Nimdih, only the iron was being supplied by the customers. Occasionally, the metal workers bought scrap iron, such as discarded wheel rims, from farmers. Coal was earlier stolen by the artisans from passing goods trains. But as the authorities had stepped up their vigilance, the threat of penalties and imprisonment deterred them from stealing. As a result, the artisans purchased coal from the market at Rs.2 per kg. In Hyethnagar, iron was available at Rs.7 per kg, and coal at Rs.2 per kg. Despite this, the metal workers were doing job work. The average expenditure on fuel as a proportion of expenditure on all material inputs is around 20 per cent. Some metal workers continue to produce part of the fuel themselves, while others get it from their customers. Most of them, however, have to procure their own fuelwood from the market, where they have to contend with acute scarcity and exorbitant prices.

TECHNOLOGY

The main tools and implements used by metal workers are as follows: hammers of various sizes, pokers, tongs, punches, bellows, anvil, forge, hacksaw, whetstone, files, drill, hand blower and lathe.

There are two essential stages in the production of metal objects:

- Smelting or reduction of ore for the extraction of the metal.
- Fabrication of various articles from the extracted metal.

Traditionally, metal workers depended on simple bellows for smelting small quantities of metal (iron or bronze) at a time. These quantities were adequate for making small agricultural implements. But when heavy equipment, such as cannons, had to be cast, the melt from several crucibles had to be used, affecting the quality of the end product. Smelting iron in small amounts also pushed up costs. As result, Indian metal workers preferred bronze, which has a lower melting point than iron.

The technologies involved in smelting and fabrication are related to the scale of production. Typically, the two stages are integrated in the household units of independent artisans. In such units, the level of technology tends to be very rudimentary. As we move to small entrepreneurial workshops, foundries and

Box G

TAMTAS: A FADING TRADITION

Almora district, in the Kumaon hills of Uttar Pradesh, is well-known for its natural beauty. It is also the home of a very special clan of coppersmiths, the *Tamtas*. The name *Tamta* is a derivative of *tamra*, the Hindi word for copper. The *Tamtas* claim to be *Vaishyas* from Rajasthan, who migrated to Almora district several centuries ago.

There are three *Tamta* settlements in the entire district. About 100 families reside in Tamta Mohalla of Almora town. Another group of 40 *Tamta* families live in Jaogaon Chinna, a remote village. At the turn of the century, some of them migrated to Uderkhani, a roadside village in the valley.

The *Tamtas* specialise in making copper *gagars* (pitchers), *kadhais* (deep frying pans), *diyas* (lamps), other utensils and artefacts. Earlier, they made *tamrapatras* (Copper plates with inscriptions). Now some of them also manufacture brassware. The families of Jaogaon Chinna, however, work exclusively with copper. According to some reports, the *Tamtas* used to obtain their raw material from a local copper mine. But the mine has since been worked out.

For brass and copper stock, the *Tamta* artisans now rely on local traders, who usually buy their finished products. "The U.P. Brassware Corporation has a branch office in Almora" says Jairam Lal Tamta, a 70-year-old Almora artisan, "but it's supplies (of brass) are not regular and it does not extend us credit. Hence, we prefer to do business with the *sethi*". The raw material is obtained in the form of slabs. These are heated and beaten to obtain sheet thickness. The copper or brass sheets are then cut and hammered into the desired shapes. The hammering leaves a distinct pattern on the finished product, giving it an aesthetic appeal.

In earlier days, the *Tamtas* used to trek to Nepal to sell their wares, using a route known as the "Tamta Trail". In exchange for their goods, they got Nepalese wool, ghee, bee-hives, bells, and musk. Later, they started selling their goods in Tanakpur Mandi to traders who had crossed over to India from Nepal.

The *Tamtas* are now essentially daily wage labourers, working for a few traders in Almora and Bageshwar. But the work is not steady, and a number of *Tamta* families have given up the profession during the last decade. The elders are keen that their sons join the army, the government or take to business instead.

In 1993, the Central Government sanctioned a scheme for setting up a Tamranagari co-operative to improve the economic condition of the artisans. Land for construction of 40 sheds, a workshop, and common facility centre, has also been allotted by the government. As part of the scheme, a polishing machine and spinning lathe are scheduled to be installed. Also on the anvil is a design centre, which will assist the artisans in diversifying their design and product range. This initiative, it is hoped, will end the exploitation of the *Tamtas* by middlepersons.[10]

SOURCE: SRUTI Field survey

finally to factories, the processes become increasingly specialised and the technologies progressively more advanced.[Box I]

Combustion has an important role to play throughout the production process. Bellows or blowers are required to keep the furnace fires going. Hammers are used to beat the metal into various shapes after it is placed on an anvil, or a slab. There are also a wide variety of tools for drilling, cutting, holding, flattening and soldering the metal or metal pieces. Files are used to give finishing touches to the final product.[24]

In both stages of production, smelting and fabrication, there have been technological changes well within reach of most artisans at their current scale of production. At the smelting stage, for example, animal hide bellows are being replaced by mechanical blowers. A common sight is the cycle wheel operated blower, in which the pipe for blowing air is attached to a cycle wheel. The wheel is rotated manually by means of a handle, and air is blown in. A variation of this, used for fanning small fires, is the hand operated fan, which can regulate the intensity of the fire. An anvil with a concrete base for hammering the metal is another improvement. Electric welders and soldering machines are also available, but these are generally beyond the reach of artisans.[25] The somewhat bigger entrepreneurial units, which hire labour, generally use lathes. These are all-purpose machines for shaping, turning, drilling, and widening holes to the desired specification. These can be operated only by electricity.

A number of techniques are used to embellish metal objects. Engraving is one such technique, and is widely used to decorate brassware. Some of the finest engraving is done in Moradabad. The origins of damascened work, or the technique of inlaying gold or silver on steel or copper, can be traced to Persia. The best example of this technique is the *bidri* work of Hyderabad and Bidar. *Bidri* articles are made from an alloy of zinc and small proportions of non-ferrous metals, which is oxidised to achieve a jet black finish. This is then decorated with gold and silver inlay work. *Repousse* is a technique whereby designs are hammered into relief from the reverse. Varanasi in U.P., Bhuj in Gujarat, Thanjavur and Tiruchirapalli are renowned for *repousse* plaques, decorative panels and vessels.

ORGANISATION OF PRODUCTION & MARKETS

Most traditional metal workers rely on the following modes of product disposal:

- sale in kind under a *jajmani* type of arrangement;
- sale in *haats* and *bazaars* to unknown consumers;
- sale through job work to known customers.

Of the above, the *jajmani* system is rapidly disappearing. Under this arrangement, the artisan is assured a certain amount of foodgrain from rich peasants and landlords, in exchange for fabricating or repairing agricultural or household tools throughout the year. In the second mode, the metal workers seek a market for their products. Since most rural areas have regular *haats* or *bazaars*, this is a common mode of disposal.

Box II

CENTRES OF ART METALWARE

ANDHRA PRADESH
- Brass, *repousse* or beaten flower vases, lamp-stands, panels, napkin rings, curtain rings, and paper weights of Pembarthi.
- *Bidri* cigarette trays, ash trays, trinket boxes and vases of Hyderabad.

ASSAM
- Brass and bell metal platters, bowls, trays, waterpots, and musical instruments of Kamrup and Sibsagar districts.

HARYANA
- Brass utensils of Jagadhri and Rewari.

JAMMU & KASHMIR
- Copper & brass bowls, cooking vessels, *samovars* for brewing tea, cups & tumblers embellished with engraving and *repousse* work.

KARNATAKA
- Copper, brass and bronze door handles, decorative panels of deities, images of gods, teapots, cigarette cases, lamp-stands of Nagamangala, Mysore, Hubli, Gadag and Mangalore.
- *Bidri* powder boxes, flower vases, ashtrays, trinket boxes, earstuds, candle-stands and buttons of Bidar.

KERALA
- Damascened, or *koftgiri*, steel plates
- Large bronze and bell metal cooking utensils and lamps.

MADHYA PRADESH
- Bell metal or *dhokra* figures of tribal deities, lamps, anklets and bugles of Bastar, Datia and Sagar.

MAHARASHTRA
- Copper chandeliers and lamp-stands, ashtrays, glass holders, paper cutters, pin cushions and trays of Ambernath, Thana, Kalyan and Nasik.
- *Bidri* wall plaques, figures and plates of Aurangabad.

MANIPUR
- Bell metal utensils and dishes

ORISSA
- Brass icons of Puri
- Flexible brass fish, snakes and crocodiles of Ganjam
- *Dhokra* lamps, coin boxes, animal figures and deities.

RAJASTHAN
- Enamelled, engraved and lacquered brass items of Jaipur.
- Brass toys of Jodhpur.

TAMIL NADU
- Bronze and copper icons of Swamimalai, Kumbakonam, Madurai and Tambaram.
- Brass, bronze and bell metal lamps, utensils, bowls, and bells of Nachiarkoil, Nagercoil, Kanchipuram and Arcot.

UTTAR PRADESH
- Brass decanters, candle stands, ash trays, trays, coasters, door fittings, cigarette boxes of Moradabad.
- Brass locks and keys of Aligarh
- Scissors of Meerut
- Copper *repousse* wall plaques, trays, table tops and planters of Varanasi.
- Copper utensils, pitchers and plates of Almora.

WEST BENGAL
- *Dhokra* animal and bird figures, images of deities, bowls and caskets of Bankura, Burdwan and Purulia.

SOURCE: Compiled from Saraf, D.N.: Indian Crafts. Development and Potential; Vikas Publishing House Pvt. Ltd; New Delhi; 1982

However, producing for sale at *haats* involves an element of risk, since there is no guarantee that the goods will find a buyer. Many artisans cannot afford to have their funds thus tied up.

Increasingly, therefore, metal workers are opting for the third mode, i.e., job work. Here, the customer supplies the raw material to the artisan, who then collects a conversion charge in the form of a piece rate for the work done. The gradual movement of artisans towards this mode of marketing is closely related to the supply of raw material and credit. Most traditional blacksmiths are by and large poor, and face competition over raw materials from large factories. The expense of procuring these inputs makes sales through *haats* and *bazaars* a relatively unpopular mode of marketing. In addition to all the problems in procuring fuelwood and metal, artisans do not want to face an uncertain market where their capital stands the risk of getting tied up. Given the gradual breakdown of the *jajmani* system, the most secure way of marketing is job work for customers who supply the raw material. Over time, this arrangement too may break down, since the customers may settle for factory produced goods.

Some metal workers have been displaced due to the poor quality of their products. This is true of hundreds of metal workers of Bankura and some adjoining districts of West Bengal, for whom manufacture of fishing hooks was a traditional occupation. The hooks were marketed both in India and abroad. Over the years, however, the demand for these hooks went down substantially. This was due to the fact that they could no longer compete with imported hooks in terms of shelf-life, standardisation, and corrosion-resistance. Some of these artisans are being trained by the Central Mechanical Engineering Research Institute, Durgapur, in the use of improved technology and fixtures that have been developed to produce hooks of uniform and superior quality. Hundreds of these artisans, however, have given up their traditional occupation.[26]

As discussed earlier, some enterprising metal workers have moved out of the traditional market for agricultural tools, and shifted from their villages to urban areas. Here, they are able to exploit the growing demand for relatively newer, non-traditional products such as water tanks, gates, grills, almirahs and trunks. Some have even taken to maintaining and repairing tractors, threshers and trolleys. Most artisans have the requisite skills to diversify their product range. But such a transition presupposes adequate capital for investing not only in higher grade raw material such as angle iron, channels, girders and sheets, but also improved equipment such as electric drills, grinders, lathes and welding machines.

Box 1

SMELTING & METAL WORKING TECHNIQUES

SMELTING

A turn of the century monograph describes the smelting technique in use during the latter half of the last century in the Bombay Presidency.[31] For a representative artisan household much of the traditional technology has remained unchanged. An earthen furnace with two openings, one for extracting iron after reduction, and the other for blasting, is used. Bellows made of goat or buffalo hide are used to blast the iron in the furnace, and charcoal for firing the furnace. Once the fire has been lit, small quantities of iron ore are introduced, and the fire fanned to maintain a constant temperature. A few hours later, hot iron can be extracted.

METHODS OF METAL WORKING

Once extracted, the metal is used for making various objects like pots, pans, tools, agricultural implements and intricate art metalware like statues. The three basic methods of metal working in India are hammering, forging and casting. The technique of hammering metal sheets to attain different shapes is generally used in the fabrication of utensils. Often, a utensil is made by joining together several hammered parts. Forging is employed largely in iron work, whereas casting is preferred for crafting ornamental objects. These methods are described below:

- Hammering and Joining: The metal is beaten with a hammer to give it a rudimentary shape. Depending upon the region and the end-product, an anvil may or may not be used. Once beaten, the metal is heated and allowed to cool. For heating, a furnace or a small fire is used and bellows employed to keep the fire going. Where two pieces of metal have to be joined, the technique of soldering is used. The most rudimentary form of soldering is done by applying a paste of solder and adding the joint over the fire to give it rigidity. Where necessary, holes are drilled in objects with a hammer and a pointed metal rod.
- Forging and Casting: Forging imparts shape by pressing or hammering heated metal between two dies. This requires careful preparation of the die itself. Casting involves the use of a mould. The mould contains a void of the desired shape, into which molten metal is poured. Upon cooling, the metal acquires the desired shape. Such moulds are often made of clay.[32]

III INTERVENTIONS

Metal workers come within the purview of the KVIC and the Office of the DC (Handicrafts). The interventions of the KVIC are confined to blacksmiths, while the DC (Handicrafts) concerns itself with artisans producing art metalwares. As discussed elsewhere in this report, the Office of the DC (Handicrafts) oversees a number of schemes for artisans involved in the production of handicrafts. All these schemes apply to artisans manufacturing art metalwares. There are over thirty schemes for providing fixed and working capital to the artisans. The DC (Handicrafts), in collaboration with the UNDP, has set up the Electroplating and Lacquering Centre at Moradabad, in U.P., to provide a common facility at reasonable charges. The Centre was also set up with the objective of providing technical advice and design guidance to producers. The DC (Handicrafts) sponsors training programmes in various aspects of art metalware through its network of 23 centres. Training is also imparted through over 20 Mastercraftsmen under the Apprenticeship Training Scheme. The KVIC's promotional efforts vis-a-vis blacksmiths consists of a package of schemes for financial assistance for setting up workshops or home production units. (See also chapter on wood workers for a discussion on the role and performance of the KVIC in assisting blacksmiths).

It is obvious from the discussion in the foregoing section on markets, that a segment of the non-traditional market can be carved out for the traditional metal workers through improved technology. This calls for an expansion of the scale of production and capital investments. Lack of capital and credit on reasonable terms, however, continues to hamper the bargaining and staying power of artisans. According to the SRUTI survey, a fairly high proportion of the metal workers (47 per cent) had attempted to secure institutional finance. Only 37 per cent of these succeeded in obtaining it.

In Maharashtra, the block level village Artisans Multipurpose Co-operative Societies (Balutedar Societies), administered by the Maharashtra State Khadi and Village Industries Board, provide financial assistance to their members (part loan-part subsidy) for purchase of tools and equipment. According to one study, the average requirement of a blacksmith was Rs.300 for the purpose, but the assistance under this head was Rs.60. Similarly, working capital assistance fell short of the artisans' requirements. The general requirement estimated by the study was Rs.500, as against a provision of Rs.250. This assistance also saw a great deal of misuse. Artisans often utilised it for "consumption demands, repayment and at times in drink". The societies have felt the need to tighten measures for the repayment and recovery of loans.[27]

Box J

AGRICULTURAL TOOLS RESEARCH CENTRE

Improving agricultural hand tools has been the concern of the Agricultural Tools Research Centre (ATRC), since it was set up in Bardoli in Gujarat, in 1959. The ATRC's clientele is the farming community, particularly small farmers.

Since its inception, the ATRC has modified existing hand tools as well as introduced new designs for axes, weeding hoes, wheel hoes and other implements. These are detailed in a manual that has been developed after systematic research into the inefficiencies of the existing tools. Periodic discussions held with farmers about the advantages and disadvantages of hand tools help throw up ideas, which are shared with scientists and engineers, and areas of improvement identified. New prototypes are then developed in consultation with blacksmiths.

The following principles are observed by ATRC while developing new tools, or modifying existing ones:

- The needs of different ability and age groups (women, children, male adults) must be kept in mind.
- Tools must be developed keeping a specific operation in mind.
- Tools must ensure a convenient work posture for the operator.
- The angle between the handle and tool must be convenient to the user.
- The fixture of the metal tool with the wooden handle must be firm and durable.
- The raw material and weight of the tool should match the type of work. e.g. carbon steel should be used for tools with a sharp cutting edge.

The hand tools that have been developed at ATRC are now manufactured and marketed by the Yantra Vidyalaya, Bardoli. Though improved hand tools have become popular, much more dissemination work is needed. ATRC believes that the blacksmiths have a key role to play in this process of dissemination. But in order to fulfill this role, they must be acquainted with the basic principles underlying the improvement of tools, and assisted in upgrading their own skills and workshops. Only then can improved tools be efficiently produced, repaired and maintained at the village level. According to the ATRC, there are good artisans where there is progressive farming. The inverse may also be true!

SOURCE: Improved Hand Tools and Implements, and Parikh, M., Improved Agricultural Tools, in Moving Technology, Vol. 3, No. 5, October 1988 pp 6-10.

Box K

KARIGAR PANCHAYAT: THE BLACKSMITHS OF BISHNUPUR

Bishnupur, in Bihar, is situated 100 kms from Ranchi, near the border of Madhya Pradesh. Here, the Vikas Bharati Chetriya Gram Takniki Kendra is working with the *Asurs* and *Lohars*, who are traditional blacksmiths.

The *Lohars* and *Asurs* traditionally smelted iron from the ore in the surrounding hills, and were renowned for their production of high quality iron, or *gattiholia*, as it is locally known. But they have more or less forgotten their old techniques, and now engage only in blacksmithy.

In Bishnupur, each cultivator is attached to a particular blacksmith for regular repair of his ploughshare. The blacksmith is paid for his services at harvest time. Besides this, there are fixed rates for the repair and fabrication of different tools. These tasks are entrusted to different artisans specialising in these items.

Sickles, axes, ploughshares, hinges, chains, swords and locks are some of the articles commonly produced by the blacksmiths. A mini workshop is normally located in a corner of their homes. Their tools and equipment generally comprise of an open-air furnace with a blower, locally fabricated from leather and wood, a small anvil, one or two hammers, a tong, a file, a chisel, one or two dies, a large piece of stone which serves both as an anvil, and grinder.

Over time, the returns from blacksmithy became insufficient to sustain the average *Lohar* and *Asur* family. Most of them took to stone-cutting, flaying, and at times, carpentry, to supplement their incomes. The high cost and erratic supply of iron, steel and charcoal was their main problem. They were also handicapped because of a lack of access to new tools, scientific heat-treatment technology and designs.

Some of the above problems are being addressed by the Vikas Bharati Chetriya Gram Takniki Kendra, which has organised the traditional blacksmiths into the *Karigar Panchayat*. Building on the traditional *Samaj Panchayat* of the blacksmiths, the *Karigar Panchayat* was created to strengthen the artisans through a three – pronged programme for

- ensuring availability of raw materials through bulk purchase
- upgrading their skills
- improving product designs and tools

As a result of Vikas Bharati's intervention, no member of the *Karigar Panchayat* today complains of any constraints with respect to raw material supply or tools. Migration among blacksmiths has virtually stopped. In fact, they have even begun bargaining for higher labour charges.

SOURCE: Sharma, M. and Prasad, R., Blacksmiths – the Technologists of the Rural Poor, Moving Technology, Vol 3, no. 5, October 1988, pp 2-5

Financial assistance, however, is only one of the problems of metal workers. Institutional support in terms of training and creating awareness of new product lines is equally essential. The VMST report on Yavatmal district, cited earlier, suggests co-operativisation as an integrated remedy to the problems faced by blacksmiths, and says that such a trend is already underway. The Krishi Sadhan Nirman Audyogik Sahakari Sanstha, Hyderabad, and the Bharatiya Iron Workers Society make the same point. The idea is that the co-operative societies take to producing items of domestic use and improved agricultural tools, securing capital, marketing and raw material assistance from the DIC and other state bodies.

TRYSEM was visualised as a government scheme to promote self-employment by imparting skills in various trades, including metal work. Under the TRYSEM scheme, training is imparted in welding, sheet-metal work and balcksmithy. The syllabus devised by the Ministry of Rural Reconstruction seeks to provide training in almost all aspects of these trades.[28] However, in practice, several gaps remain. An account of TRYSEM in Jabalpur and Jhabua districts of Madhya Pradesh shows that upto 1982-83, the number of trainees was far less for blacksmithy than for trades like carpentry, tailoring, cycle-repairing and poultry. In Jabalpur, of the 136 persons trained in blacksmithy, only 32 per cent were able to set up their own units. Compared to tailoring (68 per cent), sculpture, painting, electric work and vessel repair (all 100 per cent), these results are not particularly encouraging. All blacksmiths in the sample, who had not set up units, were either awaiting bank finance, or had been refused it. Similar evaluations of TRYSEM have been carried out in Kerala and Uttar Pradesh.[29] In Kerala, it was found that the drop-out rate was extremely high in the case of trainees who had opted for lathe works (85 per cent) and welding (50 per cent). This, the study concludes, is due to the perception among the trainees that apprenticeship training with an established firm was preferable to TRYSEM, since they stood a good chance of being eventually absorbed by the firm. The study also observes that the selection of trainers in blacksmithy and other trades was faulty, with the average trainer viewing the trainees as potential competitors. As a result, the trainers performed their roles somewhat reluctantly.

There have been very few interventions by non-governmental organisations vis-a-vis metal workers. Two such interventions are discussed in Box J and K.

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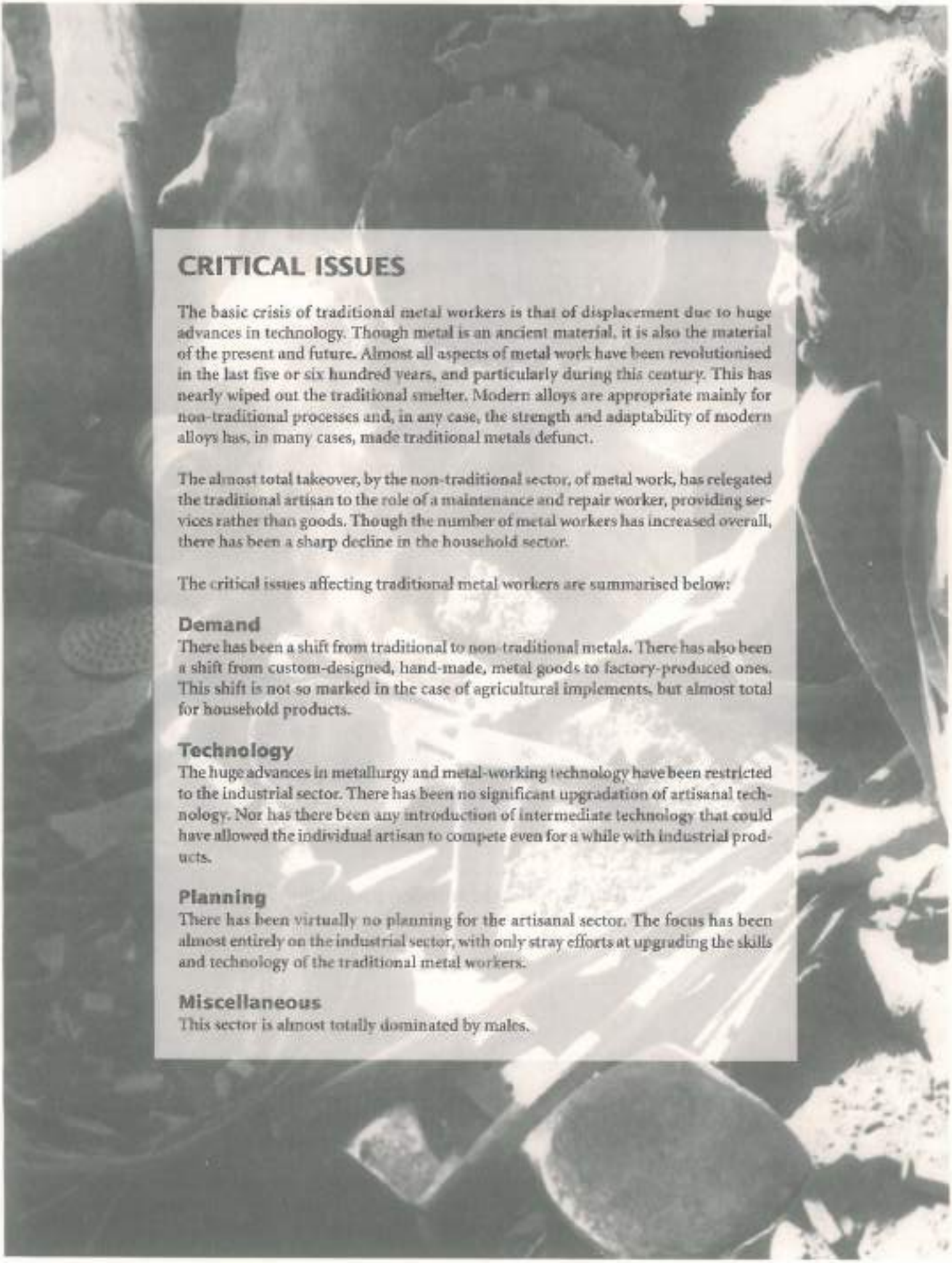

CRITICAL ISSUES

The basic crisis of traditional metal workers is that of displacement due to huge advances in technology. Though metal is an ancient material, it is also the material of the present and future. Almost all aspects of metal work have been revolutionised in the last five or six hundred years, and particularly during this century. This has nearly wiped out the traditional smelter. Modern alloys are appropriate mainly for non-traditional processes and, in any case, the strength and adaptability of modern alloys has, in many cases, made traditional metals defunct.

The almost total takeover, by the non-traditional sector, of metal work, has relegated the traditional artisan to the role of a maintenance and repair worker, providing services rather than goods. Though the number of metal workers has increased overall, there has been a sharp decline in the household sector.

The critical issues affecting traditional metal workers are summarised below:

Demand

There has been a shift from traditional to non-traditional metals. There has also been a shift from custom-designed, hand-made, metal goods to factory-produced ones. This shift is not so marked in the case of agricultural implements, but almost total for household products.

Technology

The huge advances in metallurgy and metal-working technology have been restricted to the industrial sector. There has been no significant upgradation of artisanal technology. Nor has there been any introduction of intermediate technology that could have allowed the individual artisan to compete even for a while with industrial products.

Planning

There has been virtually no planning for the artisanal sector. The focus has been almost entirely on the industrial sector, with only stray efforts at upgrading the skills and technology of the traditional metal workers.

Miscellaneous

This sector is almost totally dominated by males.

Section II

6

Ṭarkhān

Artisans who make wooden products

Wood Workers

Wood workers are found all over the country, as every community needs their services. At one time, wood and metal workers provided the basic infrastructure for agriculture in terms of tools, transport and irrigation facilities. With the introduction of new technologies, there was a gradual decline in the demand for traditional products such as bullock-carts, hand-made farm tools, and water wheels. This decline, however, was partially offset by an expansion in the demand for wooden furniture and structural wood work.

While wood workers are adept at using wood, many of them can also handle metal, since a number of articles they produce have iron parts fitted into them. They buy the main iron fixtures from a blacksmith, but minor repairs and joining these parts to the wood must often be done by them. In several parts of India, such as Maharashtra, the functions of carpentry and blacksmithy are performed by the same artisan. In fact, agencies such as the KVIC do not distinguish between blacksmiths and carpenters.

Village-based wood workers serve the immediate community around them, and generally make and repair bullock carts, agricultural implements, and items of domestic utility. In urban areas, wood workers are by and large engaged in the fabrication of furniture. In both rural and urban areas, there is a very large demand for wood workers in construction activity, to fabricate and install doors, windows, shelves, cabinets and other wooden structures. There is an altogether distinct category of artisans who manufacture decorative objects, or wood artwares, largely for the export market. The wood workers of Saharanpur belong to this category.

I THE ARTISANS

HISTORY

Wood work and the *sutardar* – as the wood worker was known in earlier times – find mention in the *Vedas*, *Mahabharata* and the *Ramayana*. The *sutardar*, or holder of the rein, functioned as the royal charioteer in times of war. The *Brhat Samhita* and *Shilpashastra* laid down clear guidelines on the felling of trees, seasoning of wood and manufacture of wooden articles. The *Rig Veda* refers to the *tvisti*, or *taksan*, as being a skilled maker of wooden ladles, vessels, furniture and chariots. Jataka literature speaks of carpenters who specialised in making boats.[1] For the structures of Mohenjodaro, timber was reportedly floated down the rivers in the Indus basin from the Himalayas.[2] The *Matsya Purana* recommended carved door frames in every house as a sign of welcome to guests.[3]

The function of the wood worker was a community one, utilitarian to start with. Every village boasted of a carpenter, who supplied the community with functional items such as bullock carts, farming implements, looms, potters' wheels, furniture, boxes, vessels, doors, windows and other items needed for house construction. How and at what stage specialisation entered into wood work, is difficult to say. The *Kamsale* community in Ettikopakka (Andhra Pradesh) is an example of traditional wood workers who gradually moved into a specialised area of activity. To begin with, the *Kamsales* manufactured mostly utilitarian wooden products. Around the 18th century, carving was introduced onto the legs of the cots that they made. This subsequently gave birth to the idea of making toys, which is now their mainstay. The easy availability of wood from the adjoining forests also favoured the growth of this new activity.

According to historians, during the Mughal period "production of the means of transport was one of the most significant areas of Indian manufacture, both in terms of the quantity of output and the value of the product".[4] The two-wheeled bullock cart was the most widely used form of transport for carrying goods and passengers.[Box A] Palanquins, horse drawn carriages, and camel carts were other commonly used modes of transport. "Perhaps the most striking feature in this line of manufacture in the Mughal period was the number and variety of boats. If one can speak of a growth sector in India's manufactures in this period, the description probably fits the developments in the shipping industry".[5] In western India, a variety of vessels were built of the finest teak and other timber available mainly from the Konkan, Karwar and Malabar forests. "Local Hindu carpenters, a Muslim class known as *Vadhas*, and sometimes, a section of the seafaring classes like the *Bhandaris*, built the vessels. Parsi builders excelled all other builders in imitating European ships."[6]

Wood work, like other trades, has been linked with particular castes and communities. The *Suthars* (Gujarat), *Tarkhans* (Punjab), *Khatis* (Maharashtra), *Wadhis* (Maharashtra), and *Badhais* (U.P.) are communities that have been traditionally associated with wood work, particularly the crafting of utilitarian items. Alongside these are communities who specialise in wooden artwares. The *Gudigars* of Mysore, who are known for sandalwood carving, are said to have fled from Goa in the 16th century due to persecution by the Portuguese.[7] In and around Surat (Gujarat), carving was the preserve of the *Mevada Sutars*, *Gujars*, *Pancholis* and *Vaishes*, all of whom traced their descent to *Vishwakarma*, the original *takshaka* or wood carver. Over time, the dilution of the caste factor in wood work has been considerable, with members of non-wood working communities having taken up this profession in large numbers.

POPULATION ESTIMATES

Calculations based on the Census of India 1961 and 1981, suggest the following demographic trends with respect to wood workers:[Box B]

- **Total population:**
  The total number of wood workers in 1981 was 14.8 lakhs.
- **Share of household vs. non-household sector:**
  Of the above, 5.8 lakhs (39 per cent) were in the household sector.
- **Rural-urban mix:**
  Of the total population of wood workers in 1981, 8.7 lakhs (or 59 per cent) were located in rural areas. In the case of the household sector, 78 per cent of the wood workers were located in rural areas. By contrast, only 46 per cent of wood workers in the non-household sector were located in rural areas.
- **Gender mix:**
  Females, numbering 12494, accounted for a mere 1 per cent of the population of wood workers in 1981.
- **Intercensal shifts:**
  The total population of wood workers increased from 11.3 lakhs in 1961 to 14.8 lakhs in 1981, representing a rise of 30 per cent. During the same period, the number of wood workers in the household sector dropped from 6.2 lakhs to 5.8 lakhs, a decline of 7 per cent. On closer examination of Census data, it can be seen that all areas of wood work in the non-household sector registered a growth. In contrast,

the number of carpenters in the household sector declined from 5.3 lakhs in 1961 to 4.7 lakhs in 1981, and that of cart, boat and ship builders, from 0.36 lakhs to a mere 8683 in the same period. Cabinet making appears to be the only area that expanded within the household sector: in 1961 it had 0.11 lakh workers and in 1981, 0.85 lakhs. But the increase was far more dramatic in the case of the non-household sector, where the number of cabinet workers swelled from 0.12 lakhs in 1961 to 1.5 lakhs in 1981. Whereas in 1961, 12 per cent of all wood workers in the household sector were located in urban areas, in 1981, this figure increased to 22 per cent. In the case of the non-household sector, however, there was a marginal decline in the share of urban wood workers, from 57 per cent in 1961, to 54 per cent in 1981.

SOCIAL & ECONOMIC ASPECTS

A total of 117 wood workers were interviewed by the SRUTI research team. They accounted for almost 25 per cent of the total artisans in the sample, and were the second largest group, after tailors. The largest concentration of wood woorkers was found in Vyara (Gujarat), Nimdih (Bihar) and Alibag (Maharashtra), all situated close to forests. The fact that wood workers are found in such large numbers may be indicative of the relative 'health' of this trade.

Social Aspects

Perhaps related to their large numbers is the fact that traditional

Box A

BULLOCK CARTS: CHANGING FORTUNES

In India, there are an estimated 15 million animal drawn vehicles (ADVs), a hundred million animals to draw them, and 20 million people who depend on them, directly, or indirectly, as a source of livelihood.[24] Out of the 15 million ADVs, 12 million ply in rural areas, and 3 million in towns. Amidst the fast traffic, wide roads and flyovers of the city, the bullock cart might well seem an anachronism. But for the innumerable rural areas that are yet to be connected by road, the bullock cart remains a cost-effective mode of transport.

According to one calculation, an investment of Rs.10,000 crores would be required to replace the existing ADVs and draught animals, as it would mean replacing 40 million horsepower by fossil fuels. Besides, it would mean finding employment for 20 million people, for whom the bullock cart is not just a means of transportation, but a source of livelihood, a form of capital and a friend in need.[25]

The traditional Indian cart is made of wood, and can weigh anywhere between 300-800 kgs. Ideally, the wood for the cart should be both light and strong, like *sheesham* or *sal*. A bullock cart may take from 10 days to a month to fabricate. According to a carpenter in Raigad district, Maharashtra, "While all other parts of the cart can be made in a day or two, preparing the wood takes a week or more, and the making of the wheel another 10 days. The joining of the axle shaft to the wheels is kept for the end, and is done by a blacksmith."[26] Nowadays, as readymade wheels are available, the tedious process of making the wheel may be omitted.

Cart designs vary according to their use. For large volume and low density freight, the cart bodies tend to be larger than those employed for heavy but compact loads. For instance, the water cart, which is a common sight in drought prone areas, has a narrower platform than most carts, in order to hold the drums of water in place. On the other hand, carts for carrying *bhusa* or hay, as in Maharashtra, have sides which flare outward, so that large loads can be accomodated. Designs also vary according to animal size and strength. In the eastern region of India, carts are small, not only because of the uneven and hilly terrain, but also because of the smaller breed of bullocks found there. Carts of that area, therefore, have low platforms and smaller wheels. The pure-bred cattle of the western regions are bigger and stronger than those found in other parts of the country, and the carts are correspondingly larger. The *ghoda-gadi*, or the horse-cart, has a high platform and slender wheels with large diameters, while the *oonth-gadi*, or camel cart, has a low platform and a long, steep and transverse pull-beam.

Traditionally, bullock carts had iron-rimmed wheels, which caused extensive road damage, running into crores of rupees each year. In the forties, this damage was estimated at nearly Rs.50 crores.[27] This prompted the Indian Government to refer the problem of road damage caused by the cutting action of the wheel rims to the Dunlop Company. Soon after, Dunlop introduced pneumatic tyres, metal bearings and a machined axle for the carts. However, four decades later, it was discovered that only one million ADVs had been modernised. This led to the formation of the Inter-Ministerial Committee on Bullock Carts, which met for the first time in December 1974, and concluded that upgradation of carts was imperative. Rather than start *de novo*, the committee felt that it would be advisable to draw upon the existing wealth of designs and make the necessary modifications so as to develop more efficient prototypes. A series of new designs were developed, complete with foot brakes, pneumatic tyres, flexible hubs, steel and aluminium frames. By virtue of these innovations, the new carts were lighter, more adaptable and generally more efficient. However, they were not appropriate for all conditions. For negotiating rocky and swampy roads, or dirt tracks, traditional teak wood wheels were found to be more suitable than pneumatic tyres.

According to a recent report, an iron bullock cart has been designed and put in the market by an entrepreneur in Thane District. Reportedly, the iron cart, which has been named 'Durga', will cost only Rs.7500, as compared to Rs.12,000 for the traditional wooden one. Besides being cheaper, the new cart is 100 kgs lighter than the traditional cart, and is capable of carrying 300 kgs more than the wooden cart.[28]

The traditional bullock cart is threatened with extinction. Dattatriya Nayak, a carpenter in Vadgaon Nigode, a village in Raigad district, Maharashtra, informed SRUTI researchers that: "people do not get new carts made any more, as wood is far too costly. We now buy from the *mandi*, wood that was earlier cut from the forests. People either borrow old carts, hire them, or use other available modes of transport".[29] Given the prohibitive cost of timber, it is no surprise that in many villages carpenters complain that no new carts, of the traditional variety, have been purchased for the past several years. In villages visited by the SRUTI researchers in Maharashtra, Gujarat, Madhya Pradesh, Bihar and Andhra Pradesh, the story of bullock carts was the same.

Deforestation may well usher in the age of "modern" bullock carts, achieving in a decade what the multinational tyre companies and the Inter-Ministerial Committee could not achieve in many decades.

Box 8

POPULATION OF WOOD WORKERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families', on the basis of their occupations. Each family bears a code number. In all, there are 7 families in the 1961 Census and 8 families in the 1981 Census which are involved in various aspects of wood work, and best correspond to the category of wood workers addressed by this chapter. For the sake of convenience, the individual families have been regrouped under four major categories, as follows:

- **Carpenters:** Workers in this category make, assemble, erect and repair wooden structures and articles using hand or power tools.
- **Cabinet makers:** Workers in this family make and repair wooden furniture using hand or power tools.
- **Cart, ship & boat builders:** Workers in this family build wooden structures for animal or hand drawn vehicles, including wooden wheels. Some erect wooden structures for ships and construct boats.
- **Miscellaneous wood workers:** This category includes workers who operate wood sawing and wood working machines; those who build and repair wooden structures of trucks, railway coaches and other vehicles; and those who are associated with seasoning, carving, inlaying, toy making, sports goods manufacture, polishing and lacquering.

The list of NCO codes in the table below indicates the precise families that have been included under each of the above-mentioned categories.

CATEGORY OF WOOD WORKERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Carpenters	1961	5,29,606	5,23,101 (99)	6,505 (1)	60,465 (11)	HH	770
		3,71,882	3,70,345 (100)	1,537 (neg)	2,19,869 (59)	NH	
	1981	4,66,823	4,62,230 (99)	4,593 (1)	89,085 (19)	NH	811
		6,55,164	6,52,031 (100)	3,133 (neg)	3,35,684 (51)	NH	
%Change between1961-81		-12	-12	-29	+47	HH	
		+76	+76	+104	+53	NH	
Cabinet-makers	1961	11,060	10,917 (99)	143 (1)	4,368 (39)	HH	775
		12,136	12,023 (99)	113 (1)	8,932 (74)	NH	
	1981	84,769	84,259 (99)	510 (neg)	25,215 (30)	HH	812
		1,54,100	1,52,867 (99)	1,234 (1)	83,051 (54)	NH	
% Change between 1961-81		+666	+672	+257	+477	HH	
		+1,170	+1,171	+992	+830	NH	
Cart, boat & ship builders	1961	36,440	36,184 (99)	256 (1)	3,595 (10)	HH	774/771
		11,632	11,607 (100)	25 (neg)	6,268 (54)	NH	
	1981	8,683	8,658 (100)	25 (neg)	1,152 (13)	HH	814/816
		14,701	14,574 (99)	128 (1)	6,389 (43)	NH	
% Change between 1961-81		-76	-76	-90	-68	HH	
		+26	+26	+412	+2	NH	
Miscellaneous wood workers	1961	45,193	43,185 (96)	2,008 (4)	8,603 (19)	HH	772/773/729
		1,17,109	1,15,188 (98)	1,921 (2)	59,257 (51)	NH	
	1981	18,462	16,899 (92)	1,563 (8)	10,435 (57)	HH	810/813/815/819
		76,898	75,590 (98)	1,308 (2)	57,056 (74)	NH	
% Change between 1961-81		-59	-61	-22	+21	HH	
		-34	-34	-32	-4	NH	
TOTAL	1961	6,22,299	6,13,387 (99)	8,912 (1)	77,031 (12)	HH	
		5,12,759	5,09,163 (99)	3,596 (1)	2,94,326 (57)	NH	
	1981	5,78,737	5,72,046 (99)	6,691 (1)	1,25,887 (22)	HH	
		9,00,863	8,95,062 (99)	5,803 (1)	4,82,180 (54)	HH	
% Change between 1961-81		-7	-7	-25	+63	HH	
		+76	+76	+61	+64	NH	
G. TOTAL	1961	11,35,058	11,22,550 (99)	12,508 (1)	3,71,357 (33)		
	1981	14,79,600	14,67,108 (99)	12,494 (1)	6,08,067 (41)		
% Change between 1961-81		+30	+31	(neg)	+64		

NOTES:

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector.

artisans accounted for only 56 per cent of the wood workers interviewed – a much lower proportion than all the other artisan groups surveyed, with the exception of tailors.

The wood workers in the sample were from the following communities: *Lohar* and *Sutar* (Madhya Pradesh); *Vishwakarma, Panchal, Budiya, Maruti Kshatriya, Vishwabrahmini* (Andhra Pradesh and Karnataka); *Chaudhuri* and *Gamit* (Gujarat); *Sardar* and *Santhal* (Bihar); *Angre, Maratha, Chowkarshi* and *Mali* (Maharashtra).

Although Census figures indicate the presence of women in the craft, the estimates cited above indicate that their participation is negligible. In most trades, it is well known that women perform a variety of critical and physically demanding functions at various stages of production. These are not adequately reflected in official statistics, leading to the under-enumeration of women. However, wood work remains an exception, and is clearly a male dominated occupation. This fact was confirmed by the SRUTI survey: of 117 wood workers interviewed, only one happened to be a woman. Available literature further corroborates this fact.[8] Generally, when wood workers need assistance, they employ male apprentices, instead of using household female labour. This is not to say that wood work cannot be done by women. To prove otherwise, the Vanwasi Sewa Kendra, a voluntary agency located in Bihar, has taken up the challenge of training women in carpentry.[Box C]

There are no figures on the number of children engaged in wood work. In rural areas, if the head of the family is a carpenter, the sons invariably help him and gradually learn the trade. Children also work in homes as wage-earners, and in factories and construction sites, either as full-time employees, or as apprentices.

Economic Aspects

Income levels further illustrate the relative health of wood work: At Rs.7018 per annum, the average income of wood workers exceeded those of all the other artisanal groups studied by SRUTI. More so than in other trades, however, the income of wood workers varied widely from as much as Rs.10,247 in some villages, to Rs.4021 in others. What is noteworthy, is the fact that wood workers with the lowest incomes were better off than the highest earning cane and bamboo workers. In terms of assets, too, wood workers seemed to be better off than their counterparts in other trades, with a much higher proportion among them owning land (63 per cent), livestock/poultry (60 per cent) and some means of transport (61 per cent). In keeping with their relatively better economic status, the incidence of indebtedness among wood workers was found to be lower than most other artisans (41 per cent).

24 per cent of the wood workers reported an annual household expenditure of below Rs.5000. 51 per cent reported that their annual household expenditure was in the range of Rs.5000-10,000. The balance had household expenditures that exceeded Rs.10,000 p.a. 66 per cent of the artisans in the sample reported that they were involved in wood work for more than 6 months in the year. According to the SRUTI survey, on an average, wood workers effected sales of approximately Rs.8550 p.a. Raw materials accounted for about 10 per cent of the sales value, while

Box C

WOMEN CARPENTERS: A MALE BASTION STORMED

A training workshop established in the mid-eighties by the Mahila Vikas Kendra in Nauhatta, Bihar, has enabled women to take up carpentry, hitherto a male preserve. Initially, the women were reluctant to venture into this activity, because they found the work too difficult and laborious. They also had to contend with taunts from relatives and neighbours, because they were challenging their stereotyped roles. For almost two years, eight women underwent rigorous training at the workshop, determined to master the craft, and to prove that they could be as good, if not better, carpenters than men.

At the Nauhata workshop, although none of the women were from carpenters' families, they soon became adept at cutting, sawing and drilling, all the skills required of a carpenter. The tools that they use are simple, and easily available in the local market. The women have learned to make door frames, doors, windows, tables, *chowkies* and *charkhas*, apart from simple chairs and stools. Once the training is over, the women are given the option of either continuing work at the Kendra, or striking out on their own.[9]

wages and incidental costs together accounted for nearly 17 per cent of the total sales value. The average value added by each wood worker in the sample was approximately Rs.7523 per annum. Box D

II THEIR WORK

PRODUCTS & RAW MATERIALS

The products made by wood workers may be categorised as follows:

- **Transportation:** bullock and other animal drawn carts, wheels and boats
- **Agriculture:** ploughs and wooden stocks for implements
- **Furniture:** almirahs, tables, chairs, benches and cots
- **Housing and Construction:** roof beams, shelves, partitions, stairs, window frames and doors
- **Wooden Artwares:** embellished wooden articles such as tables, figures, screens, boxes and chests Box E & F

Wood is generally sold in two forms: sawnwood or roundwood. Sawnwood is produced from logs either in mechanised sawmills, or handsaw mills. Much of the wood production in handsaw mills or the smaller sawmills is unauthorised, and takes place in non-forested areas. The raw wood is generally obtained from orchards, tree groves and farm holdings.[9] On account of its high price, the use of sawnwood is largely confined to the urban, organised segment of the wood-work sector. The use of roundwood, on the other hand, is widespread in rural areas, where durability takes precedence over texture and finish. Fences, poles, rafters for houses, cattle sheds, agricultural implements are some of the items for which roundwood is used. Wood must be thoroughly dry before it can be 'worked'. The drying process can take as long as 3-5 years. The older the wood, the greater its durability. Old wood is undoubtedly tougher to handle; but newer, softer wood is susceptible to cracks.

India possesses a staggering variety of woody species. The seletion of a particular species is partly determined by local availability and partly by its qualities. For agricultural implements such as the plough, harrow or roller, a strong, hard and rough timber is required. Some of the species commonly used for making these are *babul (acacia arabica), sal (shorea robusta), tendu (diospyros melanoxylon), jaman (eugenia jambolana),* and *raj brikh (cassia fistula).* Teak *(tectona grandis)* is universally regarded as the best

Box D

RISALA THE CARPENTER

Risala's stoop tells of a life-time devoted to carpentry, a trade that he came to adopt as his own. For, Risala's father was no carpenter. Born to a Harijan family, Risala became a farm hand at an early age. "Land was as scant in my village as wood was abundant", reminisces Risala. Bent over his *hukka*, he recounts his frequent forays into the adjoining forest to gather firewood, or wood to make agricultural implements. "None of us ever dreamt of owning a piece of land, and had to content ourselves by tilling the land of the more fortunate farmers."

Risala enjoyed a good relationship with his employer, the *kashtkar (farmer).* On idle days, he would observe the carpenter who frequented the *kashtkar's* house to repair his agricultural implements. "He belonged to Bhagguwala, a neighbouring village, but had many *jajmans* in this village, since there were no carpenters in Naugal. One day, the *kashtkar* spotted me while I was watching the carpenter at work. Sensing my interest, he suggested that I start learning carpentry. The carpenter interjected: 'Hands like his need very little training.' And as if to demonstrate what he meant, he passed his saw and plane to me, and left me to complete the job he had started, unaided."

For Risala, there has been no looking back. "But there were times when my father would accuse me of wanting to avoid farm work, harping about the loss of grain that I could have brought in as wages. Once, upon hearing of my father's taunts, even my *ustad* – the carpenter – suggested that I go back to farm work. But when I refused to entertain his suggestion, he said teasingly 'You must have been a carpenter in your last life!'" Risala's mother stood up for him, and even began offering the *ustad* grain in return for teaching her son. But she did not have to do that for long – within a year, Risala was competent enough to strike out on his own.

Risala and Ram Singh – his 40 year old son – now work together. There are no *jajmans* today, and they undertake mostly job work, for customers who supply them with the wood. While their product range is much larger, the demand is mostly for cots, *charkhas,* and handles for various agricultural implements. According to Risala, the scarcity of wood as a result of the restrictions imposed on the entry of villagers into the forest is hampering his prospects. For, even though he rarely buys wood himself, his customers complain of high wood prices. This has naturally affected his business, and there is often insufficient work for both father and son. Risala's daily earnings range anywhere between Rs.6 and 12. But his son, who is younger and sturdier, is able to earn somewhat more. However, feeding a family of seven – including his four grandchildren – is a struggle. Fortunately, Risala owns some buffaloes, and milk sales have helped supplement the family's income. In addition, Risala's daughter-in-law and grand-daughter occasionally take up casual work as agricultural labourers.

Risala recounts that a couple of years ago, his house was razed to the ground in a fire that started from a *chullah* in the neighbourhood. "My grandson, who was in the 6th standard, could not be persuaded to go to school for several months, as his books and bag had been destroyed in the fire. I received a total of Rs.300 by way of compensation for all the loss I had suffered." On another occasion, some block officials promised Risala a loan and some land on the condition that his daughter-in-law underwent sterilisation. "She was sterilised a year ago, but I have neither seen nor heard of those officials since."

SOURCE: SRUTI, Overview of Artisans; New Delhi; 1987; mimeo

timber for building boats and ships. In India, the woods generally used for this purpose are *babul (acacia arabica)*, especially in north and west India, the *artocarpus* species and benteak *(lagerstremia lanceolata)* in the South, and *sundri (heritiera minor)* in the East. Different qualities of wood are used for the various parts of a cart, since each part is subjected to different levels of strain. *Chuglam (terminalia bialata)*, *jaman (eugenia jambolana)* and *shisham* are popularly used for the framework; *babul (acacia arabica)*, *khair (acacia catechu)* and *nageswary (mesua ferea)* for the hub of the wheel; and *dalbergia sissoo* and *sal (shorea robusta)* for the spokes. The species used for construction work include *toon (cedrela toona)*, *haldu (adina cordifolia)*, *chir (pinus longifolia)*, mango *(mangifera indica)*, *deodar (cedrus deodara)* and himalayan silverfir *(abies pindrow)*. Decorative items and furniture require wood that has a good grain and colour. Furthermore, the wood should not have a tendency to crack or split, must be easy to work with and be able to retain shapes. Some of the woods that possess these qualities are: rosewood *(dalbergia latifolia)*, walnut *(juglans regia)*, mahogany *(swietenia macrophylla)* and teak *(tectona grandis)*. A number of timbers are used to make cheap, utility furniture in India, such as mulberry *(morus species)*, jack *(artocarpus integrifolia)* and *kail (pinus excelsa)*.[10]

There is a fair amount of literature on the magnitude, causes and implications of deforestation, which need not be repeated here.[11] Suffice it to say that wood workers across the country complain of scarcity, erratic availability and high wood prices. This was confirmed not only by the SRUTI survey, but by other studies as well.[12] Deforestation, according to some of these studies, has not only made wood scarce, but extremely expensive. The high price of wood has been responsible for pushing a large number of wood workers interviewed by SRUTI into job work.

Box 8

WOOD ARTWARES: CENTRES OF SPECIALISATION

ANDHRA PRADESH
- Carved chairs, mirror frames, idols of Bhongir and Madhavmala
- Wooden cutlery of Udayagiri
- Painted trinket boxes and toys of Nirmal, Kondapalli, Ettikoppaka, Tirupati

ASSAM
- Painted boxes, pedestals and stools of Golaghat
- Carved *sinhasanas* (thrones) for prayer houses

GUJARAT
- Lacquer work cradles, toys, sofa sets and kitchen utensils of Sankheda, Dhoraji, Mahuva, Junagadh and Kutch
- Printing blocks of Pethapur
- Engraved and inlay work sandalwood and teak boxes of Surat
- *Sadeli* (marquetry caskets) of Surat
- *Pataras* (chests) of Bhavnagar, Rajkot and Mahuva

HIMACHAL PRADESH
- Carved doors, windows and panels of Kangra

JAMMU & KASHMIR
- Carved walnut wood utility and decorative items such as bowls, trays, jewellery boxes, lamps, screens, tables, cupboards
- Lacquered bedsteads and small stools of Akhnoor, Udhampur, Nagrota

KARNATAKA
- Carved figures of Kunta
- Carved rosewood animals, especially elephants, of Mysore
- Lacquered toys, dolls, sports goods of Channapatna
- Ivory inlay panels, peg tables, plates, boxes and bowls of Mysore

KERALA
- Ebony, rosewood and sandalwood figures of Trivandrum, Trichur, Ernakulam and Cochin

MADHYA PRADESH
- Carved wall panels, boxes and furniture of Indore, Aliraipur, Bhopal, Ujjain and Ratlam
- Colored lacquerware toys, chairs and table lamps of Sheopur, Rewa, Bundi, Ratlam, Sabalgarh, Bhopal and Gwalior

MAHARASHTRA
- Lacquered imitation fruits and vegetables of Sawantwadi
- Musical instruments of Miraj

ORISSA
- Wooden masks and *raths* (temple chariots) of Puri
- Wooden toys of Baragarh

PUNJAB
- Lacquerware *pidhas* (stools) and *surahis* (pitchers) of Jalandhar and Hoshiarpur

RAJASTHAN
- Lacquerware toys and bedposts, of Sawai Madhopur, Udaipur, Jodhpur and Khandela
- *Ghanghors* (carved figures), *kavadhs* (wooden shrines), *chowkies* (lacquered stools) of Bassi
- Wooden boods of Pipar and Bhari Sajanpur

TRIPURA
- Carved plaques, tribal and animal figures

UTTAR PRADESH
- Screens, folding tables, trays, bowls and jewellery boxes of Saharanpur
- Lacquered toys and miniature kitchen utensils of Amroha and Varanasi
- Printing blocks of Farukkabad

SOURCE: Compiled from Saraf, D.N; Indian Crafts, Development and Potential; Vikas Publishing House; New Delhi, 1982

In Alibag (Raigad District, Maharashtra), the price of average quality wood was Rs.300 per cu ft. at the time of the survey. This, complained the wood workers, was very high, resulting in a decline in the demand for their products. Here, traditional items such as bullock carts were no longer being made, and the demand for furniture was negligible. Fortunately, house construction and the demand for ploughs helped sustain these wood workers. Wood workers in Mhow, (Indore District, Madhya Pradesh), reported that they were facing acute difficulty in procuring wood on account of the massive deforestation that had taken place in Malwa and Nimar. A large number of them had taken to blacksmithy to offset the resultant loss of income. In Shirahatti, (Dharwad District, Karnataka), the price of wood ranged between Rs.30-80 per cubic foot. Some carpenters there had started making picture frames, because the wooden strips for these were cheaper and easier to come by.

The *Khairaties* are a community of traditional wood workers in Sawai Madhopur in Rajasthan, who specialise in making wooden toys. At one time, *kadam* and *khinni, the* two varieties of wood most suited for this craft, were available in abundance all around Sawai Madhopur. Permits were issued per donkey load of between 120 to 150 kgs. Cartage cost between Rs.3 to Rs.5 per 50 kgs of wood. When the surrounding forest area was converted into a game sanctuary, a ban was put on the extraction of wood from this area, about 20 years ago. As a result, the cost of raw material shot up at all levels. The artisans began procuring the raw material from Bothal, a forest area about 12 kms away. Permits were issued at the rate of Rs.1.75 per head load of about 40 kgs of wood. The cartage charges were Rs.22 per head load. This steep increase in the price of raw material upset the entire economics of the craft. The artisans even bought firewood at exorbitant rates, in the hope of salvaging some of it for making toys. As this wood was unseasoned, it often cracked during production, resulting in poor finish. Curiously, the Industries Department tried to push loans for buying turning machines, to enhance output. In the absence of a balancing supply of raw materials, however, the machines could only become liabilities.[13]

TECHNOLOGY

Joinery, lathing, fretting, carving and inlay work are some of the techniques used in wood-work. Joinery is essential for piecing together individual parts of structural wood forms such as door and window frames, lintels and shafts. It is also used in the manufacture of wooden furniture and smaller items such as boxes and chests. Lathing is used for contouring objects such as bedsteads, churners, rolling pins, kitchen implements and folk toys. Inlaying, fretting, veneering and applique are some of the techniques used to ornament wooden articles.[14]

The traditional tools used by village wood workers are simple, and can be categorised as follows: measuring and marking tools; percussion tools; impelling tools and auxiliary tools. Box G For

Box F

WOOD ARTWARES OF SAHARANPUR

Artistic woodwork began as a temple and palace craft, and flourished alongside sculpture and architecture. But with the passage of time, it underwent changes both in content and style. Today, the craft finds expression mainly in functional articles like furniture, boxes, screens, lamp stands, cigarette and jewellery boxes.

While pockets of artisans producing wood artwares are scattered throughout the country, Saharanpur in Uttar Pradesh is the principal production and exporting centre for wood artwares and decorative furniture. The origin of this craft can be traced back to a family of artisans who migrated to Saharanpur from Multan in the nineteenth century. At that time, only utilitarian items like carved spoons and knives were made. But the import of cutlery in the second half of the nineteenth century almost wiped out the demand for wooden cutlery. In order to survive, the artisans started producing artistic goods like jewellery and cigar boxes, wall brackets, and picture and mirror frames.

The market is controlled by intermediaries. Work is never available throughout the year, partly as a result of fluctuations in the export market. The production process involves a number of interrelated skills like turning, carving, inlaying, assembling and finishing, giving rise to a complex chain of raw material merchants, artisans, money lenders and intermediaries. This inadvertently leads to an exchange of money and material. A trader places an order for a product with an artisan, and makes an advance payment in relation to the cost involved. Depending on the nature of the product, the artisan could further distribute the order to other artisans with different skills, and retrieve the different components to finish and assemble them into a final product. In this chain of production, the need for monetary advances arises at all levels. This is where the crunch comes.[1]

Given that the artisans are rarely equipped with sufficient funds or raw materials, production could freeze at any and every stage. Intermediaries rarely advance any money unless they are under pressure from another agency. The resultant blockage of money and material compels the artisans to take loans from money lenders. While loans and credit facilities from banks are available, these are extended only to those who have guarantors. But the artisans' own relatives and friends generally refuse to stand guarantee for them.[2]

Access to seasoned wood is another acute problem. Artisans cannot season their own wood, as it is a specialised activity. Even if they did, it would take one year, and in their circumstances, blocking capital for a year is unthinkable. A seasoning plant is operated by the government in Saharanpur. But given its limited production capacity, it is unable to fulfill the artisans' raw material requirements.[3]

An interesting situation has developed amongst a few artisans who have been taking part in the Bazaars sponsored by the All India Handicrafts Board. With all their expenses subsidised, and marketing facilities provided free of cost, they have been selling at a very high rate of profit. As a marketing strategy, this has been quite irrational. Not even the most perfect market would allow for such high profit margins for the producer. These artisans have begun delinking themselves from their local and traditional market, refusing to supply a product which fetches them Rs.5 in Saharanpur, when it could fetch them Rs.10 or more in a Bazaar. They have been freezing their cash liquidity, as, in the anticipation of the next such Bazaar, they stock up raw material and finished products. This also means that they are in debt to whatever degree.[4]

some years now, hand-powered, wood-turning lathes and treadle-operated grindstones have been in use in the rural areas. "I use the same tools my father used", said Lalubhai Sanjabhai Katara of Godhdhra village, in Sabarkantha district of Gujarat. He said he had no knowledge of the new tools now available to carpenters. But not all are like Lalubhai. In a village in Indore district of Madhya Pradesh, a carpenter said he would like to use a motorised saw. But his meagre earnings made it almost impossible to buy new or mechanised tools; the declining demand for his products also made it unprofitable for him to invest in new tools. Another carpenter in Alibag district of Maharashtra was pursuing a KVIC loan of Rs.30,000 for a motorised saw. This, he felt, would help him save expenditure on wood planks which are more expensive than logs.[15] A study in Yavatmal district of Maharashtra revealed that carpenters who produced agricultural tools rarely earned enough to buy adequate raw materials and traditional implements, leave alone make use of superior technology. As a result, most rural carpenters continued to use traditional tools and though there may have been some innovations, modernisation was virtually unheard of.[16] In urban areas, some artisans making furniture, or working with building contractors and in furniture factories, have started using electric saws and drills. But many furniture shop owners in Delhi felt that Indian carpenters are so skilled, they do not need modern technology. Despite their traditional tools, their products are exceptional, which is why they are valued overseas.

According to Andrew Pyne, a volunteer furniture designer attached to four different training, design and production schools administered by the Church of South India, "furniture making in India has not developed". One of the schools he visited was the Katpadi Industrial Institute in Tamil Nadu. Carpentry is the main trade taught by this institute and it trains poor village boys to carve and make furniture. "But," observed Mr. Pyne, "furniture-making has become a fairly neglected and low status occupation". This, he said, was reflected in the restricted scope and variety of training courses that are available, their low entry requirements, the level of course work, and career prospects. The tools, equipment and general facilities in these carpentry schools reflect their sad condition. According to Mr. Pyne, the quality of carpentry tools manufactured in India is, by and large, poor. There are a only a few Indian manufacturers producing carpentry tools of a consistently high quality.[17]

The Tamil Nadu Christian Council Economic Life Committee's Appropriate Technology Centre in Madras, has been doing some work on pedal power. By bolting a special attachment to the standard bicycle, it can be used to power a lathe or circular saw. These machines have been designed not as substitutes for electric machines, but for use in areas where there is no power, or when there is a power failure. For the last many years, perhaps due to a paucity of funds, rural wood workers have started making their own tools, putting cheap and locally available materials to innovative use. For example, truck springs are being made into chisels, and old power saw blades are being used as cutting irons in wooden planes. As a result of this, variations of the same tool are found in different parts of the country. Some variations, have, however, existed from before. In the North, for instance, hand saws cut on the pull-stroke, whereas in the South they cut on the push-stroke. In Kerala, wood workers prefer to sharpen their chisels on both sides, while in other parts of the country, the blades are sharpened only on one side.

ORGANISATION OF PRODUCTION & MARKETS

Box G

TOOLS & TACKLES

The tools most commonly used by wood workers are as follows:

MEASURING & MARKING TOOLS:
Scribe awl, line marking cord, compass, square and stencil.

PERCUSSION TOOLS:
Axe, adze, chisel, plane, handsaw, drill.

IMPELLING TOOLS:
Hammer, iron bar, punch.

AUXILIARY TOOLS & ACCESSORIES:
Files and rasps, whetstone, sawbuck, screw clamp, pincers, wooden board, mitre block, turning wheel.

SOURCE: Fischer, F. & Shah, H.; Rural Craftsmen and their Work; NID; Ahmedabad; 1970, pp. 72-73

Of wood workers it is said "Look at his stock of wood, and you will see who is the richest".[18] Only prosperous wood workers can afford to buy and stock raw materials. Today, the village wood worker rarely buys wood and other raw materials, as these are supplied by the customer. In most cases, therefore, the wood workers' income consists of a service charge for products that are custom-made in response to specific orders placed by individual customers. Today, wood workers function at one or more of three levels: as self-employed artisans who manufacture and sell their own products; as independent artisans who hire out their skills and services, either on piece or daily rates; or as wage earners attached to a factory, workshop or other establishment. The terms on which their services are engaged vary in different parts of the country. Certain generalisations can, nevertheless, be made about the arrangements under which they work:

- In the first arrangement, wood workers charge a daily rate. This arrangement is generally entered into when work is to be done in the house of a customer, such as repair of furniture, or installation of shelves and other wooden fixtures.
- In a variation of the above arrangement, the artisans work only against orders, and charge a lumpsum for executing the same. Cash is paid upon completion of the job or delivery of the article. Materials are generally supplied by the customer; at times they are also bought by the wood worker against cash advances paid by the customer. Under this arrangement, the artisans either work at their own premises, or in those of the customer. Approximately three-fourths of the wood workers interviewed by the SRUTI research team produced items only against orders. This strategy helped to shift the onus of procuring raw materials to the consumer. It also reduced the risk of maintaining a workshed and being saddled with other fixed costs in a situation of uncertain demand. As a result of the above, a very small percentage (15 per cent) of the wood workers interviewed complained of difficulties in procuring wood.
- In instances where they have been able to mobilise the necessary capital, wood workers assume the role of entrepreneurs, hire labour, and set up shop, so to speak. They no longer sell their labour, but their own products.
- Some wood workers are mere wage earners: under this arrangement, they are generally attached to a furniture shop, co-operative, factory or workshop. This kind of arrangement is widely prevalent in the manufacture of art woodwares for the export market, where the master-craftsperson assumes the role of an entrepreneur.
- In certain areas, traces of the *jajmani* system are still found. The *balutedari* system in Maharashtra is one such example. In parts of Gujarat, wood workers have customers – normally farmers – whose implements or *'sathi'* they repair and maintain throughout the year. In return for these services, they receive *'hath'* or payment in grain. The repair and maintenance of bullock carts, utensils and other articles are not included in the *'sathi'* arrangement, and must be paid for separately in cash or kind.[19] 15 per cent of the wood workers interviewed by SRUTI reported that they still functioned under the *jajmani* system.

Box H

FURNITURE ARTISANS OF KARTARPUR

Kartarpur, a small town near Jalandhar in Punjab, is renowned for its beautiful wooden furniture. Till the late fifties, it had a monopoly over the furniture market, not only in Punjab, but all over north India.

The *Tarkhans*, by virtue of their superior skills and intimate knowledge about the qualities of wood, virtually monopolised the furniture trade. However, rising unemployment in the late fifties forced people from other castes to take up carpentry, thereby diluting the *Tarkhans'* hold over the trade. Today only four of the 150 *Tarkhan* families own workshops. The rest are either employed in workshops on daily wages, or have shifted to other jobs. A few artisans, like Sukhdev Singh, have been working on piece rates for several years. Sukhdev's two sons, however, have taken up other jobs: one works in a general store and the other is a motor mechanic. Depending on their skills, most daily wage artisans earn between Rs.20 and Rs.40 a day.

The furniture of Kartarpur was famous for its carving. Some carving continues to be done, but only in big establishments, and by artisans who have been trained at the State Training Centre in Kartarpur. Most of the artisans, however, produce simple items like chairs, tables and cots.

Today, the furniture trade is controlled by the *Banyas*, who began making their presence felt in the thirties. Ramgarhia Furniture Factory, one of the oldest and biggest furniture producers in Kartarpur, was established in 1900. Aggarwal Furniture House was established in 1932. The Aggarwal family today owns six modern showrooms in Kartarpur.

Karnail Singh, who owns a small workshop, says that escalating wood prices and competition in the market prompted many *Tarkhans* to leave the trade, which is no longer viable at low levels of investment. All his three sons have already switched over to different professions, despite the fact that his family has been engaged in this trade for three generations. Karnail Singh employs two daily wage artisans, who are paid Rs.30 per day. Besides supplying his products to showrooms, he sells his products directly to customers.

Arjun Singh, along with his father and younger brother, runs his own workshop. He said that till a few years ago, he alone used to earn so much from his work that monthly saving was routine. But today their combined income is inadequate to feed their family. Arjun Singh also mentioned that a large number of artisans are migrating to Dubai and Muscat in search of more lucrative jobs.

The general perception among the artisans is that the government is not interested in assisting them. Some of them are keen to take loans to re-establish their business, but such loans are not easily available. Until the sixties, the products of Kartarpur were exported to Europe, especially Britain. Subsequently, however, the market outside Punjab started declining. Modern furniture workshops sprang up everywhere, catering to local demand. But in north Punjab, Kartarpur still corners a large share of the furniture market: frequent truck and tractor loads can be seen leaving Kartarpur everyday.

SOURCE: SRUTI Field survey

Wood workers supply both goods and services. The demand for their goods and services comes from different consumer segments, such as the individual farmer, *jajmani*, furniture workshop or building contractor. Traditionally, the wood worker looked after certain essential needs of the village community by fabricating:

- bullock carts and other means of transportation
- buckets and water wheels used for irrigation
- farm tools and equipment required by other artisans
- farm structures, fences and houses
- domestic and kitchen utensils, vessels and containers
- beds, chairs, and other items of furniture

The demand for traditional products such as bullock carts, wooden fencing, handmade agricultural implements and domestic utility items has diminished. The income of the village wood worker has decreased because the wooden wheels used in bullock carts have been replaced by tyres; agricultural implements are produced in the organised sector; and pump sets have replaced traditional irrigation systems. Most of the current demand for wood work emanates from the furniture, construction (residential and industrial) and packaging industries. The majority of wood workers in the SRUTI survey were found to be engaged in the manufacture of furniture.[Box 1] Carpenters are also in demand for construction work in the Gulf countries. The demand for wooden artwares is confined to the export market, and a small segment of urban consumers.

III INTERVENTIONS

Carpentry is one of the many trades that comes within the purview of the KVIC. Its main contribution has been in the form of schemes for financial assistance to individuals and institutions for establishing home production units or workshops. According to KVIC data,[20] a total of 1.62 lakh carpentry and blacksmithy units were assisted in the financial year 1990-91. The quantum of assistance disbursed to them by KVIC in that year was Rs.1443.42 lakhs, of which Rs.61.46 lakhs was given in the form of grants, and the rest as loans. The per capita output of these units was Rs.10,289, and the per capita earnings Rs.3529 per annum.

Nowhere in the Report of the Khadi and Village Industries Review Committee is there any mention of efforts to improve the tools or upgrade the technologies of the village carpenter. In the absence of adequate data, it is not possible to comment on the promotional role of the KVIC in upgrading the technology of wood workers. Some effort at organising carpenters into co-operatives has been made by the KVIC: in 1984-85 a total of 2243 registered blacksmithy and carpentry co-operatives were in existence, with 1199 of them having received financial assistance from the KVIC.[21] A study of 22 such societies, however, seems to suggest that their role has been limited. Though admittedly outdated, the study points out that the state boards of the KVIC were bureaucratic in approach and insensitive to the needs of the artisans. As a result, the assistance given by the State Boards to these societies was neither timely nor adequate. Most of the societies regarded the artisans as wage earners, and failed to form them into viable groups that could function collectively. This finding applied not just to wood workers, but to artisans in all trades covered by the KVIC.[22]

The KVIC has one training centre for carpenters and blacksmiths in Coimbatore, with an intake capacity of 10 trainees per course. However, according to one report,[23] not a single trainee availed of this facility between the beginning of the 5th and end of the 6th Plan. Carpentry is also covered under TRYSEM. The training provided under this scheme is not really intended to help traditional artisans, but more to generate self-employment. The ITI's offer courses in carpentry, but the eligibility criteria place the courses beyond the reach of most traditional artisans, since they rarely possess the requisite educational qualifications.

Artistic woodwork and carving comes under the purview of the Office of the Development Commissioner, Handicrafts (DC, Handicrafts). As part of its promotional strategy, the DC, Handicrafts sponsors training programmes for wood workers through three of its own centres. In addition, under the Apprenticeship Training Scheme, stipends are provided to wood workers to undergo training at one of 64 centres, under the

guidance of a mastercraftsman. The outlay for training schemes for wood work in the VIIth Plan was Rs.25 lakhs.

The main thrust of NGO interventions, as for example, those of VIKALP in Saharanpur (Uttar Pradesh) and HSWRC, Khori, (Haryana), has been towards provision of raw materials, finance, new designs and marketing outlets. Once again, given a paucity of data, it is not possible to comment on the extent and impact of NGO interventions.

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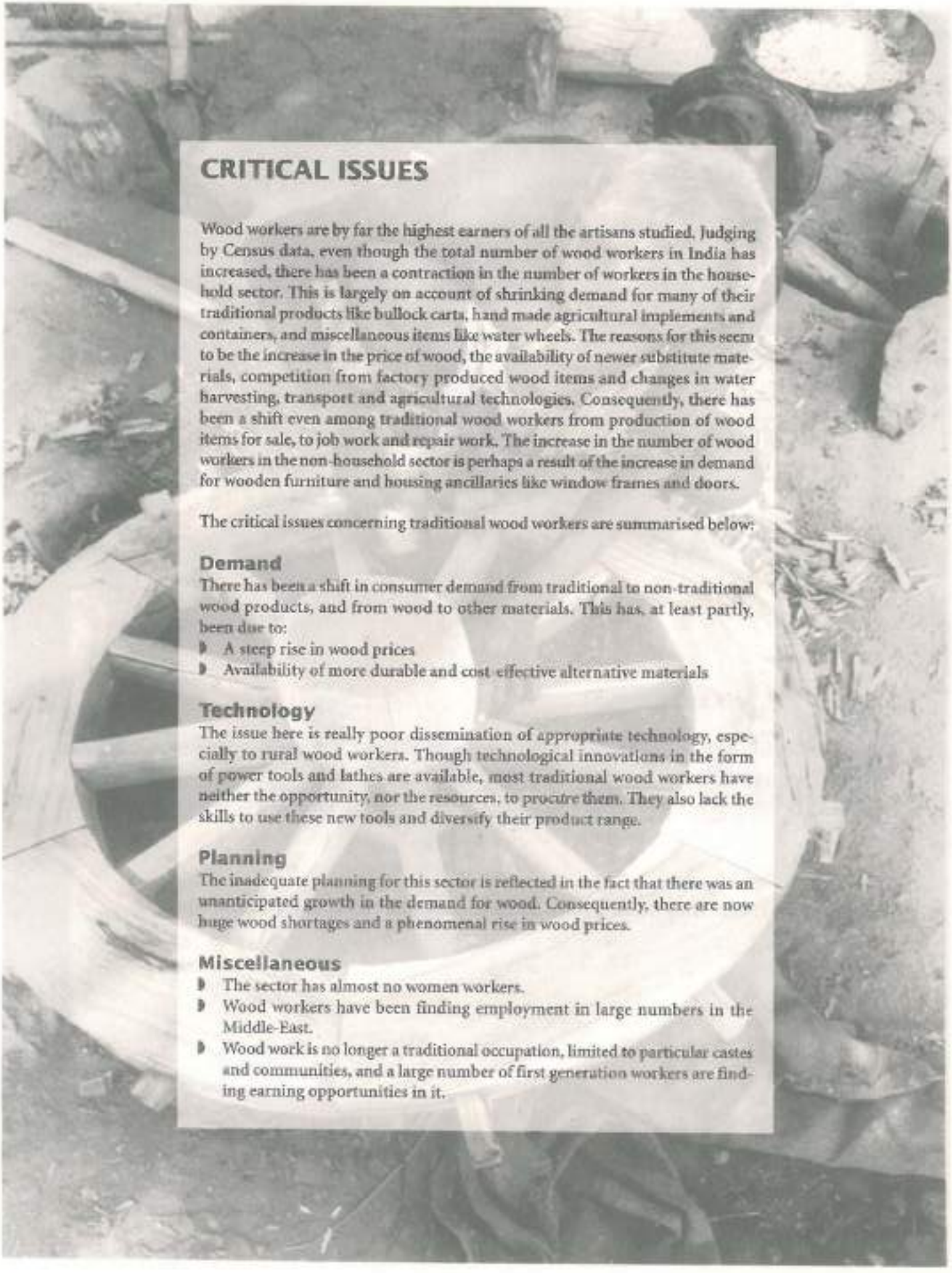

CRITICAL ISSUES

Wood workers are by far the highest earners of all the artisans studied. Judging by Census data, even though the total number of wood workers in India has increased, there has been a contraction in the number of workers in the household sector. This is largely on account of shrinking demand for many of their traditional products like bullock carts, hand made agricultural implements and containers, and miscellaneous items like water wheels. The reasons for this seem to be the increase in the price of wood, the availability of newer substitute materials, competition from factory produced wood items and changes in water harvesting, transport and agricultural technologies. Consequently, there has been a shift even among traditional wood workers from production of wood items for sale, to job work and repair work. The increase in the number of wood workers in the non-household sector is perhaps a result of the increase in demand for wooden furniture and housing ancillaries like window frames and doors.

The critical issues concerning traditional wood workers are summarised below:

Demand

There has been a shift in consumer demand from traditional to non-traditional wood products, and from wood to other materials. This has, at least partly, been due to:

- A steep rise in wood prices
- Availability of more durable and cost effective alternative materials

Technology

The issue here is really poor dissemination of appropriate technology, especially to rural wood workers. Though technological innovations in the form of power tools and lathes are available, most traditional wood workers have neither the opportunity, nor the resources, to procure them. They also lack the skills to use these new tools and diversify their product range.

Planning

The inadequate planning for this sector is reflected in the fact that there was an unanticipated growth in the demand for wood. Consequently, there are now huge wood shortages and a phenomenal rise in wood prices.

Miscellaneous

- The sector has almost no women workers.
- Wood workers have been finding employment in large numbers in the Middle-East.
- Wood work is no longer a traditional occupation, limited to particular castes and communities, and a large number of first generation workers are finding earning opportunities in it.

Section II

7

Bansphor

Artisans who make products from cane, bamboo and natural fibres

Cane & Bamboo Workers

This section covers artisans working with cane, bamboo and natural fibres. According to the 1981 Census, there were 8.2 lakh cane, bamboo and fibre workers, making them the third-largest group of artisans in the country. A large proportion of these workers belong to the scheduled tribes or scheduled castes.

In economic terms, cane, bamboo and fibre artisans appear to be much worse off than most other artisans. There is a market for their products, which, by and large, have been able to withstand competition from nylons and synthetics. However, competition from industry for the raw material has invariably led to highly exploitative trading systems, which have put this group of artisans at a great disadvantage.

Technological upgradation in the sphere of cane, bamboo and fibre work has been virtually non-existent, though there is tremendous potential for it, especially in rope-making. The potential has been demonstrated in isolated cases, but has not been adequately disseminated.

In most parts of India, cane, bamboo and fibre work is a commercial activity. However, the North-East is a major exception. Here, cane, bamboo and fibre products are made by practically all households for their own consumption.

I THE ARTISANS

HISTORY

In the *Puranas*, King Vena is referred to as the first among the forest dwellers' tribes from whom the bamboo workers descended.[1] According to another source, the *venas*, like the *rathakaras* (or chariotmakers), were aborigines, who specialised in making baskets and flutes from willows, bamboos and reeds. Members of the *vena* caste (also referred to as *veina, venukara* or *velukara*) also played the drums. The *Mahabharata* mentions a caste of bamboo workers known as the *pandusaupaka*. References to *varuda* (bamboo worker), *bidalakara* (splitter of bamboo and wicker worker) and rope makers are found in *Vedic* texts, indicating the existence of cane, bamboo and fibre workers in ancient India.[2]

Historically, cane and bamboo artisans were a part of the *jajmani* system, wherever it existed. In western India, for instance, the *balutedari* system (See p.5) assured them a steady supply of raw material from the peasants and the forests, and also of payment in kind (usually grain), in return for their products. The products they made were used in the home and for storing or transporting agricultural produce.

Land relations changed over time, and as monetisation of the economy spread, the *jajmani* system began to disintegrate. The commercial sale of bamboo and other forest produce commenced during British rule, depriving the artisans of their traditional rights to forest produce. In course of time, traders emerged on the scene, and began selling cane, bamboo and fibre products in urban areas. They also began tightening their control over the artisans, essentially by advancing cash for raw material purchases. Indebted to them, the artisans were neither in a position to demand higher prices, nor to sell elsewhere.

POPULATION ESTIMATES

The estimates discussed below are derived from the Census of India, 1961 and 1981. Although this section deals with cane, bamboo and fibre workers, it must be clarified that the Census classification for 1961 uses the term "basketry weavers", and that of 1981 "basketry weavers and brush makers". The ensuing analysis has been done on the basis of the Census groupings.[Box A]

- **Total population:**
  The total number of cane, bamboo and basket weavers in 1981 was 8.2 lakhs.
- **Share of household vs. non-household sector:**
  Of the above, 6.7 lakh artisans (81.5 per cent) were in the household sector.
- **Rural-urban mix:**
  Of the total population of cane, bamboo and basket workers in 1981, 6.9 lakhs (83.4 per cent) were located in rural areas. In the case of the household sector, 85.8 per cent of the artisans were concentrated in rural areas. In other words, more so than other trades, cane and bamboo work is a predominantly rural activity.
- **Gender mix:**
  The share of female artisans in this trade as a whole was high: 43 per cent. Their share in the household sector was marginally higher, i.e, 44.4 per cent.
- **Intercensal shifts:**
  Unlike other trades, where the growth of the non-household sector offset, to some extent, the decline of the household sector, there was a net decline in the number of cane, bamboo and basket workers, from 9.3 lakhs in 1961, to 8.2 lakhs in 1981. While the household sector dwindled from 8.8 lakhs to 6.7 lakhs in the same period, there was an addition of more

Box A

POPULATION OF CANE, BAMBOO & FIBRE WORKERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families', on the basis of their occupations. Each family bears a code number, indicated in the table below. There is one such family (referred to as 'Basketry weavers and related workers in the 1961 Census, and as 'Basketry weavers & brush makers' in the 1981 Census), that best corresponds to the category of cane, bamboo and fibre workers addressed by this report.

CATEGORY OF CANE & BAMBOO WORKERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Basketry weavers	1961	8,83,652	3,99,824 (45)	4,83,828 (55)	1,08,163 (12)	HH	850
		47,350	26,140 (55)	21,210 (45)	15,142 (32)	NH	
	1981	6,71,430	3,73,459 (56)	2,97,971 (44)	95,473 (14)	HH	942
		1,52,528	95,675 (63)	56,853 (37)	41,465 (27)	NH	
% Change between 1961-81		-24	-7	-38	-12	HH	
		+222	+266	+168	+174	NH	
G.TOTAL	1961	9,31,002	4,25,964 (46)	5,05,038 (54)	1,23,305 (13)		
	1981	8,23,958	4,69,134 (57)	3,54,824 (43)	1,36,938 (17)		
% Change between 1961-81		-11	+10	-30	+11		

NOTES
- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

than one lakh workers to the non-household sector. The number of female artisans plummeted from 5.05 lakhs in 1961 to 3.5 lakhs in 1981. The decline in the number of male artisans, by comparison, was negligible. As a result, the relative share of females went down from almost 60 per cent in 1961, to 43 per cent in 1981.

SOCIAL & ECONOMIC ASPECTS

A total of 55 cane, bamboo and fibre workers were interviewed by the SRUTI research team. They accounted for approximately 12 per cent of the total sample. The number of respondents was highest in Vyara block (Surat District, Gujarat), an agriculturally advanced and forested area. There were 12 female respondents in the sample.

Social Aspects

In the North-East, a number of items of everyday use are made from cane and bamboo. As a result, there is no separate occupational group making these products. Most people make and use cane and bamboo products in their own homes, and there is only a small class of professional craftspersons, mainly in Assam, for whom this is a commercial activity. The social situation of cane and bamboo workers in other parts of the country, especially in non-tribal areas where social systems are more stratified, is different. Whether they be the *Doms* of Bihar, or the *Mahars* of Maharashtra, they are invariably at the bottom of the social hierarchy. Other scheduled castes observe strict taboos while interacting with them. In some parts of Maharashtra, for instance, the *Mahars* live apart from the rest of the village. Considered untouchables, they are not permitted to draw water from the common wells. Some cane and bamboo workers have even sought upward social mobility by taking up flaying, in place of flayers who have moved out of this activity due to the social stigma attached to it !

The SRUTI survey revealed that as with pottery, metal work and leather work, the proportion of traditional artisans involved in cane, bamboo and fibre work is high: only 6 out of a sample of 55 workers interviewed were first generation artisans. The communities to which the traditional artisans belonged were as follows: *Kolwaria, Waghri* (Vyara), *Burud, Maratha, Chankshi, Patil* (Alibag), *Basod* (Mhow), *Mahali* (Nimdih), *Bhajantri* (Shirahatti), *Erukala* and *Medari* (Hyethnagar).

In almost all the areas surveyed by the SRUTI researchers, both men and women were found to participate in cane, bamboo and fibre work. Alibag block in Maharashtra was one exception, where all the artisans in the sample wove mats from coconut leaves on piece-rates, and happened to be old women. While, by and large, there was no distinct division of labour, in some households men assumed the responsibility of procuring the raw materials and selling the products, while the women prepared the raw materials and made the final products. In Hyethnagar block in Andhra Pradesh, many of the men in the artisanal households supplemented their incomes by shaving palm trees, a process which enables toddy tappers to climb them.

Box 8

CANE, BAMBOO & FIBRE PRODUCT RANGE

ASSAM
- Sieves *(chalanis)*; winnowing fans *(kula)*; small baskets *(khoruhi)*; fishing traps; bamboo walking sticks; bows and arrows; hats *(japis)*; mats *(sitalpati)* made from *patidan* or *mohtra* reeds; house construction and fencing

BIHAR
- *Sikki* grass (a stemmed grass found in the wetlands) baskets, boxes and toys; bamboo baskets; handbags and lampshades; tapper (fibre removed from sunhemp) bags and mats.

HARYANA
- *Sarkanda* (grass with golden, bamboo-like stems) stools *(moorahs)* and chairs; raffia mats.

HIMACHAL PRADESH
- Bamboo and wicker bowls, trays and baskets; load carrying baskets *(kiltas)*; straw shoes *(pullas)*

JAMMU & KASHMIR
- Wicker baskets, picnic and tiffin boxes; coal carrying baskets to keep the body warm *(kangris)*; wheat straw mats and baskets, maize straw pouffes *(bimas)*; palm leaf mats, baskets and fans

KARNATAKA
- *Kora* grass mats

KERALA
- Extra fine *kora* grass mats; screwpine sitting mats *(thadukus)*; bamboo reed table mats; cane furniture; coir mats

MAHARASHTRA
- *Sisal* bags and mats

MANIPUR
- Bamboo baskets with domed lid and legs *(chengbon)*; double weave mats *(phak)*; reed mats and cushions *(koumaphak)*

MEGHALAYA
- Cane and bamboo baskets *(khok)*; mats, umbrellas *(kurup)*; pineapple fibre nets, bags and purses

NAGALAND
- Conical carrying baskets *(akhi)*; bamboo mats; shields and drinking cups *(chungas)*

ORISSA
- Lacquered bamboo boxes and mats; Reed *(kaincha)* baskets, bags, table mats, door and window screens; *sholapith* (derived from a porous water plant) statues, garlands, headgear

TAMIL NADU
- Palm leaf trays, flower baskets, folding fans; *kora* grass mats; cane furniture

UTTAR PRADESH
- *Moonj* grass baskets; cane baskets and furniture

W. BENGAL
- *Sholapith* garlands, fans, images of deities; cane and bamboo boxes *(pataras)*, oblong baskets *(jhampis)* and sieves *(culunis)*

SOURCE: Compiled from Saraf, D.N; Indian Crafts, Development and Potential; Vikas Publishing House; New Delhi; 1982; various pages

Economic Aspects

Despite the fact that 69 per cent of the workers interviewed by SRUTI were involved in their artisanal activity for more than 6 months in the year, their average annual income was a paltry Rs.2219. Their ownership of assets was also found to be negligible: the percentage of artisans who owned land, livestock and their own means of transport was 19, 29 and 31 per cent respectively, placing them last in the economic ladder in relation to other artisans surveyed by SRUTI. 44 per cent of the cane, bamboo and fibre workers interviewed reported annual household expenditures upto Rs.5000 and 38 per cent of them in the range of Rs.5000-10,000. Given their poor earnings, it is not surprising that 58 per cent of them had taken loans for some purpose or other. According to the SRUTI survey, cane, bamboo and fibre workers effected sales of around Rs.3444 p.a. Raw materials accounted for around 24 per cent of the total sales value. The average value added by each of these workers was approximately Rs.2446 p.a.

A study carried out in Solapur District (Maharashtra) in 1982 revealed that the average income of artisans who made ropes from sisal fibre was Rs.5256 p.a. About 71 per cent of this income was derived from rope making, their traditional activity, and the rest from supplementary activities such as agricultural labour, animal husbandry and poultry. Many of the artisans in the study sample were using improved equipment, and had availed of institutional finance through co-operative societies. However, a comparison of five households that recorded the highest incomes with the five that recorded the lowest incomes revealed no correlation between income levels on the one hand, and factors such as access to institutional finance or use of improved equipment, on the other. The crucial determinant of incomes, according to the study, was the volume of production. Whereas the poorest households produced an average of only 8.6 quintals of rope and similar products per annum, the ones with the highest incomes produced an average of 27 quintals per annum. The disparity in volume of output was related more to the relative access that the two groups of artisans had to a regular supply of raw material, as well as the financial capacity to purchase it in the desired quantity.[3]

II THEIR WORK

PRODUCTS & RAW MATERIALS

Most cane, bamboo and fibre products are utilitarian. Baskets are

Box C

COIR PRODUCTS

The manufacture of coir and coir products is a cottage industry, providing employment to 4.91 lakh persons. Women constitute 82 per cent of this work-force.[1] Around 78 per cent of the coir workers are located in Kerala, which accounts for 80 per cent of the coir production in India. The unique feature of Kerala's coir is that it is naturally white, and can be easily dyed into any hue. Its white appearance is the result of a natural reaction that takes place when the coconut husks are retted for prolonged periods in Kerala's backwaters, which have peculiar chemical properties. Coir is also produced in Tamil Nadu, Karnataka, Andhra Pradesh, Orissa and West Bengal.

The process of manufacturing coir yarn and yarn products is essentially manual, and calls for considerable physical stamina. Initially, coconut husks are allowed to soak in water for upto 9 months. They are then beaten with wooden mallets to remove the coconut's outer skins and fibres. Next, the fibres are collected, spun into yarn, and wound onto an octagonal wheel. This is done exclusively by women, in their own homes, on a piece-rate basis. Weaving the yarn into various products is generally done by the men on looms owned by small manufacturing units.

The coir industry was once concentrated entirely in large manufacturing units. But, the frequent strikes and unionised activity of the coir workers eventually forced the closure of factories. The unions succeeded in obtaining worker's benefits and better wages that made labour costs spiral upwards and curb the profit margins of traders. Hence, capital was withdrawn from the production process and restricted to trading. As a result, today the coir industry operates almost entirely as a cottage industry.

A large proportion of coir (60 per cent) and coir products (75 per cent) is exported. However, coir exports seem to have stagnated at around 25,000 tonnes per year, and the growth in the domestic market has not been sufficient to offset the loss of the export market. The decline in exports has been attributed to an overall fall in demand for coir floor coverings overseas, on account of increasing competition from synthetic substitutes such as acrylic, nylon and polypropylene. The export of Indian coir yarn to the U.S. (used for making string to support hop plants) has declined not only due to a reduction in the acreage of hop cultivation, but also due to competition from Sri Lanka, which produces a superior hop yarn. In fact, by virtue of having mechanised its coir industry, Sri Lanka has emerged as a stiff rival to India in the world coir market.

Coir being an important contributor to export earnings, several promotional institutions have been set up for its development, including the Coir Board, Kerala State Coir Corporation, Kerala State Co-operative Coir Marketing Federation and Karnataka State Central Co-operative Production and Marketing Society. Even though co-operatives have been set up in the coir producing states, their coverage is limited. Many of the existing ones are dormant, and the majority of the coir workers continue to be controlled by the master traders. Workers can sell their products to the Coir Board, which makes purchases from private and co-operative organisations. However, since the Coir Board only accepts items on a consignment basis, artisans have to wait months before receiving payments for their products. This they can ill afford.

Mechanisation of the coir loom was first attempted in the 1920s by British entrepreneurs in India. As coir yarn is bulky, the loom developed by them was quite ineffective and they eventually abandoned their efforts. Since then, there have been very few attempts to upgrade coir production technology in India. Japan has developed improved technology for extracting and spinning coir yarn, while Germany has been successful in mechanising the loom for weaving coir products. These technologies have been widely adopted in Sri Lanka, giving it a considerable edge over India in the international market.

used for storing and transporting foodgrain, dung, stone, fruit, vegetable and fish. Ropes are used as harnesses and muzzles for animals, in water lifting devices, and in *charpois* (traditional cots). In certain parts of the country, especially the North-East, bamboo is also widely used in house construction. Other important products include winnows and brooms. Coir workers produce footmats, floormats, ropes, mattresses, and filters for edible-oil plants and air-conditioners.[Box B, C & D]

Cane, bamboo and assorted fibres are the principal raw materials used by this category of artisans. Cane belongs to the palm family, and is derived from the long trailing stems of climbing plants. Bamboo, on the other hand, belongs to the grass family, and is found in tropical regions. Fibres are of many kinds, and may be classified as follows:

- **Bast fibres:** jute *(corchorus)*, kenaf *(hibiscus cannabinus)*, ramie *(boehmeria nivea)* and hemp *(cannabis sativa)*
- **Leaf fibres:** *sisal (agave sisalana)*, bananas and screwpine *(genus pandanus)*
- **Grass fibres:** *moonj, bhabbar, sabai* and *kora* [4]

Apart from the above, another important fibre which is produced in India is coir, obtained from coconut husk.

A common problem which emerges from all the literature reviewed, is that of raw material shortages. The major cause for this is their diversion to the paper and other industries, which often procure the raw material from state governments at throw-away prices, much to the disadvantage of the artisans. In Bhandara and Chandrapur Districts of Maharashtra, for instance, the threat of being rendered jobless confronted over 70,000 *Burads*, who traditionally made mats and baskets from cane and bamboo. They previously used to cut bamboo freely from the forests, until the British government introduced a pass system and levied a fee for this privilege. In the 1960s, the government introduced a system of rationing 150 bamboos per month to each card holder, at Rs.90 per bundle. This was later hiked to Rs.175. Simultaneously, bamboo growing areas were being leased to paper mills, to enable them to extract the bamboos. The situation deteriorated on account of mismanagement of forest resources. Bamboo prices rose rapidly, and even areas not leased to the paper mills were being exploited by contractors for extracting bamboo, thereby creating shortfalls in the quotas for bamboo workers. Ultimately, the supply to bamboo workers from forest depots ceased altogether. On March 15, 1982, the *Burads* around the Kohmara depot began a relay fast to press for a resumption in the supply of bamboo. The agitation carried on for days and snowballed into a '*bamboo-roko*' and '*rasta-roko*' movement. Several *Burads* were *lathicharged* and arrested in the process. Finally, the government agreed to supply each of the workers of Kohmara depot 25 bamboos per month. It appears that the supply each of bamboo to workers at other depots was much less.[5]

Similar restrictions have been imposed by various state forest departments on cane workers, who used to cut cane for their requirements directly from the forests. A case in point is Agumbe village in Shimoga District of Karnataka, where landless cane workers have been deprived of their livelihood. Cane was once abundantly available in the nearby forests. However, in the mid '70s, the Forest Department imposed restrictions and a fee on cane cutting, and subsequently, a total ban. This, the Forest Department alleged, was necessary, because the cane workers had over-exploited the forest, and cane was fast becoming extinct. But curiously, plywood manufacturers were not prevented from forest extraction. They felled trees in such large numbers that the support required by the cane trees to spread and grow virtually vanished. Road construction in heavily forested areas had also resulted in the uprooting of cane.[6]

According to another source, till the early '70s, the basket weavers of Kampanaickanpalayam, a village near the town of Sathyamangalam in Tamil Nadu, used to collect their daily requirement of bamboo from the nearby forests. The old and infirm who were unable to go out themselves used to pay Rs.6 per headload of bamboo. The uninterrupted supply of bamboo ensured these weavers a daily earning of Rs.8. However, a decade later, the artisans found themselves competing with the Seshasayee Paper Mill for the same resource, and bamboo supply became a major problem. This encouraged some villagers to specialise in the illegal

Box D

DEULPUR: WORLD'S SOLE CENTRE OF HANDMADE POLO BALLS

The artisans of Deulpur, a small village near Calcutta, are the world's sole producers of handmade polo balls. "Folk history has it that polo balls were first made in this region in the time of Sher Shah at Gobindapur...British rule initially killed polo but it was resurrected in the 1870s as the... game of the military elite". A London manufacturer of sports goods happened to send some samples of polo balls made of willow wood to a Calcutta dealer. These were copied by Gobardhan Hazra, "possibly the first Deulpur artisan", in a local bamboo known as *vhapla*.

The balls are carved from the stumps of the *vhapla* bamboo, using a few primitive tools. The stumps are first whittled with the help of a chisel and worked into a round. They are then sanded into a perfect sphere and painted white before being sold. At one point of time, making polo balls was the mainstay of the entire village. Sujit Kumar Baug's family alone used to get orders for one lakh balls annually from Pakistan, America, France and England. But with the foreign market having dried up a few years ago, his family's turnover has dwindled to 4000 pieces annually.

One of the reasons for the declining export market for handmade bamboo balls is the increasing availability of fibreglass substitutes overseas. Besides being cheaper, they are also of uniform quality and, more importantly, far more accurate in terms of measurement. In contrast, the polo balls of Deulpur are weighed on grocers' scales, and their circumference measured with a strip of palm leaves!

Though fibreglass balls have made inroads into the export market, the "home acre is fairly secure", as Indian polo players continue to use the Deulpur balls. However, polo clubs have begun slashing their budgets, and are purchasing far fewer balls than they did in earlier years. Expectedly, the artisans, are feeling the pinch.

SOURCE: Kanjilal, P; Polo. Struggle for Survival; Saturday Times; 24.3.90

collection and sale of bamboo to the artisans, forcing the price of bamboo up to Rs.30 or more per headload. The supply of bamboo was no longer assured, and even though the price of their products had risen, the weavers earned less than they did before.[7]

A case study done in 1983 by the Vaikunthbhai Mehta Smarak Trust, Bombay, in Ratnagiri district (Maharashtra), further illustrates some of the above findings. The district has a large concentration of bamboo workers, perhaps due to the good forest cover in the area. According to the study, most of the bamboo workers in the district were members of the *balutedar* societies set up by the State Khadi and Village Industries Board. But the societies do not seem to have helped them cope with the acute shortage of bamboo. The artisans were aware that the raw material was being removed by agents of paper mills, and complained that previously they could procure the bamboo from the village itself. At the time of the study, 85 per cent of the raw material was procured from outside, and had to be transported over long distances, adding to costs. The study also assessed the impact of dwindling stocks of bamboo by comparing the southern and northern parts of the district. In the North, which was starved of the raw material due to a greater denudation of the forest, the number of bamboo workers had diminished greatly. Apparently, 80 per cent of the bamboo stocks left the district for industrial purposes. Though depletion was less in the southern part, during peak agricultural seasons bamboo products fetched low prices, making it more lucrative for males to work as agricultural labourers. The number of bamboo workers in the southern part of the district was also decreasing. The study also indicates that peasants who earlier supplied bamboo directly to the bamboo workers, preferred to sell large stocks to agents offering advance payments.[8]

Rope making from *babui* is an important source of livelihood for thousands of households in Bihar and Bengal. Some grass cultivators twine their own ropes, but a substantial quantity of the grass is traded, even when it is converted locally into ropes. The traders use advances *(dadan)* as a way of keeping rope prices down. There are three harvesting seasons in a year, which enable the traders to manipulate the prices, since there are wide seasonal variations of as much as one hundred rupees per quintal of grass. The rope makers who do not cultivate their own *babui*, are generally at a disadvantage. They have to depend heavily on the traders and bear the brunt of price fluctuations.

The majority of cane, bamboo and fibre artisans (78 per cent) interviewed by SRUTI complained of financial difficulty while purchasing raw materials, on account of the high prices. For instance, in Alibag, the price of each bamboo was Rs.10. In Nimdih, each bamboo cost an astronomical Rs.20, and in Hyethnagar,

Box E

DELHI'S CANE ARTISANS

Bhola Ram is a traditional cane artisan. He belongs to the community of *Dharkars*, who migrated to Delhi in the 1940s. As the legend goes, their ancestors, known as *Karu Thakurs*, made bows and arrows for kings. In time, the *Dharkars* migrated to Allahabad, from the outlying areas of Kanti, Jaunpur, Barnaghat and Rewa. Today, there are roughly 2,000 of them in Delhi.

The *Dharkars* of Delhi meet on the 10th of every month, coming together from areas such as Seemapuri, Shahadara, Shakti Nagar, Jawahar Nagar and Qutab road. During their monthly meeting, they discuss financial and marketing problems. They also renew their monthly contribution to a common fund. Borrowing is normally done by rotation, but allowances are made for those who require money more urgently. Some *Dharkars* have done better than others and possess showrooms. Most of them, however, display and hawk their wares on bicycles.

Despite close ties, there are internal problems. The artisans tend to undercut each others' prices in their desperation to sell. Wealthier artisans employ others who are not so well off, in their own *karkhanas*, and this often gives rise to exploitative relationships. The wealthier artisans are also given preferential treatment by raw material traders, because of their bulk purchases.

Marketing infrastructure is virtually non-existent, and of the 2000 odd artisans, only a handful possess their own shops. The rest sell to those owning shops, or alternatively, to traders who have the necessary capital and marketing know-how to stock and sell these goods. The artisans feel that government schemes for their support are inadequate, and complain of insufficient financial resources to set up stalls at fairs and bazaars. As a result, these are monopolised by traders.

SOURCE: SRUTI Survey

Box F

THE TANGLED ROPE OF GHAR

"There is nothing here. No roads, no schools, no facilities for clean drinking water, not even an industry where we can be employed. We only have the forest and now the *morcha* (a union)." This is Ghar, aptly summed up by Chanu Ram.

Nestling in the foot-hills of the Sivalik range in Saharanpur district of western U.P., Ghar has a concentration of 40,000 families that subsist on rope-making. Over the years, the people of Ghar have perfected the art of making a high quality rope, popularly known as *ban*, from *bhabbar* grass, which is found in abundance in the foothills.

Rope-making is arduous work. First, the *bhabbar* grass is cleaned and soaked in water, then it is beaten with a mallet to soften it. The softened strands are twined by hand into a rough rope. "Take a walk around the village and you'll hear the sound of mallets all around and see little children and women making rope everywhere", says Phulwati, busily turning the rope. The next step is to wind the rough rope on a *charkha* and tighten it. Then the rope is looped around a tree and rubbed to smoothen it. As Phulwati explains, "The rope is so smooth that you can sleep on it, and is so tough that you can tie down your roof with it."

Ghar lies adjacent to the forest, and its people depend on the forest for their survival. They cut grass for making rope, collect fire-wood and medicinal herbs and use part of the forest for grazing. In turn, they protect the forest against fires, plant tree saplings, and regulate the felling of trees. "We are the children of the forest" says Mausa, the eldest member of village Barkulla, "and we look after the forest just as we look after our parents."

Strengthened over the years, this symbiotic relationship began to be threatened with the nationalisation of forests by the British in the latter half of the nineteenth century, when they began felling trees for industries and the railways. Around 1901, two paper mills were established here. These were given a lease for acquiring *bhabbar* grass, as it was a good raw material for the paper industry. Since the grass grew in the hills and was not easily accessible, the mills employed the locals to cut it. Simultaneously, the use of the forest by the locals came to be regulated. Each person was permitted to remove only one headload of grass, seven days in a month. A permit called the *"hakdari ravanna"* was issued for this purpose, for a sum of 75 paise. "Our *ravannas* are still lying with us" claims Deepchand, holding up his family permits since 1926, "but today they are useless."

After Independence, the situation of the locals worsened. The Forest Department stopped leasing the forest to the paper mills and called in contractors, who preferred to engage their own labour. Other rights were also slowly curtailed. As Mausa from Barkulla says, "For the last 30-40 years we have not cut any grass from the forest. We can only buy it from the depots. When there is a forest fire, we stop it from spreading. But, when we want grass for our survival, the government does not even allow us to enter the forest."

In the 1980s, the U.P. Forest Corporation was set up to oversee the commercial management of the forests and also to eliminate contractors and intermediaries. But the Corporation continues to employ contractors. Workers feel that the unscientific method of cutting adopted by the contractors, who are guided by profit considerations, is the main cause for depletion of the grass. The Forest Department takes a royalty from the Forest Corporation for forest products. To meet the Department's demands, the Corporation auctions cut and cleaned grass to the highest bidder. The grass is auctioned in lots of 100 quintals. However, the artisans of Ghar lack the capital to buy such large lots. "We can't compete in the bidding. The contractors buy the grass in bulk and sell it to us in smaller lots", says Ganesh. The wholesale price of grass is Rs.150-170 per quintal. By the time the grass reaches the retail market, it costs between Rs.225-250 a quintal. Ironically, the same grass is supplied to the paper mills at Rs.40 per quintal!

The market for rope is controlled by contractors and big traders, and the price has not increased for many years. The artisans are squeezed between the rising price of raw material and diminishing rights over the forest, on the one hand, and stagnant rope prices on the other. The monthly income of a rope maker varies between Rs.100-150 a month. Of the 40,000 families, only 10,000 manage to make rope throughout the year. The remaining have to look for other work, and many migrate seasonally.

In 1982, VIKALP, a voluntary agency in Saharanpur, managed to organise some artisans into a co-operative, which obtained bank loans and was able to bid for and buy grass wholesale. This brought some relief to the workers, but other problems arose. In 1986, tired of the indifferent attitude of the officials, the people of Ghar, helped by VIKALP, organised themselves under the banner of *'Ghar Shetra Mazdoor Morcha'*, a union of the poor. They demanded that their traditional rights over the forest be recognised and restored.

The charter of demands put forth by the *Morcha* was comprehensive. Besides access to raw material, it also demanded the removal of contractors. There is a great sense of unity and confidence, and the movement has also seen the emergence of local leadership. Says Chanu Ram: "Before the agitation, we used to be scared of the police and forest officials. They used to come into the village at the slightest pretext and rough up anybody they wanted. Today, they think twice before entering. The first time we met the District Magistrate, we didn't have the courage to look him in the eye, but now we can talk to him coherently and confidently."

Women, though active in rope-making, had traditionally stayed away from decision-making. But in Ghar, the women surpassed men in courage and perseverance. In December, 1986, a split was arising in the *Morcha*, as some people were in favour of continuing the endless negotiations with the District Magistrate, whereas others wanted a deadline set. Sona, one of the women participating in the *Morcha* meeting, got up and warned: "Don't fight if you don't want to, but the women will. When the children are hungry, they ask their mothers for food, not their fathers. We are being squeezed to death. We will fight and die in the process, rather than go on like this, dying a little everyday." She had set the mood, and a decision was made to fight.

After a year of boycott, hardship, negotiations and threats (to forcibly go into the forest), the *Morcha* gained partial cutting rights in January 1987. Each person could cut a headload of grass once during the cutting season. In June 1987, the *Morcha*, with the help of botanists, initiated a programme to plant grass in the foot-hills. Ironically, even in this they faced resistance from the Forest Department.

The Forest Department and bureaucracy termed this movement as a "law and order problem", closing their eyes to a democratic and non-violent demand by the people for their legal rights. There was a lurking fear that in the next "working plan" the Forest Department would do away with these rights, making the people's demands illegal. But the struggle had strengthened the people and convinced them that the only way to save the forest and themselves would be by removing contractors and re-establishing their rights over it.

SOURCE. Based on paper by Gargi Sen

Rs.15. In Vyara, though the price of each bamboo was Rs.2, supplies were limited, and the workers often had to walk a distance of 60 kms to the Dang forests to obtain their supply of bamboo. The high prices were eroding the profit margins of the artisans, who were finding it more remunerative to do daily wage work.

TECHNOLOGY

The process of making items from cane, bamboo and fibres is essentially a manual one. The use of tools and implements is minimal: normally all that is required is a knife, sickle, axe and hammer. Plaiting and coiling are the two commonest techniques used in making baskets and other items from cane, bamboo and grass. In coiling, which is regarded as an older technique, the raw material is coiled into the required shape and sewn together, starting from the base upwards. Plaiting, on the other hand, is akin to weaving: products are made by interlacing split bamboos very much like the warp and weft of a fabric. Various weaving effects can be achieved by this technique, similar to those of plain cloth, twill (a pattern with diagonal lines), or even chequer work (a weave that resembles a chequerboard).[9] The preparatory and production processes for cane and bamboo products differ considerably from those for fibre products. These processes are outlined below.

Box G

THE CANE WORKERS OF RAMBAGAN

Rambagan *basti* once boasted of dense jungle, inhabited by the *Doms* who were traditionally cane and bamboo workers. But that was before Rambagan was incorporated into Calcutta. As urbanisation advanced, the jungle receded, reducing the *Doms* to penury. Rambagan degenerated into an urban slum where filth, dingy hovels and pot-bellied children replaced the jungle. Soon, it became notorious for its liquor dens and anti-social activity.

In 1954, the artisans formed an organisation by the name of Karmi Brinda, whose sole activity was to organise the *Saraswati Puja* every year. The year 1976 was a turning point in the history of Karmi Brinda: Spurred on by its mentors (including a police officer and a former MLA), some enterprising members started a training-cum-production centre with a mere Rs.400 in hand. In 1978, Karmi Brinda bagged its first major project, viz. decoration of a *Durga Puja pandal*. That year, its turnover touched Rs.17,735 and by 1987 it had soared to Rs.5,722,630. With a membership of around 250 workers, Karmi Brinda now had its own land and building, and started a primary school and homoeopathic dispensary. The earnings from large projects were used to strengthen the organisation's financial base and 18 per cent of the profits were distributed among the workers.

Financially, the going was tough. But Karmi Brinda steered clear of government funds because of the apprehension that "if we accept government loans, we will have to follow its dictates". Loans for some workers were, however, availed of from IDRC, a donor agency.

Besides the paucity of funds, Karmi Brindas had some trying moments, especially while executing prestigious projects. For instance, in 1983, just after completing a massive *pandal* for the jubilee celebrations of Calcutta Medical College, a short circuit reduced the whole structure to ashes. There were two choices: to shut shop or start afresh. Karmi Brinda chose the latter. They not only mobilised additional funds from the principal, but 600 workers from other localities as well. The *pandal* was rebuilt in the nick of time.

Other than undertaking decoration work within Calcutta and elsewhere, Karmi Brinda members craft baskets, ornate bangles, earrings and decorative items. Orders, once procured, are farmed out to the workers, who collectively discuss and create the designs. But at times, the orders are not sufficient to sustain all its members. Quality is strictly maintained, with hundred per cent checks for defects or unacceptable variations.

Most of the artisans are second or third generation cane and bamboo workers. But despite the massive revival by Karmi Brinda of their traditional craft, many of its members would prefer to see their children work as office clerks.

SOURCE: Irani, M; Bamboo and Cane Workers of Rambagan, Calcutta. How art brought life to a slum; The Telegraph, February 10, 1989

Production of Cane and Bamboo articles

Cane can either be used whole, or split into strips of uniform width and length. Whole cane is used to build bridges in the North-East, and also for making furniture. When cane is split, the pithy inner portion is removed, leaving the smooth outer surface. This is generally used for making baskets, and for securing bamboo and timber structures such as houses, bridges and fences. Bamboo, too, can be used whole for making items such as containers or flutes, or split for making baskets. Bamboo can only be split vertically. This is generally done with the help of a simple knife. In some areas in the North-East, splitting is done with the help of a die.

There are innumerable types and shapes of baskets, especially in the North-East. The forms are dictated by their end-use. For instance, conical baskets are used by the hill people, mainly for carrying purposes. Cylindrical ones, on the other hand, are used for storing cotton, rice and other food items. For making a basket, the circumference of the bamboo is first divided into equal parts and these are cut vertically into strips. The protrusion at the nodes is whittled away. The strip is then reduced to the required thickness and width. The artisans are extremely skilled at making strips of uniform width without the use of measuring or mechanical devices. The strips are interlaced in much the same way that threads are interwoven while weaving fabric. The base is first prepared in the desired shape – circular or square – by interlacing the strips. The square, or circle, is made in the centre, leaving an excess of strips all around. Once the base is prepared, the excess or remaining length of the strips are turned upward to form the warp, or vertical strips. Weft (horizontal) strips are now interlaced with the warp strips that arise from the base. The circumference and size of the basket can be increased by adding warp strips. The mouth of the basket is generally reinforced by adding bamboo rings on the inside and outside. These are bound to the basket with cane strips, which also lend a neat finish to the product.[10]

Production of articles from Fibre

The processing of fibres is more elaborate. The first step involves extraction of the fibre either by chemical, mechanical or bacte-

riological (retting) methods. These may be used singly or in combination with one another. In the chemical method, the gums or resin which bind the fibres are removed by boiling the material with alkalis such as caustic soda, or potassium soap. The fibres can also be removed by manually peeling away the unwanted matter adhering to the fibres, or pounding the material with mallets and subsequently soaking it in water. The raspador method is used where large quantities of fibre have to be processed. In this method, the cellular tissues are scraped away from the fibres with the help of a rotating blade. Retting is generally used in the case of bast fibres. Where water is scarce, the dew retting method is followed. In this method, the stalks are spread on grass, and allowed to remain there for upto three weeks, until bacteriological action dissolves the cellular tissues and gummy substances. In a variation of this method, known as water retting, fibres are processed by leaving them to soak in rivers, bogs or streams.

Once the fibre has been extracted, it is subjected to processes similar to those required for preparing yarn, i.e., carding and spinning. The fibre is often spun into yarn with the help of a wooden instrument called a *firakhi* or a simple wooden *charkha*. The yarn is twisted into ropes and cords of different types. The twisting can also be done on a machine with a wooden frame containing three or four pinion wheels, geared by a gear-wheel.[11] Fibre, grass and reed mats are woven on simple handlooms. The warp here generally consists of threads, while the fibre is used for the weft.

ORGANISATION OF PRODUCTION & MARKETS

Most cane, bamboo and fibre workers are self-employed artisans who procure their own raw materials directly from the open market. But in many cases, the finance for these purchases comes from a variety of sources: either as advances from large dealers; as loans from co-operative societies; or from their own earnings. Throughout the country, hawking and sales at the village *haats* are the two most common methods of selling cane, bamboo and fibre products. Minor sales are also effected when the artisans visit nearby towns for purchasing their raw materials. Some artisans are still tied to their *jajmans*, to whom they supply cane and bamboo products throughout the year. Decorative items, which form a small percentage of the overall production of this group of workers, are generally made against orders. In Delhi, the *chikwalas* (screen makers) and artisans who make products from *sarkanda* grass and rope, have evolved a marketing style of their own. Both wander around the city with their products loaded onto their cycles, calling out in the hope of attracting customers. Intermittently, the *chikwalas* string out their samples between trees or lamp posts, while they relax under the shade of a nearby tree.[12]

One of the findings of a study conducted in Maharashtra was that cheap products, such as baskets and winnows, were in greater demand than products such as mats, which were on the expensive side. There were seasonal fluctuations in the demand, as the baskets were mainly used for transporting mangoes and fish. The seasonality of demand, coupled with some of the more exploitative aspects of the *balutedari* system, were responsible for depressing product prices. As raw material costs rose, the returns declined greatly. The same study notes that poor returns from their work had forced most artisans into a weekly cycle of production and consumption. The cycle started with the purchase of bamboo, often from distant places, and ended with its sale on the seventh day. Money from this sale was used to meet consumption needs as well as to purchase raw materials.[13]

Judging by the SRUTI survey, and some micro studies, the market for cane, bamboo and fibre products is fairly large. This is especially true of rope and baskets. The studies all suggest that rope and baskets are extensively used, and have a fairly secure market. While there are synthetic substitutes for ropes made

Box II

TIMELY CREDIT HELPS

In 1981, the Centre for Policy Research launched an action research project in Ramgarh, Kishangarh and Mandawar blocks of Alwar District in Rajasthan, to find ways of accelerating the pace of rural industrialisation. The action phase of the project consisted of a series of interventions with various communities, including rope and basket makers.

In village Chidwa, there were 16 scheduled caste households engaged in making rope. All the artisans were landless, and worked as agricultural labourers during the harvesting season. They made rope the rest of the year, provided *moonj*, the raw material, and the necessary funds for purchasing it, were available. Loans of Rs.900 were given to each of these artisans in the month of February, 1981, to purchase *moonj* in bulk. This enabled them to make rope through the year, including the monsoon, when the raw material invariably became scarce. As a result, the daily income of the artisans went up from an average of Rs.7-8 to Rs.12-15. They were also productively employed throughout the year, on account of their raw material stocks. Since there is a huge demand for rope in Alwar, marketing was no problem for the artisans. This group of artisans was quite regular in its repayment of the loans.

A parallel intervention to organise a group of traditional basket makers was attempted in Milakpur village. Prior to the intervention, the artisans, mostly women and young girls, used to buy palm leaves in small lots from the nearby villages, and colours for decorating the baskets from Alwar. The baskets were sold to an intermediary who would purchase them from the artisans every week, at the rate of 50 paise per piece. These were eventually retailed by shopkeepers in Jaipur at Rs.2-3 a piece. Based on discussions with the artisans, loans were advanced to them under the DRI scheme. The first step they took was to buy the raw materials in bulk. They collectively purchased the palm leaves, which they distributed among themselves. Colours and dyes were also purchased in bulk from Alwar. These measures helped reduce the cost of raw materials by 25-30 per cent, and also pushed up the artisans' daily incomes from Re.1 to Rs.4 per day. Initially, the artisans deputed a person to transport the baskets and market them in Jaipur in order to eliminate the intermediary. But owing to differences among the menfolk, this arrangement was eventually scrapped.

Similar improvements in income were reported as a result of timely working capital assistance to the rope makers of Sainthali village and the basket makers of Tikri village.

SOURCE: Panandiker, V.A.P. and Sud, A.; Rural Industrialisation; Oxford & IBH Publishing Co. Pvt. Ltd; New Delhi, 1986

from grass fibres, they do not pose any serious threats. The main constraint experienced by cane, bamboo and fibre artisans is that of inadequate capital for purchasing raw material.[14] Some cane workers have migrated to large cities to take advantage of a flourishing and expanding market in cane furniture.[Box 8] Some have diversified into making and repairing furniture which uses plastic strips in place of cane.

III INTERVENTIONS

RESEARCH & DEVELOPMENT

The KVIC has done some research and development work in the area of extracting fibres from pineapple, banana stems and sisal. Both power and hand operated machines have been introduced by the Commission, including the following:

- **Fibre extraction:** Scraper and raspador trolley
- **Carding:** Pedal carding machine; power carding *charkha*
- **Spinning:** *Batara charkha;* spinning wheel and single-ply making machine for low counts; treadle *charkha* 7 power spinning set for high counts
- **Rope making :** Rope making machine
- **Ban making :** Double ply machine

In addition, the ICAR has developed a decortication machine for extracting fibre from ramie. More recently, VIKAS Engineering Corporation has designed and produced a simple rope-making machine from sewing machine parts and bicycle components. Priced at Rs.550, this machine enhances productivity ten-fold, and eliminates much of the drudgery traditionally associated with rope making.

FINANCIAL ASSISTANCE

The KVIC has introduced various schemes of assistance for individual fibre workers. These include grants and loans for setting up *ban* making and *sisal* fibre production units. Financial assistance is available for purchasing implements, procuring raw materials, and working capital. Family units are also provided with a loan and grant for producing cane and bamboo articles worth Rs.10,000 per annum. Institutions working with, and co-operatives of cane, bamboo and fibre workers are also assisted with grants and loans to cover working capital requirements and capital expenditure.[15]

TRAINING

Training courses in fibre work are offered by the following institutions: The Fibre Research and Training Centre, KVIC, Kora Kendra, Bombay; Zonal Training Centre, KVIC, Trichur (Kerala); Nirmalayan Centre, Trivandrum (Kerala); Vimala Welfare Centre, Ernakulam (Kerala); Nirmala Social Centre, Angamaly (Kerala); Carmel Welfare Centre, Chattuyath (Kerala); Vidyapuram Social Service Society, Kottayam (Kerala); Jeevan Sevalaya, Sriviliputtur (Tamil Nadu); Kovel Fibre Worker Co-operative Society, Kanyakumari (Tamil Nadu); Utkal Khadi Gramodyog Sangh, Utkal (Karnataka); Kasturba Gandhi National Memorial Trust, Sitanagram (Andhra Pradesh).[16]

There have been some isolated efforts on the part of voluntary agencies such as VIKALP in Saharanpur and the Centre for Policy Research, to organise and improve the condition of this group of artisans. These efforts have met with varying degrees of success.[Box F,G & H]

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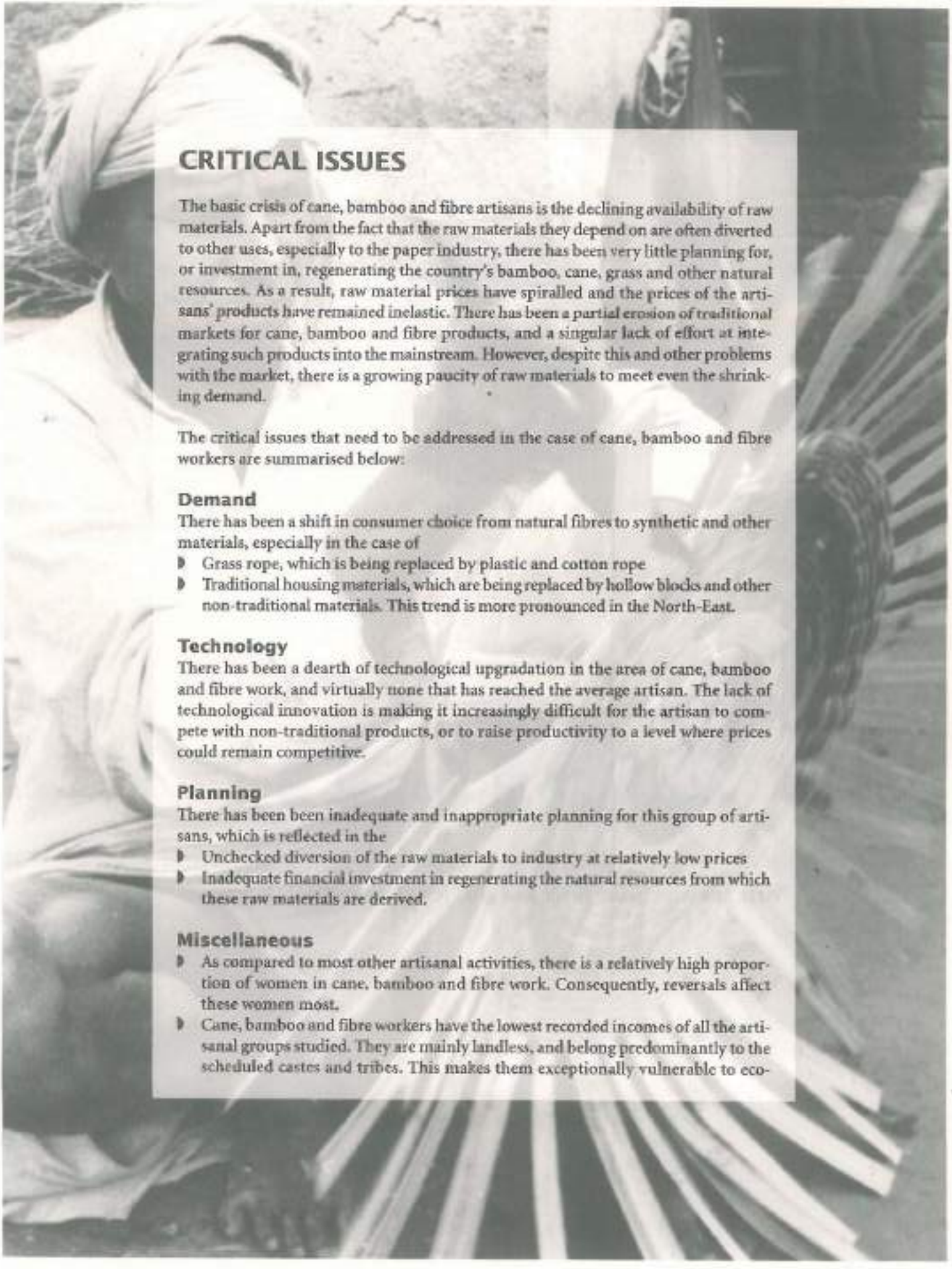

CRITICAL ISSUES

The basic crisis of cane, bamboo and fibre artisans is the declining availability of raw materials. Apart from the fact that the raw materials they depend on are often diverted to other uses, especially to the paper industry, there has been very little planning for, or investment in, regenerating the country's bamboo, cane, grass and other natural resources. As a result, raw material prices have spiralled and the prices of the artisans' products have remained inelastic. There has been a partial erosion of traditional markets for cane, bamboo and fibre products, and a singular lack of effort at integrating such products into the mainstream. However, despite this and other problems with the market, there is a growing paucity of raw materials to meet even the shrinking demand.

The critical issues that need to be addressed in the case of cane, bamboo and fibre workers are summarised below:

Demand

There has been a shift in consumer choice from natural fibres to synthetic and other materials, especially in the case of

- Grass rope, which is being replaced by plastic and cotton rope
- Traditional housing materials, which are being replaced by hollow blocks and other non-traditional materials. This trend is more pronounced in the North-East.

Technology

There has been a dearth of technological upgradation in the area of cane, bamboo and fibre work, and virtually none that has reached the average artisan. The lack of technological innovation is making it increasingly difficult for the artisan to compete with non-traditional products, or to raise productivity to a level where prices could remain competitive.

Planning

There has been been inadequate and inappropriate planning for this group of artisans, which is reflected in the

- Unchecked diversion of the raw materials to industry at relatively low prices
- Inadequate financial investment in regenerating the natural resources from which these raw materials are derived.

Miscellaneous

- As compared to most other artisanal activities, there is a relatively high proportion of women in cane, bamboo and fibre work. Consequently, reversals affect these women most.
- Cane, bamboo and fibre workers have the lowest recorded incomes of all the artisanal groups studied. They are mainly landless, and belong predominantly to the scheduled castes and tribes. This makes them exceptionally vulnerable to eco-

Section II

8

Sonar

Artisans who make silver and gold jewellery and polish gems

Jewellers

This chapter deals with two sets of artisans: those involved in processing gem stones such as diamonds and agate, and others who craft precious metals, mainly gold and silver, into ornaments.

Jewellery-making was, until fairly recently, a dispersed, household industry. However, as a result of various government interventions and the opening up of the export market, the industry is gradually moving out of the household sector. This is evident from the large number of workers in the non-household sector. As a result, today the non-traditional artisans out-number the traditional ones. Most of the non-traditional artisans are located in urban areas, and are engaged in processing rough diamonds, gem stones, pearls and agate. Rural jewellers are largely self-employed, whereas most urban artisans tend to work as wage-labourers or on a contract basis. Urban production units are mainly owned by traders and retailers.

The gems and jewellery sector is the largest single foreign exchange earner for India. In 1992-93, exports soared to Rs.9404 crores, surpassing the target of Rs.9300 crore set for the year.[1] In the international market, Indian jewellery is competitively priced, and is cheaper than products from other countries. This is possible partly because of the low wages paid to artisans in India. While the government has taken several initiatives to increase export earnings, there seem to have been few interventions to ensure just wages and decent working conditions for the artisans.

I THE ARTISANS

HISTORY

The earliest existing records of the contribution of jewellers are from the Indus Valley civilisation (2600 B.C.–1600 B.C.). In the Vedic period (1600 B.C.–600 B.C.), goldsmiths and silversmiths had a higher social standing than other artisans. This was perhaps because of the precious nature of the materials they worked with. In fact, those who worked in gold could not sully their hands with silver, which was considered to be a baser metal.

Literary texts pertaining to the Kusana period (200 B.C.-200 A.D.) contain innumerable references to gold ornaments and goldsmiths. But silver is seldom mentioned. One such text, the *Saundaranande*, talks of the skill with which the goldsmith or *suvarnakaro* places "gold in the mouth of the forge, applies the bellows at the proper time, wets it with water at the proper time and gradually at the proper time allows it to cool off. For by using bellows at the wrong time, he would burn the gold, by throwing it into water at the wrong time he would make it too soft and by letting it cool off at the wrong time he would not bring it to maturity properly".[2] Interestingly, most of the texts differentiate between goldsmiths *(suvarnakaras)* and other jewellers *(manikaras)*. The Milindipanho provides evidence of diamond polishing and a flourishing bead making industry.

According to Irfan Habib, India's production of gold and silver around 1200-1500 A.D. was limited, and India "was almost entirely dependent upon imports for its gold and silver supply. Indeed, to outsiders it looked as if India went on absorbing limitless quantities of imported gold and silver." During this period, diamonds were mined in Gondwana, and a pearl fishery off Tuticorin was reported by Marco Polo.[3]

Royal patronage helped to maintain the relatively high social status of jewellers. Patrons often provided the jewellers and their families with food and some land. When not engaged in the patrons' duties, jewellers were free to work for other villagers. The patrons also provided them the gold, silver and chemicals to work with. In time, jewellers branched out into money-lending and trading. In the eighteenth century, their social position approached that of the village *patwari* (accountant) or *chowdhury* (headman).

As the demand for Indian jewellery declined in the British territories, traditional goldsmiths and silversmiths turned to more lucrative professions. Some even joined railway workshops. The migration of traditional jewellers led in turn to an influx of non-hereditary workers, often of lower castes, who saw in jewellery-making a better livelihood. In Gujarat, for example, *kanseras* (metal workers), *suthars* (carpenters) and *mochis* (leather workers), became *sonis* (goldsmiths). Even higher caste groups like *Brahmins* and *Rajputs* adopted the *soni* status, especially in times of economic distress.

After Independence, government training schemes were launched, leading to a further influx of non-traditional workers into the jewellers' craft. This was particularly true in the case of diamond and gem stone polishing. In Gujarat, for example, retrenched workers from collapsing textile mills, and marginalised farmers, joined the gem polishing industry in Surat, Palanpur, Mehsana, Vishnagar, Bhavnagar, Amreli and Ahmedabad. Even in 1987, many people from the drought affected villages of Saurashtra entered this profession. In Jaipur, the majority of workers are Muslims who were earlier rickshaw-pullers and domestic servants. Box A & B

Box A

THE PLACE OF JEWELLERY IN INDIA

Samskaras are religious ceremonies performed by Hindus to mark the principal stages in their lives. The more important ones are: *namakarma* (christening), *yagnopavita* (investiture with the sacred thread, a symbol of initiation into vedic studies), *vivaha* (marriage) and *mrtakakarma* (last rites after death). Traditionally, a piece of jewellery was associated with each of the ceremonies. For instance, on the twelfth day after birth, at the *namakarana*, the goldsmith pierces the child's ears with a gold pin. This is believed to stave off nervous diseases such as epilepsy. Also on this occasion, a black silk cord is tied around the child's waist and a similar cord with a pendant of gold or silver attached to it, is tied around the neck. This pendant is seen as a protective charm to ward off evil.

Jewellery in India is often regarded as a form of security, because of its easy convertibility into cash. This is fundamentally different from the way in which people in the West view jewellery. The importance attached to jewellery by Indians, and especially the Hindus and Jains, can be explained by the concept of *stridhana* (woman's property). Jewellery formed a substantial part of the *stridhana*, or gifts made to the bride before the nuptial fire.

After the tenth century A.D, jewellery seems to have assumed three roles: as dowry or settlement for the bride, as investment and as adornment. Where women inherited property, as among the Muslims, jewellery was looked upon more as a means of adornment, with the result that it largely comprised fancy jewellery, while among the Hindus, Jains and Sikhs, to whom the law of *stridhana* was applicable, greater stress was laid on the investment aspect or the inherent value of jewellery.

Besides their ornamental value, precious stones occupy an important place in the ancient Indian science of astrology. Astrology posits a definite relationship between different stones and the planets, which are believed to guide the destinies of all human beings.

SOURCE: Dongerkerry, K.S.; Jewellery & Personal Adornment in India; Indian Council for Cultural Relations

POPULATION ESTIMATES

Calculations based on the Census of India, 1961 and 1981 suggest the following demographic trends vis-a-vis jewellers: Box C

- **Total population:**
  The total number of jewellers in 1981 was 8.41 lakhs.
- **Share of household vs. non-household sector:**
  Of the above, 2.36 lakhs (39 per cent) were in the household sector.
- **Rural-urban mix:**
  Of the total population of jewellers, 2.77 lakhs (33 per cent)

were located in rural areas. In the case of the household sector, 51 per cent of the jewellers were located in urban areas. By contrast, 68 per cent of all jewellers in the non-household sector were located in urban areas.

- **Gender mix:**
  Females, numbering 13,418, accounted for 3 per cent of the population of jewellers in 1981.
- **Intercensal shifts:**
  Between 1961 and 1981, the number of jewellers increased from 5.35 lakhs to 8.41 lakhs, representing a growth of 57 per cent. But in actual fact, the growth was confined to the non-household sector, mostly in urban areas. The number of jewellers in the household sector, in the meantime, shrank from 3.39 lakhs to 2.36 lakhs, a decline of 30 per cent. The number of jewellers in the non-household sector, on the other hand, expanded from 1.96 lakhs in 1961 to 6.05 lakhs in 1981, indicating a growth of 209 per cent.

SOCIAL AND ECONOMIC ASPECTS

The sample of jewellers in the SRUTI primary survey was far too small to merit analysis. However, information regarding their incomes and employment patterns based on interviews with different categories of jewellery artisans are tabulated in Box D. The demand for the rural jewellers' products is seasonal. It peaks during important festivals or during the marriage season, which usually coincides with post-harvest months. Given the low level of demand for their services, the earnings of the village jewellers are limited, often less than a couple of hundred rupees per month.

There is virtually no data on the role of women in jewellery making. According to one author,[4] goldsmithy in Karnataka is a hereditary craft of the *Vishwakarma* caste, and is practised only by men. There is one notable exception, however, that of the subcaste of the *Bayala Akkasaliga*. Originally itinerant artisans, members of this subcaste used to travel between villages in Karnataka and Andhra Pradesh, camp at temples, and work at the homes of their patrons. Traditionally, the women did goldsmithy during seasons when the men were engaged in casual agricutural work. Interestingly, the women learned the craft only from their husbands, and never passed on their skills to their sons or daughters. This relationship, according to Brouwer, is analogous to that between the *Brahmin* and the *Kshatriya*. While the *Brahmin* learns and teaches the *Vedas*, the *Kshatriya* only learns them.

II THEIR WORK

PRODUCTS & RAW MATERIALS

Some jewellers in India specialise in processing precious and semi-precious stones. Others craft metals into ornaments such as necklaces, toe rings, finger rings, armlets, belts, earrings, anklets, bangles and waist bands. Ornaments are essentially of two types: those made entirely of gold, silver or other metals, and those which are set with stones.[Box E]

Silver, gold, precious and semi-precious stones are the principal raw materials used by jewellers. At times, copper is also used. Soap nuts, sand, zinc, borax, mustard oil are some of the auxiliary materials used.

Box D

JEWELLERY THROUGH THE AGES

Before any hard and durable materials were discovered, flowers, berries, leaves, grass and shells were used for adornment. Floral decoration has always been an important aspect of personal adornment in India. It may also be said to be an adjunct of jewellery, and perhaps its precursor. The world *sraj*, meaning a garland, occurs in early literature, and *pushkara sraj* signifies a garland of lotus flowers. Since floral, seed and grass ornaments are ephemeral in character, they were gradually replaced by more durable materials.

The earliest finds of beads and jewellery are contained in the collection of figurines from the Quetta Culture, around 3500 B.C. The existence of beads of different materials such as semi-precious stones, faience, steatite, terracotta, glass and crystals indicate that the art of bead making was highly developed. Along with the beads were found gold, silver, bone and ivory articles. There were spacers and terminals, as well as pendants made of gold wire, chopped gold, beaten gold and granulated gold. The ornaments on the terracotta figurines indicate fillets for the head and others that covered the full neck, the lowest necklace often bearing a pendant.

The collection of jewellery from Harappa and Mohenjodaro (2700-1800 B.C.) features a number of gold ornaments, including brooches, hair and head ornaments, armlets, buttons, girdles, breast plates, collar type ornaments, foot ornaments and finger rings. The armlets feature a variety of animal motifs. The designs, motifs and workmanship of the jewellery cover nearly all the styles of traditional Indian jewellery that are in evidence today, including filigree work.

The jewellery of the epic period was heavy, rich and varied. Sita, it is said, wore jewelled butterflies and other ornaments in her hair, bracelets and armlets, a golden belt around her waist, golden anklets, jewelled rings on her fingers and golden bells on her toes as she approached Rama to accept him as her consort. King Janaka, Sita's father, had received the *chudamani*, a head ornament, from Kubera. The *chudamani* was studded with pearls and costly gems. This unique piece of jewellery was gifted by Janaka to Sita on her wedding day.

The Kusanas (200 B.C.) introduced new motifs such as those of the *makarika* (alligator), *garudaha* (eagle) and *hathika* (elephant). Another fashion introduced at this time was the widening of the lobes, the *ketaki* flower strip being used for this purpose.

Sets of nine gems became very popular during the reign of Emperor Vikramaditya II (56 B.C.). The *navratna* ornament is supposed to have derived its name from the collective epithet by which the nine sages of Vikramaditya's court were popularly known. Each gem among the *navratna* had its own special quality.

The advent of the Mughals brought about a new synthesis of jewellery styles. Mughal motifs were dominated by flowers, foliage, birds like the peacock, a sprinkling of fish, the star and the crescent. Pearls and precious stones assumed greater importance. Uncut, but pierced gems became very popular. It was during this period that the *kundan* style of jewellery came into vogue.

TECHNOLOGY

According to Kamla Dongerkery,[5] jewellery making had achieved remarkable progress in the early ages. The gold and silversmiths were adept at the various techniques of drawing fine wire, mixing alloys, soldering gold, moulding and rolling it into thin sheets. They also knew the art of ornamenting their ware with inlay work, jade and *en repousse* (relief) work. The method of plating and gilding was also known to these artisans, and they used copper as a base for gilded jewellery. It is not certain whether they did enamelling in the present style, but it appears that they applied colour and paste in the grooves of copper ornaments. It is likely that on account of the tarnishing quality of copper, they covered it with enamel, and thus evolved a style of jewellery more economical than that made of precious metals.

Unlike their European counterparts, Indian jewellers use essentially manual techniques to craft ornaments. A typical jeweller possesses tools accumulated over the years. These include pliers, pincers, an assortment of files, chisels, vice-grips, wire-saws, crucibles and a blow-pipe or blower, hammers, and measuring devices. Assaying, or testing the quality of the precious metal, is the first step in making a gold or silver ornament. This is generally done by rubbing the metal against a 'touchstone'. The quality of the metal is judged by the colour of the streak that the metal leaves on the stone. The carat system was imported from the West, and is used by jewellers to quantify the amount of alloy in gold, and thereby, its purity. Pure gold, by virtue of being extremely soft, is unsuitable for many forms of jewellery. To obtain the required hardness, it is often mixed with copper and silver. This naturally brings down its purity to 14 or 18 carats. Silver too, is alloyed with copper, zinc or cadmium, to give it the requisite hardness.

Jewellers often use old silver and gold ornaments supplied by their customers, to make new ones. These, or ingots, as the case may be, are melted in crucibles. The temperature is regulated by funneling air into the fuel through a thin metal blow-pipe. Once the metal has liquefied, acid is added to the charge in the crucible to enable the dross, or impurities, to float to the surface. After removing the dross, the alloying element is added, and the liquid metal is poured into iron dies. The metal is removed from the dies and then formed into plates and wires of different gauges. Wires are used for filigree work, and for making bangles and chains, whereas plates are used for making pendants. While many rural jewellers do this manually, in urban areas, plate-making and wire-drawing are done mechanically, with the help of pressing and rolling machines. The next step is to shape the metal plates and wires into ornaments of the desired design. In the case of filigree work, wires of different gauges are cut to the right size, and then twisted into shape and interlaced or soldered to achieve an intricate, lace-like effect. In the case of other ornaments, the strips are cut into basic shapes with the help of cutters, and then decorated by one of several methods: engraving, enamelling, fret-work, or stone setting.

Rural jewellers often perform all the operations required to produce the finished piece of jewellery, themselves. By contrast, in cities like Jaipur, Delhi or Bombay, the different operations are performed by specialists: while goldsmiths make the skeletal piece, the *chatera* does the engraving, the *kundansaaz* the setting, and the *meenasaaz* the enamelling. Their activities are coordi-

Box C

POPULATION OF JEWELLERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families', on the basis of their occupations. Each family has a code number. There are 2 families listed in the 1961 Census and 5 families in the 1981 Census which are involved in various aspects of making jewellery and processing gem stones, and best correspond to the category of jewellers addressed by this chapter. For the sake of convenience, the different families have been grouped together under a single category, viz. goldsmiths, silversmiths & engravers. The list of NCO codes in the table below indicates the precise families that have been included under this category.

CATEGORY OF JEWELLERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Goldsmiths, Silversmiths & Engravers	1961	3,39,327	3,27,137 (96)	12,190 (4)	84,828 (25)	HH	741-742
		1,96,065	1,94,798 (99)	1,267 (1)	1,49,980 (76)	NH	
	1981	2,36,061	2,30,503 (98)	5,558 (2)	1,19,644 (51)	HH	880-883/889
		6,05,093	5,97,233 (99)	7,860 (1)	4,13,823 (68)	NH	
% Change between 1961-81		-30	-30	-54	+41	HH	
		+209	+207	+320	+176	NH	
G. TOTAL	1961	5,35,392	5,21,935 (97)	13,457 (3)	2,04,472 (38)		
	1981	8,41,154	8,27,736 (98)	13,418 (2)	5,63,803 (67)		
% Change between 1961-81		+57	+59	negligible	+176		

NOTES

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

nated by a dealer. For more than three decades now, embossing machines and dies have been in vogue. These machines punch designs onto the silver or gold sheet, which is then 'finished' by the *soni* into an ornament. Village and small town jewellers lack the capital to invest in these machines, and have to travel to neighbouring cities to avail of embossing facilities.

ORGANISATION OF PRODUCTION & MARKETS

Jewellers work under one of the three arrangements discussed below.

- **The self-employed jeweller**
  Most rural and small town jewellers work independently, out of their homes, and rely on family labour. A major part of their work consists of repairing and polishing old ornaments and making small religious figurines. Occasionally, clients supply old ornaments to be melted and made into new ones. In such cases, if necessary, these jewellers may travel to the nearest town or city to avail of polishing, embossing, or other facilities. This is particularly true in rural areas close to major urban jewellery centres like Jaipur, Hyderabad, Rajkot and Surat.
- **The jeweller attached to a shop or dealer**
  Very few gold or silversmiths in cities work independently, since they do not have the capital to buy precious metals and stones on their own. Most of them do job work for retail shops or traders. In Jaipur and Delhi, jewellers may work singly out of their homes, or from little workshops, on jobs given to them by retailers or traders. The more experienced artisans can command their own prices. Artisan-owned establishments have almost disappeared in large cities. Dariba Kalan, in Delhi, which once had a concentration of such establishments, is now swamped by traders and retailers who have jewellers working under them. Typically, a retailer or trader coordinates the work of several specialist artisans. Small production units owned by traders and retailers are a common sight in the by-lanes of Chandni Chowk and Jama Masjid, in Delhi. Many of the artisans employed in these units are originally from Calcutta, and moved here after Independence to fill the void created by Muslim artisans who had migrated to Pakistan.
- **The jeweller-entrepreneur**
  While the high cost of gold, silver, precious and semi-precious stones has prevented most jewellers from becoming entrepreneurs, a few do manage to mobilise the necessary capital to set up small production units using hired labour, and in some cases, even shops. Take the instance of Chokshi Kantilal Jaychand Soni, who owns a shop in Manika Chowk, Ahmedabad, renowned for its Rabari jewellery. "We don't show or teach anyone our craft", he says, explaining that when Rabari jewellery is ordered, he personally makes it along with his three sons, who are all goldsmiths. But he has hired two more seasoned goldsmiths who work on orders for what is called "fancy ware". The hired goldsmiths use his tools and are paid a monthly wage.

With the greater training facilities now available in the country, young workers who have undergone training in *hunarsalas* (craft schools), apprentice themselves to jeweller-entrepreneurs (*ustads*), for a very low or no wage. They must first perfect the art of working with silver before being allowed to move onto gold, and any wastage of gold is deducted from their wages. During the initial stages, they generally assist the *ustad* in setting stones or polishing the ornaments. It generally takes apprentices a minimum of five years to master the craft, at which point they have the option of continuing to work with the *ustad* on a regular salary, or else, of attaching themselves to a retailer.

In the diamond industry, with the rapid rise in export targets, there is enormous scope for workers to become entrepreneurs.[Box F] Twenty-eight year old Mansukh Khan of Bhavnagar is a good example. After working for about 15 years, he had saved enough money to set up a unit hiring six other workers. He invested about Rs.31,500 in buying two *ghantis* and two lathes. His main problem now is the supply of roughs. For this he is dependent on brokers, who also pick up the finished products. In Jaipur's gem industry, artisan-entrepreneurs are often at the mercy of the commission agent. Neera Burra's report on the working conditions in the gem industry documents the exploitative tactics used by these agents to beat down the wages and earnings of artisans.[Box G]

In the nineteenth century, the influx of imported machine-finished ornaments began influencing the tastes of the Indian elite. Unable to cope with changing designs and demand, many traditional jewellers were edged out of the market. Even today, village jewellers face competition from imitation jewellery. Made from plastic and cheap metals, this jewellery is extremely cheap, and is now widely available at village *haats*. Some artisans, like the *chudagars* of Gujarat, were thrown out of business, because of the ban on the use of ivory. The *baloya* or ivory bangles that they made, were traditionally worn by women as auspicious

Box D

EARNING PATTERN OF JEWELLERS

CATEGORY	*AVERAGE EARNINGS*	*REMARKS*
Gold & Silversmiths (Rural)	Rs.100 to 300 per month	Work is irregular. Concentrated around festivals and marriages.
Gold & Silversmiths (Urban)	Rs.900 to 1800 per month	Work is available year round.
Diamond polishers	Rs.450 to 1200 per month	Lower end is for child labour. Higher end is for experienced adult workers. Work available for 10 to 11 months a year.
Other Gem polishers	Rs.450 to 600 per month	Experienced workers earn more. But child labourers earn only a small fraction of the average.

SOURCE: Interviews conducted for this report in Delhi, Rajasthan, Gujarat, Andhra Pradesh (1987)

symbols. After the ivory ban came into effect, the ivory bangles were replaced by exceptionally clever plastic imitations. Deprived of their traditional raw material, and unable to find a substitute, the *chudagars* began settling in Surat and Bombay, and took up work in the diamond polishing units. In the meantime, Delhi's ivory workers switched to making bone jewellery, but their profit margins declined considerably. Elsewhere in India, the traditional agate industry, which was once the mainstay of the people of Cambay, began facing competition from cheaper synthetic stones produced, among others, by the Ogale Glass Works in Ogalewadi (Pune).[Box H]

Since royal patronage is a thing of the past, artisans have to cater to a largely middle class demand. The only artisans who seem to be holding on to their traditional markets are the small-town jewellers, whose relations with their clients extend back several generations. "The profession is based on trust", explains a *soni* in Chotilla, a small town near Rajkot, and during periods of economic distress, people often go to their trusted goldsmiths, who also act as pawn brokers and moneylenders. Some artisans have adapted to changing demand by venturing into new designs and products. Take the case of the goldsmiths of Chotilla. While most of their traditional customers favour Rabari, Bharwar and Banjara tribal jewellery, there is an increasing demand for highly polished 'modern' gold jewellery. Since hand-polished gold does not shine much, the Chotilla goldsmiths take their ornaments to jewellers in Rajkot and Ahmedabad to have them mechanically polished. Their contact with urban retailers over the years has helped open up new markets: they now make 'fancy jewellery' on order for retailers in Ahmedabad. They are also able to offer new designs to their traditional customers, as a result of their access to die-casting and embossing facilities in the cities. In Nagercoil, Tamil Nadu, traditional jewellers generally made gold ornaments studded with precious and semi-precious stones. These were bought by devotees as offerings to temple deities. With rising gold prices, the goldsmiths began experimenting with cheaper alternatives. They now make the same ornaments in silver, and subsequently wash them with gold solution. However, with temple sales falling, the Nagercoil jewellers are looking for new markets in big cities like Madras and even New Delhi. These are admittedly isolated, piecemeal attempts to innovate and keep pace with changing trends. The overwhelming tendency among jewellers is to become wage earners in export-oriented units.

Box H

JEWELLERY: MAJOR PRODUCTION CENTRES

In north India, Delhi is the premier centre for gold, silver, ivory and costume jewellery. In the *gullies* of Delhi's fabled Chandni Chowk, individual gold ornaments are worked upon by several specialist craftspersons. The Mughal influence is still prevalent in the capital. This can be seen in the highly prized *kundan* style of stone-setting. At the other end of the scale, inexpensive costume jewellery items – necklaces, bracelets, earrings and belt-buckles made from brass, wood, bone, beads and copper – can be picked up from the Janpath sidewalks.

Like *kundan*, *meenakari* – the art of enamelling – is another greatly appreciated form of embellishment. Jaipur and Varanasi are the two main centres for *meenakari*. Pratapgarh in Rajasthan has its own distinctive style of *meenakari* in gold, while Nathdwara jewellers do enamel work on silver and other metals.

Bombay specialises in sophisticated forms of jewellery. The opulent showrooms of Jhaveri Bazaar (jewellers' market) display ornaments studded with precious stones and gems polished with the most modern machines. Ahmedabad and Rajkot in Gujarat, are also important centres of gold and silver jewellery. In Rajkot, for instance, the daily turnover of gold jewellery and diamond units is about Rs.10 crores.

Orissa and Andhra Pradesh are well-known for filigree work, in which intricate ornaments are made from very fine wires. Kalahasti, Karimnagar, Tirupati and Rajamundhri in Andhra Pradesh, and Cuttack in Orissa, lead in silver filigree. Gold work is done in Madurai, Thanjavur, Coimbatore and Tiruchirapalli. Other well-known ornamental jewellery centres include Trivandrum for ivory work, Bengal for brass jewellery gilded with gold and silver, Kashmir for ornaments studded with precious and semi-precious stones, Karnal for silver beads, Hoshiarpur for gold nose-rings and Himachal Pradesh for *chaks* (pendants), *rach* (chokers) and *chandramalangs* (coin necklaces).

III INTERVENTIONS

The gem and jewellery sector falls within the purview of the Ministry of Commerce and the Office of the Development Commissioner for Handicrafts. The former is responsible for export promotion, while the latter oversees the general development and growth of the sector. This is done through a package of schemes of assistance in the areas of design and technical development, training, raw material, credit and marketing.

Since Independence, there have been two major interventions by the government that have influenced the lives and work of Indian jewellers. These are (i) the Gold Control Act and (ii) the promotion of the diamond and gem stones industry.

Gold Control Act

The Gold Control Act, though conceived in 1963, was enacted in 1968. The aims of the Act were as follows: "to let the public at large help with the war effort, against the backdrop of the Indo-China war; to curb the tendency of Indians to siphon their investments into non-productive areas, such as the purchase of the yellow metal; and primarily to clamp down on a demand which had become a national fetish".[6]

As a result of the Act, various measures were introduced to curb the trade of gold. These included:

- a rigorous licencing policy for dealership
- certificates of registration permitting goldsmiths to ply their trade within a prescribed area
- mandatory declaration of gold possessions by all citizens, and a ceiling on the quantum of these possessions – 2 kgs in the case of individuals and 4 kgs in that of families.

Box 1

DIAMOND INDUSTRY

The diamond cutting and polishing industry has come a long way since the 1950s. At that time, Palanpur in north Gujarat was the major centre for diamond processing. There were barely 25-30 diamond cutting units, employing around 300 artisans. The boom in the industry began in the early 1960s, when the government lifted restrictions on import of rough uncut diamonds. Exports of cut and polished diamonds rose from a paltry Rs.2.43 crores in 1963-64,[1] to over Rs.8,313 crores in 1991-92.[2]

India was the sole source of diamonds until they were discovered in Brazil in 1725, and subsequently, in other countries. However, indigenous mining of diamonds is now negligible, and imports are the main source of crude, uncut diamonds, referred to as 'roughs'. In 1986-87, India imported 41.53 million carats of roughs, against a local production of a mere 15,000 carats from the once-famous Panna diamond mines in north-eastern Madhya Pradesh. Most of the roughs are imported by Bombay-based traders through a South African cartel, the Diamond Trading Company, located in London.

The industry relies heavily on the sub-contracting system that prevails in many sectors of modern industry. Big traders sublet diamonds to small traders, who either process them in their own units, or further sublet them to a number of smaller units. According to one estimate, there were approximately 4 lakh artisans in the diamond processing industry in India in the early 1980s. Most of these artisans are employed in small, unregistered units. It is estimated that there are nearly 20,000 such units, spread over Surat, Ahmedabad, Navsari, Rajkot, Palanpur, Bhavnagar and Amreli. Bombay is the largest production centre outside Gujarat, and the machinery used here is also the most sophisticated. Cambay, Trichur and Goa are among the emerging centres of production.

Surat is dotted with '*galas*', the local term for the diamond workshops. These are usually small, badly-lit, ill-ventilated rooms, where the artisans work for about 10 hours a day. Most of them are engaged in shaping roughs on lathes, or polishing the shaped stones on a polishing wheel called a *ghanti*. Four persons sit around each *ghanti*, on the floor. The impurities are marked and sawn along the stone's axis, or cleared and removed. The diamond is then given a top, by a process called bruting. The stones are then properly shaped (facetted) and polished. Polishing is the last stage in the preparation of a gem stone, and is done to maximize the brilliance of the stone. It is done on a motorised horizontal wheel, lined with a buffing material. An abrasive slurry, made of a very fine suspension of chromium trioxide in water, is poured on the spinning wheel. The chromium trioxide particles act as a superfine abrasive and polish the gem's surface. This is the process for which child labour is most used. In the diamond and gem industries, there has been a significant upgradation of technologies, but despite this, the technology used in India is obsolete by international standards. Most of the diamonds processed in India are small. The processing of large roughs calls for sophisticated machinery and technology, as yet unfamiliar to the Indian artisan.

The workforce is dominated by males. Young boys are pushed into the trade by their families, who view the diamond industry as their gateway to economic success. Recurring drought has brought hordes of workers from the Saurashtra region, all hoping for a slot in the diamond industry.

Most of the young men who come to Surat live in the *galas*, since housing is expensive and hard to find. A number of the workers suffer from respiratory problems caused by inhaling diamond dust. Prolonged squatting on the floor causes severe neck, back and knee-joint pains. Dermatitis, eczema, corns and scars are rampant. The need for precision work in ill-lit and ill-ventilated rooms make eye strain and headaches very common conditions.

Most of the young artisans learn by apprenticing with experienced workers for a few months, after which it is not difficult to obtain employment. According to one source,[3] the average earning of artisans is in the range of Rs.500-600 per month, though owner-artisans earn more. Giving cash advances in return for child labour is a common practice. Very often, older family members bring young children to work at a diamond unit and take home a bulk of the salary in advance. This ensures maximum repatriation to the family. For unit owners it ensures cheap child labour.

Box G

THE PINK CITY GLITTERS

Jaipur is widely known as the Pink City. But there is much more to this city than its sandstone facade. Behind its pink walls, heaps of coloured stones are shaped into gems everyday, shaping in turn the lives of many. Jaipur is India's largest gem processing centre, and gem processing is the largest source of employment in Jaipur. Jaipur is also renowned for *meenakari*, or enamel work.

The gem and jewellery industry of Jaipur is over 300 years old. When Jaipur was built in 1727, a number of jewellers from Delhi, Agra and Benares settled there at the invitation of Maharaja Jai Singh. "Maharaja Man Singh brought members of my family all the way from Amritsar, when returning from a battle in the North. He was very impressed with the intricacy of their work," reminisces Sardar Inder Singh. Sardar Inder Singh's ancestors were originally attached to the Amber Fort and worked on orders from the king and his family. Later, in 1727, when Maharaja Jai Singh built Jaipur city and the City Palace, the *meenakar* families were shifted to the *hunari* (skill) *madarsa* (school). "The *hunari madarsa* became the home of many craftsmen who had been brought especially to Jaipur to cater to the nobility ",[1] explains Inder Singh.

The jewellers flourished under the patronage of successive rulers. The principal market of Jaipur came to be named Johari Bazaar, (or jewellers' market), and the main city square Manab Chowk (or ruby square).

A wide range of precious and semi-precious stones are processed in Jaipur. Sapphires, rubies and emeralds are among the precious stones processed here. The semi-precious stones include lapis-lazuli, turquoise, corals, garnets, amethysts and topaz. These stones are imported from all over the world. Almost 95 per cent of all coloured gem stones in India are processed here.

Grading, sorting, cutting, facetting and polishing are the major processes involved in converting a stone into a gem. Once sorted, the stones are slit by means of a thin disc of soft metal. The cut stones are known as *ghats*. The *ghats* are subsequently cemented onto wooden sticks, and shaped and facetted against a rotating emery or carborundum wheel. Finishing touches are then given by master craftsmen. In the final stage, the gems are polished with oxides.

Gem polishing and cutting units are of four types:

- Those established by large export houses using salaried labour in a factory-type set-up.
- Workshops owned by master craftsmen or *ustad* contractors. Usually, 25 to 30 persons work in a *haveli*. The master craftsmen guide adult workers in shaping, cutting and facetting, and young children do the final polishing. In most cases the 'roughs' are supplied by a trader or an exporter.
- Home-based units in which workers own the polishing equipment. Raw material is supplied by a petty trader, and the worker uses family labour.
- Artisan-entrepreneur units. Here, the artisans not only own the equipment, but also purchase their own raw material. They sell their finished products to *dalals* or commission agents.

Every now and then, wage workers save, invest in raw material and sell the finished products for supplementary income. But not all of them succeed. Take the case of fifty-year old Hamidbhai, who was able to save Rs.10,000, after working for 40 years. He decided to buy uncut emeralds and worked for 15 days with the help of his family members to process them. He took them to the *dalal* to sell directly, thinking that thereby he would be able to keep the commission he would normally have to pay to an intermediary. On his first day in the market, he asked for Rs.15,000 for the goods but the *dalal* bargained for a lower figure. The day Neera Burra, a researcher met Hamidbhai, he had been beaten down to Rs.11,000. Hamidbhai could not wait any longer and said to her: "The *dalals* know how little staying power the worker has, and how to apply pressure. They know our desperation from just looking at our faces and wait patiently like vultures. They are aware that tomorrow I may not even recover the money I spent on the raw material. My whole family worked to finish the goods and we will not be able to get even the minimum labour charges."[2]

The *dalals* are a vital link between the processing units and the traders. They congregate every morning in Gopalji Ka Rasta in Johari Bazaar, carrying bags full of gems bought from the units. These they sell to the traders. As one *dalal* put it, "the only way to make money is to be *chatur* and *chaukan* (clever and alert). The *dalals* are always on the look-out for opportunities to buy goods worth one rupee for fifty paise (*"Ek Rupaiye ka maal, aath anne mein"*). It is a well known fact that *dalals* delay negotiations till a late hour when the artisans become desperate. For many, their family's dinner depends on the sale. They also stock up by buying goods just before the *Id* and *Muharram* festivals, when the Muslim artisans are in urgent need of money.

Child labour is very widespread in the units processing semi-precious stones, where the stakes are lower than in units processing precious stones. Children are ostensibly engaged as apprentices at the age of six or seven. But in effect, they provide cheap labour during the learning period, which can even stretch to seven years. For the first few years, the children are not paid a regular wage. Even at the end of their 'apprenticeship', they often earn only Rs.150-200 p.m. for work that would fetch an adult Rs.500-600. The employers also exploit the apprentices by sending them on personal errands or using them for domestic chores.

Gem workers in Jaipur often earn more than the minimum wage prescribed for skilled workers. This makes them better off than most other artisans in the jewellery industry and other trades as well. Salaries of skilled workers, such as *ghat bananewalas* (those who cut stones), range between Rs.1000-5000 p.m., depending on the stones being cut. Workers who are less skilled are paid between Rs.500-600 p.m. However, relative to the profits that traders earn, the gem workers are paid a pittance.

Guesstimates place the number of workers in the Jaipur gem industry at 60,000.[3] Nearly three-quarters of them are wage earners, and almost 85 per cent are Muslims. Despite its size, however, the gem industry in Jaipur does not come under the purview of any labour laws. It is believed that the dealers and traders lobby wields such immense clout, that it has managed to thwart all attempts at imposing labour legislation. The failure on the part of governmental agencies to introduce legislation enables the industry to hire the cheapest labour in the world. This is one of the main reasons why India is able to compete in the international market. Despite this advantage, India now faces greater competition from other countries like Israel and Thailand, which have switched over to superior technology. This has given them an edge over India in the quality and finish of their products.

These measures resulted in a sharp decline in the goldsmiths' work. Customers, fearing confiscation of ornaments in excess of the legal limit, withheld work. With their marketing and raw material channels blocked, many goldsmiths gave up their profession. According to one source, "one of the more heartrending spinoffs from the implementation of the GCA was the absolute annihilation of thousands of village *sonars*, who perforce had to move away from their traditional mainstay. Harassment of the village goldsmith by officials of the Gold Control Administrator's office was not an unheard phenomenon".[7] Since the production

Box H

AGATE OF CAMBAY

Cambay, popularly known as Khambhat, is a seaport situated at the head of the Gulf of Cambay, about 90 kms from Ahmedabad. It is the largest agate processing centre in India. The industry owes its origins to Bawa Ghor, an Abyssinian merchant who visited India in the 16th century. Struck by the abundance of agate in and around Rajpipla, he decided to set up an agate processing factory at Cambay. This factory paved the way for a thriving overseas trade with the Middle East and Africa.

Agate, also known as *akik*, is a semi-precious stone that is found on hill slopes and in river beds. The Ratanpore Hills in the vicinity of Khambhat are the principal source of agate in its crude form. Mining agate stones is a specialised task. Once this is done, the crude stones are transported to the manufacturing units, where they are subjected to various processes. Each process is highly specialised and is executed by different sets of artisans.

Baking is the first and most crucial step in the production process. This is done by baking the stones between layers of dung cake and saw dust, in a trench. Experience, and not scientific guages, have taught the artisans the art of maintaining the temperature at the required level. Any undesirable variations in the temperature can cause discoloration of the stone.

After baking, the stones are cut into the desired shapes with an iron spike and hammer. This has to be done with extreme care, to prevent wastage. In the next stage, the uneven surface of the cut stone is smoothened by holding it against a rotating emery wheel. Finally, the stones are polished to enhance their lustre. The technique of polishing is a closely guarded secret, and no one other than the workers know the precise composition of chemicals used. All that is known is that the stones are placed in a leather bag filled with emery powder, leather pieces and cornelian powder together with other ingredients. The leather bag is put inside a drum which is rotated mechanically for 2-3 days. During this period, the stones are checked intermittently. In the case of beads, polishing is followed by drilling. Diamond-tipped drills are used to pierce holes in the beads.

Agate is either sold in the form of gem stones, or crafted into beads and pendants. Decorative items such as animal figures are also made from agate. Agate even has some industrial applications, such as mortars and pestles for grinding chemicals.

Agate processing is essentially an export-oriented industry. Only 20 per cent of its total output is sold domestically. Till the late '70s, Nigeria was the principal buyer of agate products from India. But the ban on agate imports by Nigeria forced manufacturers to scout around for new buyers. As a result, agate is now exported to several countries such as Hong Kong, Saudi Arabia, Italy, the Netherlands, Japan and Niger.

According to estimates, in 1978, 20-25,000 persons in Cambay were engaged in agate work. But by the early '80s, the numbers had

dwindled to 10-15,000. This slump was a direct result of the loss of the Nigerian market. There is an equal proportion of Muslim and Hindu artisans in the industry. The artisans work either at the factories owned by traders and manufacturers, or at their own premises. Factory-based workers are paid either monthly wages, or piece-rates. Home-based workers are supplied the raw material and generally receive piece-rates.

An interesting feature of the agate industry was the existence of guilds, right upto the mid-20th century. There were separate guilds for polishers, cutters, shapers and drillers. Members of one guild were barred from doing the work of another guild, and each guild guarded its know-how zealously. An entry fee was levied on the members. Part of this was handed over to the government. The rest was utilised to offer feasts to the old members. With increasing mobility, the guild system went into disarray towards the late '40s.

Source: Moulik, Rita: Agate Industry in Cambay; (mimeo, prepared for Industrial Development Services); Ahmedabad 1983.

of gold in India has remained substantially below the demand, goldsmiths began relying on smuggled gold. In interviews, however, goldsmiths staunchly maintained that they only recycled old ornaments. By the Government's own admission, "The Act had been largely ineffective, and it has also caused hardship and harasament to the small goldsmith".[8] The curbs resulted in a wide disparity between domestic and international prices for gold, and an escalation in the incidence of smuggling. It is estimated that there are approximately 150-200 tonnes of smuggled gold in circulation, while the indigenous supply is a mere 2 tonnes.[9]

Despite the restrictions, gold jewellery exports registered a steady rise, from Rs.77 lakhs in 1974-75 to Rs.8338 lakhs in 1983-84.[10] Recognising the potential of gold exports, there was mounting pressure from gold jewellery traders, and even some administrators, to scrap the Gold Control Act and import gold to boost jewellery exports. Perhaps, as a consequence, the Government approved the development of export promotion zones (EPZ's) in Delhi, Bombay, Madras and Jaipur, to promote gold jewellery exports.

It was against this backdrop that the Government finally decided to scrap the Gold Control Act in 1991. It was felt that removing the restrictions on gold purchases would reduce price disparities and smuggling. Furthermore, it would bring out into the open gold that had been hoarded for generations. According to one guesstimate, the quantum of hoarded gold in the country is a staggering 10,000-25,000 tonnes. For goldsmiths, the abolition of the GCA could mean greater accessibilty to the elusive yellow metal. And for the country, it has meant a spurt in the exports of gold jewellery, which touched Rs.739 crores in 1991-92.

Diamond Trade Development

Foreign exchange earnings have been the motivating factor behind government policies vis-a-vis the jewellery sector. In 1992-93, diamonds, gems and gold jewellery were the single largest component of the exports basket, exceeding Rs.9400 crores. Demand for the Indian diamond was first generated by Indian diamond traders when they took on the work of cutting and polishing small diamonds that were not processed in other countries. Inexpensive labour and machinery made it economical to process these diamonds. Consequently, India became the world's major supplier of these less valuable, industrial diamonds. The diamond trade was also boosted by liberalising import policies, beginning with the Import Replenishment Scheme in 1958-59. This allowed traders to import roughs from abroad against their export performance. Over the years, several such measures have been introduced. As diamond exports grew, so did the need for skilled labour, and it became imperative to recruit and train non-hereditary workers. The first major initiative was the establishment of the Indian Diamond Institute at Surat in 1978, for training both artisans and traders.

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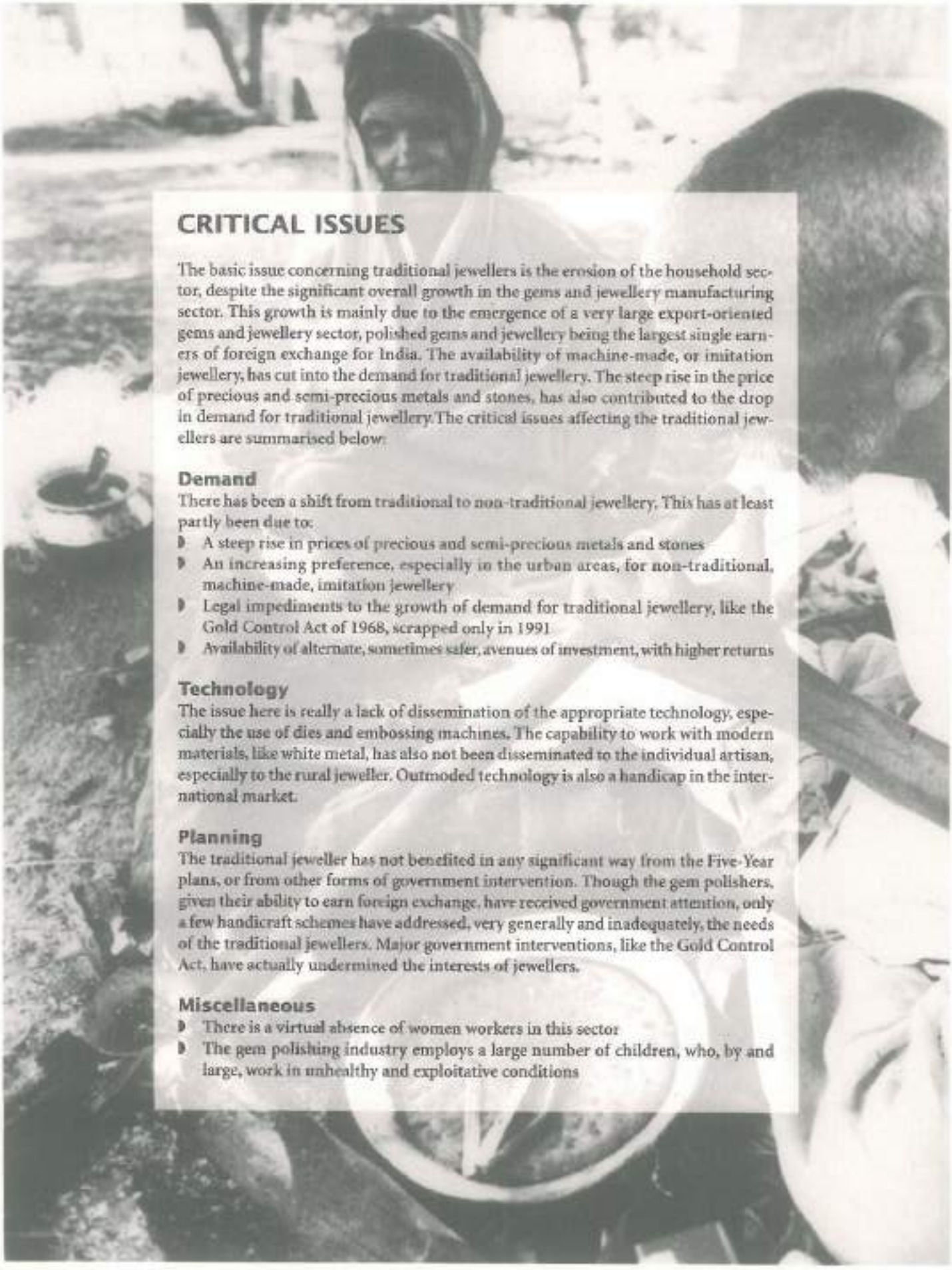


CRITICAL ISSUES

The basic issue concerning traditional jewellers is the erosion of the household sector, despite the significant overall growth in the gems and jewellery manufacturing sector. This growth is mainly due to the emergence of a very large export-oriented gems and jewellery sector, polished gems and jewellery being the largest single earners of foreign exchange for India. The availability of machine-made, or imitation jewellery, has cut into the demand for traditional jewellery. The steep rise in the price of precious and semi-precious metals and stones, has also contributed to the drop in demand for traditional jewellery. The critical issues affecting the traditional jewellers are summarised below:

Demand

There has been a shift from traditional to non-traditional jewellery. This has at least partly been due to:

- A steep rise in prices of precious and semi-precious metals and stones
- An increasing preference, especially in the urban areas, for non-traditional, machine-made, imitation jewellery
- Legal impediments to the growth of demand for traditional jewellery, like the Gold Control Act of 1968, scrapped only in 1991
- Availability of alternate, sometimes safer, avenues of investment, with higher returns

Technology

The issue here is really a lack of dissemination of the appropriate technology, especially the use of dies and embossing machines. The capability to work with modern materials, like white metal, has also not been disseminated to the individual artisan, especially to the rural jeweller. Outmoded technology is also a handicap in the international market.

Planning

The traditional jeweller has not benefited in any significant way from the Five-Year plans, or from other forms of government intervention. Though the gem polishers, given their ability to earn foreign exchange, have received government attention, only a few handicraft schemes have addressed, very generally and inadequately, the needs of the traditional jewellers. Major government interventions, like the Gold Control Act, have actually undermined the interests of jewellers.

Miscellaneous

- There is a virtual absence of women workers in this sector
- The gem polishing industry employs a large number of children, who, by and large, work in unhealthy and exploitative conditions

Section II

9

Ḍarzee

Artisans who make clothes and embroider fabric

Tailors

Although hand-stitched garments date back to ancient times, their use became widespread only during the Mughal period. Prior to that, most Indians used draped attire such as the dhoti and sari. These traditional forms of attire continue to be worn by a large segment of the Indian population.

Till the early twentieth century, clothes were stitched entirely by hand. The advent of the sewing machine revolutionised sewing technology. It also transformed what was once a purely household activity, into a thriving industry that has become one of the largest foreign exchange earners for India. Today, almost 2 million people are engaged in tailoring, embroidering and other needlework.

It is difficult to think in terms of tailors as a homogenous group of artisans. Given that tailoring is done within both the organised and unorganised sectors, tailors differ widely with respect to their earnings, levels of specialisation and overall working conditions. Placed at one end of the continuum is the self-employed tailor, who works independently, and executes orders for custom-made clothes. Such tailors are scattered in small cities and rural areas throughout India. At the other end of the continuum are tailors who are employed by garment factories located in Delhi, Bombay, Ahmedabad and other cities. These tailors are often no more than machine operators, performing repetitive tasks in assembly line production.

1 THE ARTISANS

HISTORY

One of the arts that Vatsyayana exhorted women to learn is what he called the "arrangement of attire", interpreted to mean the art of beautifying one's person with garments, garlands and ornaments. The use of the needle and the artifices depending on its use figure among the 64 arts enumerated by Vatsyayana. One of these arts, *vastragopanani*, refers specifically to clothes.[Box A] Prior to the first century A.D., Indian women are reported to have worn a close fitting, tailored garment, embroidered with gold thread. It was known as *drepi*. Males, too, sometimes sported a long, flowing tailored garment, called *atka*. This resembled an overcoat.[1] Gandharva and Mathura sculptures of the first century A.D., provide evidence of sewn clothes in the northern parts of the country. Central Asian and Iranian influence inspired the use of tunics, trousers and caps amongst men, and amongst women, sleeved tunics, petticoats and shawls. The *salwar* and *kameez* were introduced during the Sultanate period, and with the rise of Mughal nobility in the fourteenth century, *churidar pyjamas* and tunics became fashionable among the elite. The Europeans introduced shirts and trousers. Literature from the period spanning A.D. 320 to A.D. 1100 refers to a cut and sewn garment covering the female bosom, called *kanculita kurpasha*. The *kurta* was perhaps a variation of this.[2]

The evidence cited above, however, contradicts the writings of Hiuen Tsiang based on his travels through India around 629 A.D. The impression given by him is that Indians wore uncut clothes of cotton, hemp, silk and animal furs.[3] It is quite possible that even though sewn garments were in existence by then, their use was limited.

The *Vedas* contain references to *suchi*, or tailor. Jataka literature also mentions guilds of *tunnavayas*, or tailors. However, the linkage between tailoring and particular caste groups, if any, is unclear. There appears to be no reference in the available literature to tailors being a distinct caste group. There are two possible explanations for this phenomenon. Firstly, the stitched garment came to the Indian sub-continent long after the caste system had taken root. Secondly, as with weaving in certain parts of the country, stitching and sewing were an integral part of the woman's household chores. This obviated the need for a separate functional group till much later. Says Sharmaji, who resides in Zakir Nagar (New Delhi) which is predominantly inhabited by tailors, "our community has always been flexible: people of any religion or caste can be a part of it. My father was a tailor. Now I am one. By virtue of two successive generations having been involved in the tailoring profession, our family now belongs to the *darji* community".[4]

POPULATION ESTIMATES

Calculations based on the Census of India 1961 and 1981, suggest the following demographic trends with respect to tailors: [Box B]

- Total population:
  The total number of tailors in 1981 was 21.4 lakhs.
- Share of household vs. non-household sector:
  Of the above, 5.7 lakhs (26 per cent) were in the household sector.
- Rural-urban mix:
  Of the total population of tailors in 1981, 11.6 lakhs (54 per cent) were located in urban areas. In the case of the household sector, 38 per cent of the tailors were located in urban areas. By contrast, 60 per cent of all tailors in the non-household sector were located in urban areas.
- Gender mix:
  Females, numbering 2.4 lakhs, accounted for 11 per cent of the population of tailors in 1981.
- Intercensal shifts:
  The total population of tailors increased from 11.9 lakhs in 1961 to 21.4 lakhs in 1981, representing a growth of 80 per cent. This growth was confined to the non-household sector, which expanded by 171 per cent, from 5.8 lakhs in 1961 to 15.7 lakhs in 1981. In stark contrast, there was an actual decline in the household sector both in absolute and relative terms: While in 1961, the household sector accounted for a little more than half of the total population of tailors, in 1981 its share plummeted to 26 per cent. The number of women in tailoring as a whole increased. However, their numbers in the household sector actually declined. In 1961, 47 per cent of all tailors were located in urban areas. By 1981, however, the share of urban workers had risen to 54 per cent. In 1961, only 25 per cent of the workers in the household sector were located in urban areas. In the case of the non-household sector, however, the relative share of urban artisans declined from 70 per cent in 1961 to 60 per cent in 1981. The number of workers engaged in embroidery, darn-

Box A

THE CULTURE OF CLOTHING

In the world of fashion, a distinction is drawn between clothing that is anatomic and that which is gravitational. As its name suggests, 'anatomic' clothing follows the body line and relies upon the cutting and fitting skills of tailors. 'Gravitational' clothing, on the other hand, affords scope to the natural fall of the material, and shows "hardly any architecture".[1] In the Indian context, the *dhoti* and *sari* belong to the category of gravitational clothing, whereas, the accompanying blouse and *kurta* are considered anatomic.

Traditional Indian clothing may be regarded as "fundamentally gravitational and concealing", as opposed to European clothing "which is anatomic and emphasising".[1] These clothing styles, argue some scholars, are rooted in different cultural beliefs about the significance of clothing. According to Ghurye, "generally, European society looks upon costume not only as an item of personal attractiveness, but also as a fashioner of personality... Indian society, on the other hand, looks upon costume as... insignificant..., which is at its best a decoration, and at its worst, a deception."[1]

The old English adage "God makes and apparel shapes", underlines the significance of clothing in determining the personality of man. This is fundamentally different from the Indian viewpoint, which is implicit in the following proverb: "*Kanda orne se fuqir nahin hota*" (priestly clothes don't make a man religious).

Box 8

POPULATION OF TAILORS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families', on the basis of their occupations. Each family has a code number. There are 5 families in the 1961 Census and 6 families in the 1981 Census which are involved in various aspects of tailoring and sewing, and best correspond to the category of tailors addressed by this report. For the sake of convenience, the individual families have been regrouped under four major categories, as follows:

- Tailors, dress makers & garment makers: These workers make ready-to-wear and made to measure garments. They also repair and alter garments. Excluded are workers who perform routine and less skilled sewing tasks.
- Upholsterers: This group of workers upholsters furniture, installs cushions and covering for seats and other furnishing for automobiles, railway coaches, and other vehicles, and makes and repairs cushions and mattresses.
- Sewers, embroiderers and darners: Workers in this group sew various types of cloth by hand or machine, repair, darn and alter garments, do embroidery, button holing and hemming.
- Miscellaneous workers: This includes workers who make new patterns, draw and cut them out, mark and cut fabric. It also includes tailors and other workers engaged in making tents, umbrellas and sails.

The list of NCO codes in the table below indicates the precise families that have been included under each of the above mentioned categories.

CATEGORY OF TAILORS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Tailors & dress makers	1961	5,25,531	4,26,555 (81)	98,976 (19)	1,18,672 (23)	HH	710
		5,13,446	4,85,924 (95)	27,522 (5)	3,55,099 (69)	NH	
	1981	4,89,647	4,03,104 (82)	86,543 (18)	1,76,929 (36)	HH	791
		14,18,910	12,99,046 (92)	1,19,865 (8)	8,27,699 (58)	NH	
% Change between 1961-81		-7	-6	-13	+49	HH	
		+176	+167	+335	+133	NH	
Upholsterers	1961	3,039	1,659 (55)	1,380 (45)	1,233 (41)	HH	713
		5,410	3,097 (91)	313 (9)	2,271 (67)	NH	
	1981	7,237	5,910 (82)	1,327 (18)	3,676 (51)	HH	796
		12,888	11,811 (92)	1,077 (8)	9,325 (72)	NH	
% Change between 1961-81		+138	+256	-4	+198	HH	
		+278	+281	+244	+311	NH	
Embroiderers & Darners	1961	49,920	21,118 (42)	28,802 (58)	22,211 (44)	HH	715
		32,286	26,686 (83)	5,600 (17)	27,121 (84)	NH	
	1981	59,975	44,967 (75)	15,007 (25)	28,867 (48)	HH	795
		90,510	78,929 (87)	11,581 (13)	67,767 (75)	NH	
% Change between 1961-81		+20	+113	-48	+30	HH	
		+180	+196	+107	+150	NH	
Miscellaneous workers	1961	26,931	14,882 (55)	12,049 (45)	8,913 (33)	HH	714/719
		30,983	26,402 (85)	4,581 (15)	22,048 (71)	NH	
	1981	9,789	7,325 (75)	2,463 (25)	5,732 (59)	HH	790/794/799
		48,523	43,341 (89)	5,182 (11)	36,854 (76)	NH	
% Change between 1961-81		-64	-51	-80	-36	HH	
		+57	+64	+13	+67	NH	
TOTAL	1961	6,05,421	4,64,214 (77)	1,41,207 (23)	1,51,029 (25)	HH	
		5,80,125	5,42,109 (93)	38,016 (7)	4,06,539 (70)	NH	
	1981	5,66,648	4,61,306 (81)	1,05,340 (19)	2,15,204 (38)	HH	
		15,70,832	14,33,127 (91)	1,37,705 (9)	9,41,645 (60)	NH	
% Change between 1961-81		-17	-1	-25	+42	HH	
		+171	+164	+262	+132	NH	
G. TOTAL	1961	11,85,546	10,06,323 (85)	1,79,223 (15)	5,57,568 (47)		
	1981	21,37,480	18,94,433 (89)	2,43,045 (11)	11,56,849 (54)		
% Change between 1961-81		+80	+88	+36	+107		

NOTES

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

ing and hand-sewing rose from 0.82 lakhs in 1961, to 1.4 lakhs in 1981. Though to a lesser extent, the number of workers doing upholstery work also increased during this period, from 0.06 lakhs to 0.20 lakhs.

SOCIAL & ECONOMIC ASPECTS

Box C

THE ROMANCE OF THE SEWING MACHINE

"What I object to is the craze for machinery as such", said Gandhiji.[1] "...I would make intelligent exceptions. Take the case of the Singer Sewing Machine. It is one of the few useful things ever invented, and there is a romance about the device itself. Singer saw his wife labouring over the tedious process of sewing and seaming with her own hands, and simply out of his love for her, he devised the sewing machine, in order to save her from unnecessary labour. He, however, saved not only her labour but also the labour of everyone who could purchase a sewing machine."[2]

The sewing machine is a more or less ubiquitous feature of Indian middle class homes, where housewives do minor alterations or stitching jobs for the family. A domestic machine is designed to operate for a few hours at a stretch, and has a speed of about 500 to 1,000 stitches a minute. Factories, on the other hand, use what are known as industrial-artisan sewing machines. More rugged in construction, these machines are designed to work for longer hours and operate at speeds ranging between 3,000 to 6,000 stitches a minute. They can be operated either by the treadle or by power, depending upon the nature and volume of orders that have to be completed. Special machines have also been developed for stitching denim, leather and canvas. Smaller auxiliary machines have been devised for overlocking, or side-edging, which help to give a more finished look to the insides of the garment.

Technological advances in cutting were necessitated by the exponential growth of the ready-made garment industry and the consequent changes in the organisation of the trade. Cutting machines are now coming into vogue. The master tailor in a modern garment company is consulted about the design of the garment. His drafting and cutting skills come into play at the stage of preparing a sample. Subsequent cutting for mass production is now often done by machines.

The demands of large scale production, with its premium on speed, have led to a standardisation of size and design. This has been complemented by the modern notion of 'fashion', which itself implies a standardisation of tastes. Together, they have been responsible for the slow decline of the master tailor as the skilled artisan who cuts and tailors the cloth himself. The latest advances in cutting technology promise to take the deskilling of tailors one step further. Computer Aided Designing (CAD) systems are slowly gaining ground in the advanced nations. The computer drafts the basic design and pattern of the garment, after specifications have been fed to it, ensuring minimum wastage of cloth. In the pre-stitching stage, CAD systems have recorded astounding savings in time and rise in productivity. These technologies are capital intensive, and have so far been confined to advanced countries and very large firms. But they are gradually finding their way even into labour surplus economies like India, thereby threatening to make many tailors jobless.

A total of 120 tailors were interviewed by the SRUTI research team. Accounting for almost 25 per cent of the total sample, tailors outnumbered all the other artisans surveyed by SRUTI. The highest number of tailors was encountered in the following blocks: Hyethnagar (Ranga Reddy District, Andhra Pradesh), Tohane (Hissar District, Haryana), Vyara (Surat District, Gujarat) and Alibag (Raigad District, Maharashtra). Alibag, Tohane and Vyara are all classified as agriculturally advanced areas.

Social Aspects

The growth dynamics of tailoring in the rural areas is indicated not only by their numerical strength, but also by the fact that during the SRUTI survey the highest proportion of first-generation artisans (82.5 per cent, as compared with the sample average of 37.1 per cent) was encountered among tailors.

Sewing was, and continues to be done by women as a part of their household chores. The items they make are largely for self-consumption. In India today, tailoring by the women of the household is seen as a way of avoiding unnecessary expenditure on purchasing ready-made garments or having clothes tailored elsewhere. Therefore, the housewife as tailor, seamstress and embroiderer exists alongside the professional tailor for whom this is a form of livelihood. A similar situation is found in the culinary profession: whereas most of the cooking

in the household is done by women, relatively fewer women make this a source of livelihood.

In the course of the SRUTI survey, it was found that most women tailors stitched only women's and children's garments, which fetched a lower price than men's clothes, for reasons that could not be ascertained. This contributed to the lower income of female tailors as compared to male tailors. In the case of male tailors, assistance was occasionally provided by the women of the household. This was generally confined to trimming, attaching buttons and hemming. A large number of women are employed in the garment export industry on varying terms and conditions of work. Most of them work out of their homes, and are generally involved in one or more of the following activities: embroidery, tracing patterns onto fabric for embroidery, button stitching, crochet and cutwork (i.e.,trimming the edge of netting after it has been appliqued onto a garment, or cutting out bits of cloth from embroidered patterns). Those employed in factories are by and large 'segregated to lower skill tasks'. According to one study, most checkers and machine operators on assembly lines are women. Tailoring of complete garments is done exclusively by men.[5]

Economic Aspects

With almost 90 per cent of them reporting that they worked for more than 6 months in the year, tailors seemed to be more fully employed than other artisans. Their average annual income was Rs.4398, placing them fifth after wood workers, leather workers, metal workers, and textile workers. Tailors also recorded the lowest incidence of indebtedness. Only 34 per cent of the tailors interviewed reported that they had incurred debts. 48 per cent of the tailors interviewed possessed land. 54 per cent owned livestock and poultry, and 57 per cent some means of transport. 34 per cent of the tailors reported an annual household expenditure of below Rs.5000. 36 per cent reported that their annual household expenditure was in the range of Rs.5000-10,000. The balance had household expenditures that exceeded Rs.10,000 p.a. According to the SRUTI survey, tailors effected sales of approximately Rs.6408 p.a. Raw materials accounted for 25 per cent of the sales value. The average value added by each tailor in the sample was approximately Rs.4631 per annum.

II THEIR WORK

PRODUCTS & RAW MATERIALS

The items sewn by tailors fall into three broad categories:

- **Garments:**
  Shirts, trousers, dresses, *kurtas, pyjamas, salwar* and *kameez* sets, *sari* blouses, petticoats, children's clothes and school uniforms.
- **Upholstery and furnishing:**
  Curtains, sofa covers, cushions, quilts, mats, car and other

Box D

THE MAGIC OF THE NEEDLE

Embroidery has been described by some as the art of painting with a needle, the smallest and simplest of tools ever invented. "The tiny needle, a flash of coloured thread, a peaceful silence – this is the ambience that envelopes the Indian embroiderer", says Jaya Jaitly, in her book on the craft traditions of India. Embroidery in India, as in most parts of the world, is done mostly by women. According to Jaitly, this craft is essentially an assertion of the woman's identity, her skills and sense of beauty. These skills and aesthetic notions have found myriad expressions, with each region having developed a distinctive style of embroidery.[6]

In Gujarat and Rajasthan, the women of the *mochi* community use the *ari*, or awl, to embroider vibrant motifs, portraying everyday life, onto silk and satin. The *kanbi* community in Gujarat is known for its mirror work embroidery. Mirrors and, in earlier times, pieces of mica, are incorporated into brilliant pink, orange, green and purple embroidery. Beadwork and applique are also part of the embroidery tradition of Gujarat.

Kantha work, unique to Bengal and parts of Bihar, is based on the ancient Indian wisdom of utilising waste. Strips of cloth salvaged from old *saris* and *dhotis* are layered and sewn together with a tiny running stitch. This gives the surface a quilted texture and serves as the background for embroidering motifs. These motifs depict scenes from everyday life and are embroidered in a running stitch. Quilts, shawls and cradle cloths are among the traditional *kantha* items. Each of these items was traditionally a labour of love, and produced only for domestic use.

As vibrant as its people is the *phulkari* and *bagh* embroidery of Punjab. This embroidery was traditionally done by mothers on coverlets, which were an indispensable part of their daughters' trousseaux. The embroidery is done in flossed silks for which white, yellow, pink and green are the preferred colours. Geometric and floral motifs are embroidered onto coarse cotton cloth of earthy brown or red, and at times, blue.

Orissa is home to *pipli*, a style that combines appliqué with embroidery. It is distinguished by the use of brilliant shades of red, yellow, cobalt blue, black and white. *Pipli* work is done on umbrellas, canopies, bags and cushion covers. Women are not associated with this craft.

Kasuti is a single thread embroidery that is traditionally done on handloom *saris*. This extremely delicate style of embroidery is a speciality of Dharwar in Karnataka. Commercial exploitation of *kasuti* is a relatively recent phenomenon.

In Kashmir, embroidery, like other crafts, is practised exclusively by men. According to folk-lore, a rooster once accidentally walked across a piece of white fabric, leaving behind its footprints. Inspired by the beauty of this pattern, a darner is believed to have gone over it with his needle and thread, marking the beginning of embroidery. Darning is regarded as a precursor to embroidery, and was the occupation of the *rafugar*. His job was essentially one of giving a clear definition to motifs that were woven into shawls by outlining them, wherever needed, with neat darning stitches. Only later did this develop into the altogether distinct craft of embroidery on shawls. Crewel embroidery, or chain stitch, is also a speciality of Kashmir, and is done with an awl, on rugs, shawls and furnishing fabrics.[9]

seat covers.

- **Miscellaneous:**
  School and shopping bags, tents, umbrellas, sails, tarpaulins.

Fabric is the main raw material used by tailors. But this is rarely purchased by them. In addition, tailors use thread, buttons, zips, piping, non-woven material for stiffening collars and cuffs and other accessories or trimmings. These are purchased in small lots and replenished from time to time.

TECHNOLOGY

A tailor's kit normally includes a pair of scissors, needles, measuring tape, chalk and paper for cutting patterns. A pressing iron is now considered indispensable for lending a neat finish to the clothes. In most urban areas, tailors equip themselves with fashion magazines to assist customers in the selection of designs. Pattern-making, cutting, stitching, finishing and embellishing are the basic processes involved in tailoring a garment. Before shirts and trousers came into vogue in India and began to influence dress-making, cutting was a simple job. According to Sharmaji, the notion of "fitting" and the understanding of the human body was so rudimentary, that his helper could "do a much better job of cutting than the person who cut Bahadur Shah Zafar's *kurta*, now on display in the Red Fort".[6] With the advent of anatomic and custom-made clothes, cutting became a specialised activity, and the master tailor a specialist.

The technological revolution in tailoring began with the sewing machine, which came to India in the early twentieth century.

Box E

RICHES, FROM RAGS

The origin of the rag trade – as the garment export industry is popularly known – goes back to the mid-sixties. That was a time when, in the West, "protest against the establishment and pursuit of peace, love and happiness by the 'flower children' was symbolised by tacky clothes".[7] 'Hippies' coming to India carried back *kurtas* with '*Hare Rama Hare Krishna*' splashed all over them. In the process, they helped to export and popularise the 'India look', i.e., clothes made from tie and dye, mirror work and Madras checks. The export of clothes from India was simultaneously an export of Indian culture, which attracted a segment of the youth in the West that was desperately in search of alternatives.[8]

It was not till the seventies that garment exports showed signs of take off. In 1970-71, their volume was merely Rs.12.5 crores. But, by 1975, garment exports had soared to Rs.119 crores, and India seemed to have established a firm foothold in the world market. By 1993, garment exports had touched Rs.10,716 crores, making it the largest foreign exchange earner in India.[9]

Despite this phenomenal growth, the garment industry is beset with problems. Foremost among these are the quota restrictions imposed on India by importing countries. Another problem is the impact of international recessionary trends, on account of which the trade goes through periodic slumps. The uncertainties caused by market fluctuations have taught exporters to limit their investment in machinery and, therefore, their production capacity as well. The system of subcontracting allows exporters to minimise their own risk and to draw on the production capacities of fabricators in accordance with the demand.

The garment industry is dominated by two categories of exporters: merchant exporters and manufacturer exporters. The former are essentially buying agents who do no not undertake any production work themselves, but subcontract it to fabricators. Manufacturing exporters, on the other hand, have production units or factories of their own. But when the volume of orders outstrips their production capacity, they subcontract work to fabricators. Exporters are the most visible link in a long chain of production processes such as preparing samples, cutting fabric, stitching, buttonholing, checking, ironing and packing. Many of these processes are handled by different units to whom work is contracted out by the exporter.

The garment export units are concentrated in Delhi, Bangalore, Bombay and Madras. This may be explained by their proximity to large centres of cloth production. Another factor may be that these cities are well linked with the rest of the world through air-services. This is an important consideration, since a large proportion of garment consignments are air-freighted.

Despite the impressive growth that the industry has recorded in the last two decades, Indian exporters have not been able to entirely shake off the image of unreliable makers of cheap and shoddy garments. This continues to deter some buyers from coming to India.

SOURCE: SRUTI Survey

Since then, sewing machines have found their way into the remotest corners of the country. There are, however, many pockets in the country where stitching and embroidery are still done only by hand.[Box C & D] One of the last stages in the production of a garment is its embellishment, which is generally done by hand. This involves embroidery, applique and cut-work. A major technological change in stitching has been the introduction of the zig-zag sewing machine. This has made the task of embroidery, buttoning and button-holing much less time consuming than before. The machine is versatile and can perform other functions, such as attaching zippers without taking the cloth off the machine, hemming, darning and edging, and parallel stitching. The machine can be operated by treadle or by an electric motor and has been designed for domestic use.

ORGANISATION OF PRODUCTION & MARKETS

Tailors, far from being a homogenous group, differ considerably with respect to the levels at which they function, and the manner in which they organise their production. At least three categories of tailors may be distinguished:

- **The self-employed tailor:**
  Tailors belonging to this category operate individually, out of their own homes, with occasional help from family members. Most self-employed tailors make it a point to install their machines in their verandahs, since visibility helps in getting orders. In urban areas, many self-employed tailors visit the homes of their regular customers to take orders, and for fitting trials. If the orders are large, these tailors may even work out of their customers' homes till the order is completed. But this arrangement is gradually breaking down, except in the case of furniture upholsterers, who, for obvious reasons, cannot take work home. Most of the rural tailors interviewed for the SRUTI survey worked in their homes, and did not engage assistants, though they did get help from other family members. A few had shops, either in the village itself, or in nearby *bazaars* or towns. The bulk of the tailors interviewed made clothes only to order, from material supplied by their customers. Some enterprising tailors made clothes which they sold from their premises, and at times, at the *haats*.
- **Tailor entrepreneur:**
  Once their trade gets established, many self-employed tailors engage apprentices, and then assume the role of a master tailor. The duration of apprenticeship depends on the apprentice's abilities and willingness to learn. During the early phase of apprenticeship, the workers are not paid. According to one master tailor, "a novice is likely to make a lot of mistakes, and while training him we may actually incur losses." In the beginning, apprentices are asked to do small stitching jobs. The master tailor performs the task of taking the client's measurements and cutting the cloth. Once cut, the cloth is stitched by the workers, who are paid piece rates. In a set-up of this kind, the master tailor invests in the machines, rents the shop, and buys the supplementary raw materials, such as thread and buttons. The cloth itself is provided by the client. The shop is both a production unit and a marketing outlet. The garments are stitched to order. Thus, while there is uncertainty about orders, there is no risk of piling up unwanted stocks. Take Sharmaji's shop, for instance. He is assisted by three helpers, all migrants from U.P., who have been trained by him. His main assistant, who has been with him for five years, came to Delhi because of a lack of employment opportunities in his village. Within the five years

Box F

TRYSEM: A CASE OF OVERKILL

A series of evaluation studies conducted in different parts of the country illustrate how TRYSEM has been overstretched. According to these study reports, in Jabalpur district of Madhya Pradesh, 48 per cent from a sample of 532 persons trained under TRYSEM in 1980-83 were trained in tailoring. For the same period, 8004 out of a total of 9275 TRYSEM trainees in select blocks of Goa, Daman and Diu were trained in tailoring. A study of 5 districts of Gujarat indicates that out of 351 trainees, 154 were trained in tailoring alone. For Tamil Nadu a study of 34 blocks indicates that of 3030 people trained during 1980-81, 1470 or nearly 50 per cent were trained in tailoring."

The reports also provide an idea about the ability of TRYSEM trainees to start working independently once the training is over. In Jabalpur district, 68 per cent of those trained in tailoring became self-employed. In the four districts of Tamil Nadu surveyed, out of 413 TRYSEM beneficiaries, 175 were self-employed. Of these, more than 80 had undergone training in tailoring. In Gujarat, of 154 tailoring trainees, 132 (or 86 per cent) started their own units. In Jhabua, however, only 25 per cent trainees became self-employed.

Statistics, however, can be deceptive. Built into the TRYSEM scheme is a subsidy-cum-loan for purchasing a sewing machine, and many of the trainees reported that they were self-employed mainly because they had acquired a sewing machine ! In Valsad district of Gujarat, for instance, almost all the trainees had procured sewing machines for themselves, and thus reported being self-employed. In practice, however, there was hardly any sewing to be done for the trainees own families, let alone on a commercial basis. "Here the researchers found 15 to 20 sewing machines in a small village where there was no scope for even one tailor, let alone 15."

While conducting interviews for the SRUTI survey, another issue came to the fore. Many trainees were not proficient enough in tailoring to be able to develop a clientele of their own. There were several reasons for this. Often, the training was poorly designed, implemented and monitored. The training period was also too short. Moreover, the master tailors who had been deputed as trainers deliberately did not do their best, as they feared competition from the trainees. With such poor training, trainees complained that they could cater only to the poorer sections of the village. As a result, the returns from tailoring were far too low to make tailoring a full-time occupation. Similar problems were reported in a study of TRYSEM in Kerala, where the trainees eventually ended up working for the master tailor on a wage or piece-rate basis.

Another complaint frequently encountered by the SRUTI research team was that of an alleged tie-up between the government, bank officials, manufacturers and traders of sewing machines. Substandard sewing machines, they complained, were being forced on them for the price of machines from recognised companies. The beneficiaries agreed to accept them because something, they felt, was better than nothing.

Box G.

CHINDI, KHOL AND SEWA

Chindi is a rag, discarded by the textile mills, measuring about 2" by 8". *Khol* is a quilt cover made out of 70 to 90 pieces of *chindi*, and SEWA (Self Employed Women's Association) is a voluntary organisation based in Ahmedabad. How the three came together is a story of determination and grit, set in the riot-prone textile city of Ahmedabad.

The textile mills in Ahmedabad generate vast quantities of *chindi*, and employ contractors for its disposal. For an enterprising Muslim gentleman, this provided an excellent business opportunity. He began collecting the rags, grading and sorting them, and then parcelling them out to Muslim housewives, who stitched them into *khols*. The women worked from their own homes, and were paid by the piece. The *khols* were sold to the rural and urban poor.

As the *khol* gained in popularity, other traders and entrepreneurs jumped onto the bandwagon, and began raking in huge profits. But the women, mainly Muslims living in Daryapur, the riot hit area of Ahmedabad, got no more than 40 or 60 paise per *khol*. Machines, if owned, were old and run down, needing frequent repairs. Rental, repair and raw material costs were mounting. With rising overheads, they found it difficult to retain even a small margin. So much so, that the women sometimes stitched *khols* simply to maintain their contacts with the traders, even though they earned nothing.

It was against this backdrop that Bilkish, a woman working as a sorter for a *khol* merchant, had a chance encounter with one of the SEWA volunteers. This was the starting point of SEWA's efforts at unionising the home-based *khol* makers. Around 1977, 700 women were formed into a union, which demanded a hike in their piece rate from 60 paise to Rs.1.20. This led to a confrontation with the traders. SEWA filed a case in the State Labour Court on behalf of the women workers.

Month-long negotiations ensued between representatives of the women workers and the traders. The traders conceded to the union's demands, but did not honour the agreement. In fact, they stopped giving work to the women of the union altogether. SEWA had to provide interim relief by way of raw materials for about five or six women. This led to the idea of setting up a production unit.

By 1978, a production unit consisting of 50 women got underway, with some initial support for working capital from SEWA. Many women, on hearing of the unit, came to ask for work, but there just wasn't enough to go around. Space was a serious constraint, and the distribution centre was shunted from place to place. Over and above this, the quality of *khols* stitched was shoddy, almost as if the women now "worked in an environment where the compulsion of terror of the traders was missing".* The women were unaccustomed to working in an organised setting. They also lacked the necessary skills for purchasing the right type of *chindi*, sorting it, and marketing the *khols*. The concept of a co-operative was alien, and as a result, SEWA volunteers were looked upon as employers or masters. The freedom that the workers got within this set-up was often misused. There were instances of favouritism in the distribution of *chindi*.

The sorting-cum-distribution centre was shifted from the footpath to the SEWA reception centre. Finally, in 1981, it set up shop in the heart of the *khol* market, alongside the other traders. Resenting this intrusion, the traders retaliated by resorting to 'economic warfare'. They undercut prices, bought raw material from the mills in bulk, and finally forced the production unit to sell at very low prices. An interesting twist to the saga was provided by a circular issued by the Textile Labour Association (TLA) to the textile mills, directing them not to sell *chindi* to these women.

SEWA decided to step up its intervention. It undertook a market survey and organised a series of training programmes on improved production techniques. By 1982, the unit was registered as the SABINA co-operative, with the objective of supplying raw materials, selling the products directly, and providing sustained employment to the women.

The aims were easy to propound but difficult to implement. Competition from the traders was cut-throat. Stocks kept piling, as did anxieties about SABINA'S losses. Nevertheless, the co-operative continued to make its presence felt in the *khol* market. The production process was streamlined, and the *chindi* bought from the mills carefully sorted. Cleaner and larger pieces of *chindi* were used for making children's garments, while the others were graded into different categories.

As the SEWA volunteers reduced their involvement with SABINA, the women workers began managing the co-operative on their own. Some of them had been trained to take care of managerial, financial and marketing problems. However, the attitude of dependence persisted. The problems were compounded when the textile industry was gripped by a crisis, affecting the availability of *chindi*. The traders quoted prices which the co-operative could not afford. Unlike the *khol* traders, SABINA could not squeeze the womens' wages. The mills, in collusion with the traders, began to sell SABINA dirty, oily and inferior *chindi*, sometimes containing caustic soda. The *chindi* rotted because of a lack of adequate storage facilities. Skills, training and marketing expertise were useless in the face of a raw material crisis.

The need for product diversification was apparent. The women were already adept at stitching *chindi* with an overall notion of design. The idea of making and selling patch-work quilts, rugs and other items aimed at low income families was examined. A survey revealed that there was a market for these items. In 1984, 20 girls, daughters of SABINA women workers, were trained in patch-work with the help of the All India Handicrafts Board. The women continued to make *khols* whenever the supply of *chindi* was regular.

The patch-work programme enabled the women to supplement family incomes and to withstand competition from the traders, which, without this diversification, would have been crippling. Looking ahead, SEWA, or rather SABINA, would like to ensure an income of Rs.300 a month or more for its members, widen the market base, have a centralised storage and distribution cell for raw material, a sales counter, and wrest an assurance from the Gujarat State Textile Corporation and the National Textile Corporation that the *chindi* generated in their mills will be supplied to them at concessional rates. If this were to happen, the machines used by the members could be replaced by new ones and perhaps the women could even buy their own machines.

SOURCE: Based on Krishnaswami, R. Rags Ring in a Revolution: A study of Chindi Workers; SEWA: Ahmedabad; mimeo

that he has spent with Sharmaji, he has mastered the various aspects of tailoring. The area of work is cramped, and consists of a small shop with a loft. On the floor sit Sharmaji and his assistant, on the loft are two other apprentices who have been working for a shorter duration. The cramped working conditions are compensated by the relative security of employment and incomes, and flexibile working hours. There are seasonal variations in the volume of work in units such as Sharmaji's. During the wedding and festive seasons, the tailors get more orders than they can manage, and end up working long hours to meet the deadlines.

- **Employee tailors:**
  A large number of tailors are employed by ready-made garment factories and units on piece-rates, or daily wages. In the larger units, most of these tailors are like assembly line workers in other factories, and are associated with only one aspect of making a garment, such as stitching the collar, attaching the sleeve, or completing the side seams. Many of these tailors are essentially machine operators.

The production and marketing arrangements in the case of ready-made garments naturally differ from those of the self-employed tailor, or the tailor-turned entrepreneur. Ready-made garment firms either sub-contract work to a fabrication unit, or have a production unit of their own. The smaller garment firms supply their merchandise to small shopkeepers or *haat* vendors catering to low income localities in small towns or cities. The firms in Ahmedabad now supply clothes to buyers in Jaipur and beyond. Large firms cater to a more sophisticated domestic market. Such firms generally produce garments in their own factories, and depending on the volume of work on hand, sub-contract work to fabricators. Production in such factories is organised along assembly lines. As many as 30 different stages, and as many machine operators, may be required to complete a single garment.

Take the case of Bellary, a small town in Karnataka, which has become an important centre for the manufacture of readymade jeans. "It all began in the 1940s when the *Simhigas* (a tailoring community), set up shop here, and working on the fabric they got from Binny... prepared garments to be sold at their small retail outlets. The products they sold were cheap, but of poor quality." The tailors were financed by the *Marwaris*, who eventually entered the business in a big way, and bought imported second-hand machinery to improve the quality of the products. Labour is extremely cheap – it costs Rs.8 to stitch a pair of jeans here, as opposed to Rs.100-200 in Bombay. Depending on their level of initiative, tailors can earn upto Rs.2500-3000 p.m. "With bulk orders coming from retail shops of the major cities of India, automation has become a byword in Bellary", with entrepreneurs importing sophisticated equipment such as double-needled machines for stitching belts and buttons, and computerised embroidery units."[7]

Some ready-made garment firms in India are exclusively export-oriented, while others have worked out a strategy of producing for the domestic and export market.[Box 5] Interestingly, as a fallout of the garment export industry, the domestic market is now flooded with surplus and rejected garments, which are sold at throwaway prices. This ready availability of fashionable but affordable clothing, especially in urban areas, has naturally cut into the self-employed tailors' market. In large cities like Delhi, tailors complain of increasing competition from ready-made garments. Sharmaji remarked that his market had been reduced to a fourth of what it used to be. Tailors, he maintained, had also suffered because of a shift in emphasis from the sturdiness of the garment to its outward look. The rhythm of modern life, he observed, has also favoured the market for ready-made garments. Most people today have neither the time nor patience to buy and match fabrics, select designs and wait for an order to be executed by a tailor.

III INTERVENTIONS

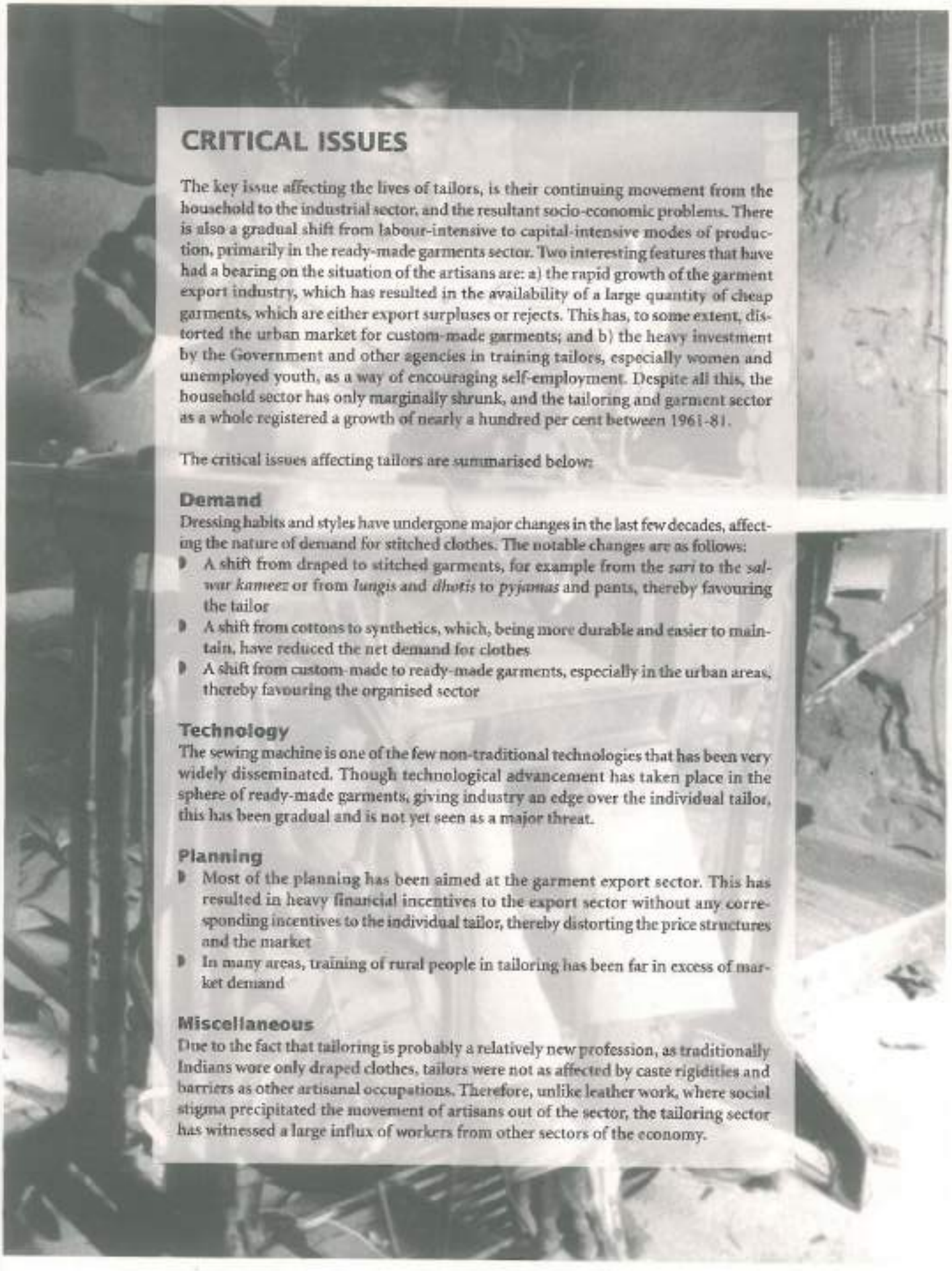
In pre-Independent India, *khadi* production was promoted as an economic activity with distinct political undertones, linked as it was with the freedom struggle. Its counterpart, tailoring, on the other hand, was promoted solely from the welfare angle. Training courses in tailoring were a prominent feature in most Christian missionary centers throughout the country. The sewing machine continues to be regarded as a symbol of welfare work in post-independent India. Whenever the issue of women's welfare is discussed, the subject of tailoring invariably crops up. According

to industry sources, sewing machine production in India was encouraged by the government precisely because it saw in tailoring the potential for uplifting large numbers of poor people, especially women. In the mid-sixties, following the wars of 1962 and 1965, tailoring was promoted to rehabilitate war widows.

For most trades, interventions have been generally designed to help already existing groups of artisans. But the sole thrust of interventions in the case of tailoring, has been towards creating new employment opportunities and equipping individuals with the necessary skills and material resources to stand on their feet. The thinking began to change in the seventies, when it was realised that the potential of tailoring was being exaggerated. Nevertheless, the administrators responsible for implementing anti-poverty programmes still rely on tailoring when it comes to fulfilling beneficiary quotas. Judging from a series of district and state-wise evaluation reports of TRYSEM (a major government scheme for promoting self-employment amongst rural youth), it is evident that tailoring is the most vigorously promoted income generating activity under TRYSEM.[Box F] This is not to deny the potential of tailoring as an anti-poverty programme. A major bottleneck, though, which the initiatives have been unable to tackle, is that of marketing. In Goa, for instance, where several TRYSEM co-operatives have been set up, the heavy dependence on the government machinery, both for setting up the units and for securing orders, has raised questions regarding their sustainability and replicability.[8]

Voluntary efforts have followed a pattern similar to that of government agencies. The former, though, have paid greater attention to design and marketing inputs. SABINA of Ahmedabad is one such case.[Box G]

1. Ghurye, G.S.; *Indian Costume (Bharatiya Vesabhusa)*; Popular Book Depot; Bombay; 1951; p.72
2. *Ibid*; p.125
3. See Patra, A.C.; *The Laws Governing Craftsmen and their Crafts from Ancient Days till Today, Census of India, 1961, Monograph Series*; Office of the Registrar General, India; 1965
4. Interviewed during SRUTI survey
5. Rao, R. & Hussain, S.; *Invisible Hands: Women Workers in the Garment Export Industry in New Delhi*; CWDS; New Delhi; 1983
6. Interviewed during SRUTI survey
7. Shenoy, M.; "Cutting it Fine"; *Business India*; April 11-24; 1994
8. See Giridhar, G. & Premchandar, S; *TRYSEM: An Evaluative Study in Goa, Daman & Diu*; Public Systems Group, Indian Institute of Management; Ahmedabad
9. Ghurye; *op.cit*; p.11
10. *Ibid*; p.17
11. *Ibid*; p.17
12. Gandhiji, as quoted in *Report of the Khadi and Village Industries Review Committee (KAVIRC)*; Ministry of Industry; New Delhi; 1987; p.3
13. *Ibid*.
14. Jaitly, J; *Craft Traditions of India*; Lustre Press; New Delhi; 1990
15. *Ibid*
16. Thomas, E.; "A Pocketful of Riches"; *Business India*; Nov 30-Dec 13, 1987; pp.54-60
17. Rao, R. & Hussain, S; *op.cit*
18. Singh, R; "The theme music is profit; *The Economic Times*; June 9, 1994.
19. See, for instance, 1) Rao et al; *Concurrent evaluation of TRYSEM in Madhya Pradesh*; National Institute of Small Industry Extension Training; 1985. 2) Murthy, N. & Singhvi, M.K.; *Evaluation of TRYSEM in Gujarat*; Indian Institute of Management; Ahmedabad; 1981. 3) *TRYSEM: An Evaluative study in Tamil Nadu*; Small Industry Extension Training Institute; Hyderabad; 1980. 4) George, P.T. & Purshottam, P; *TRYSEM in Kerala: An Evaluation*; National Institute of Rural Development; Hyderabad; 1983
20. Krishnaswami, L.; *Rags Ring in a Revolution: A study of Chindi Workers*; SEWA, Ahmedabad



CRITICAL ISSUES

The key issue affecting the lives of tailors, is their continuing movement from the household to the industrial sector, and the resultant socio-economic problems. There is also a gradual shift from labour-intensive to capital-intensive modes of production, primarily in the ready-made garments sector. Two interesting features that have had a bearing on the situation of the artisans are: a) the rapid growth of the garment export industry, which has resulted in the availability of a large quantity of cheap garments, which are either export surpluses or rejects. This has, to some extent, distorted the urban market for custom-made garments; and b) the heavy investment by the Government and other agencies in training tailors, especially women and unemployed youth, as a way of encouraging self-employment. Despite all this, the household sector has only marginally shrunk, and the tailoring and garment sector as a whole registered a growth of nearly a hundred per cent between 1961-81.

The critical issues affecting tailors are summarised below:

Demand

Dressing habits and styles have undergone major changes in the last few decades, affecting the nature of demand for stitched clothes. The notable changes are as follows:

- A shift from draped to stitched garments, for example from the *sari* to the *salwar kameez* or from *lungis* and *dhotis* to *pyjamas* and pants, thereby favouring the tailor
- A shift from cottons to synthetics, which, being more durable and easier to maintain, have reduced the net demand for clothes
- A shift from custom-made to ready-made garments, especially in the urban areas, thereby favouring the organised sector

Technology

The sewing machine is one of the few non-traditional technologies that has been very widely disseminated. Though technological advancement has taken place in the sphere of ready-made garments, giving industry an edge over the individual tailor, this has been gradual and is not yet seen as a major threat.

Planning

- Most of the planning has been aimed at the garment export sector. This has resulted in heavy financial incentives to the export sector without any corresponding incentives to the individual tailor, thereby distorting the price structures and the market
- In many areas, training of rural people in tailoring has been far in excess of market demand

Miscellaneous

Due to the fact that tailoring is probably a relatively new profession, as traditionally Indians wore only draped clothes, tailors were not as affected by caste rigidities and barriers as other artisanal occupations. Therefore, unlike leather work, where social stigma precipitated the movement of artisans out of the sector, the tailoring sector has witnessed a large influx of workers from other sectors of the economy.

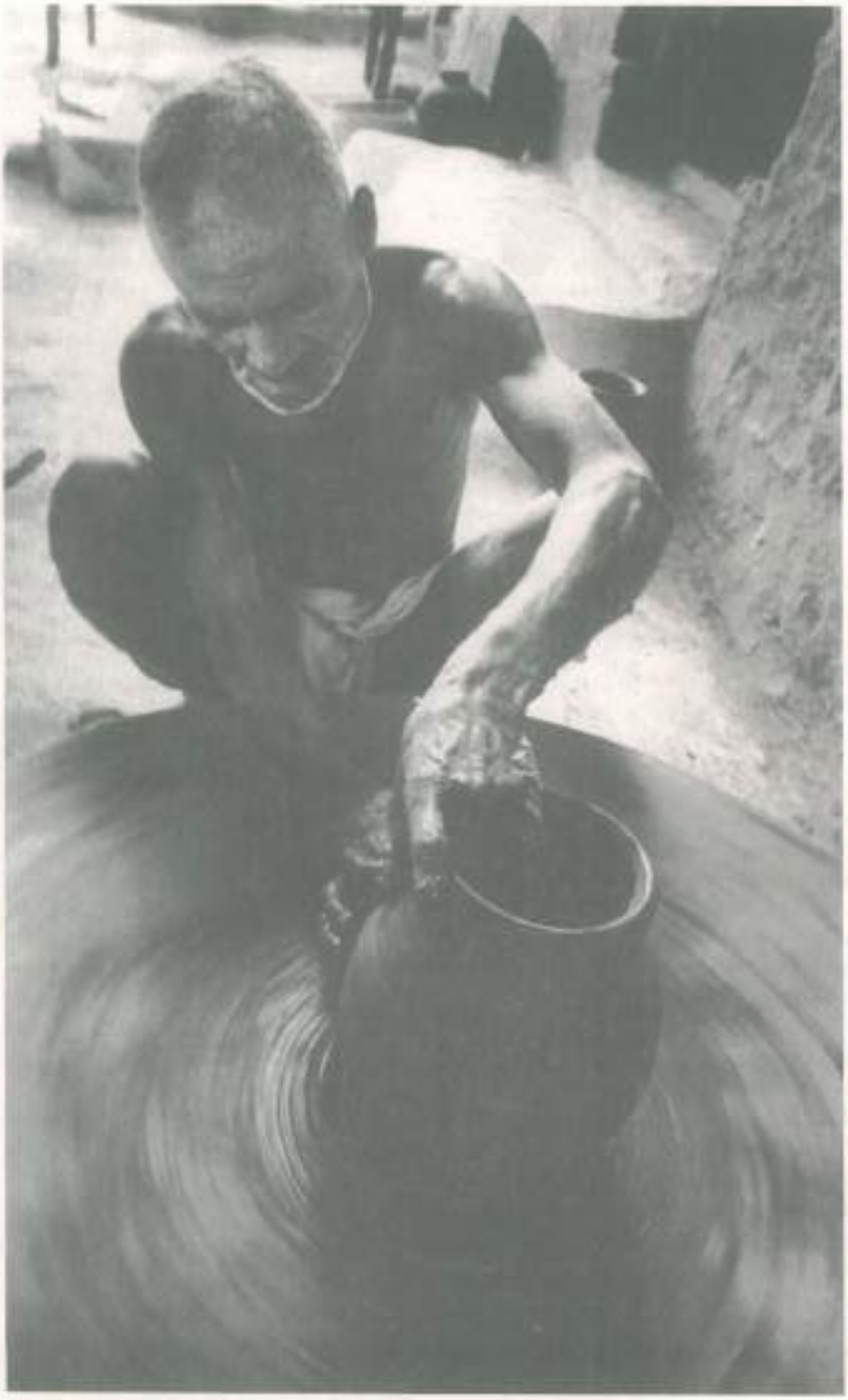
Section II

9

Koomhar

Artisans who make earthen products

Potters



Virtually untouched by time, potters throughout India practice what is believed to be one of the most ancient craft traditions. Through the centuries, potters have provided essential goods and services to their village communities. But today, they are at the crossroads. As the jajmani system began disappearing, so did the guarantee of raw materials and markets. With the encroachment of river and tank beds by cultivators, potters lost free access to their traditional sources of clay. Simultaneously, their traditional markets, even for matkas (clay pots) and kulhads (clay cups), began facing stiff competition from cheap crockery and plastics.

In absolute terms, the number of potters remained stable between 1961 and 1981. However, judging by the fact that the number of potters in the non-household sector increased during this period, while those in the household sector decreased, the nature of the pottery sector is undergoing fundamental changes. From an essentially dispersed, traditional and home-based activity, it is fast developing into a factory-based industry.

Most government and non-government efforts at improving the condition of traditional potters have focussed on upgrading their technology. Relatively little attention has been paid to the problems of raw material and shrinking markets.

I THE ARTISANS

HISTORY

The term *kumbhar*, or potter, is derived from the Sanskrit word *kumbha*, which denotes both a pot and an elephant's head. Elephants enjoy playing in water and pouring it on their heads. If the water happens to be muddy, when it dries, a hollow of clay forms in the depression of the head. Legend has it, that this inspired the use of clay for making vessels. The vessels came to be known as *kumbha*, and their maker, as the *kumbhar*.[1]

That pottery was an important craft in ancient India, is evident from the variety and abundance of clay objects found during the excavations at Mohenjodaro and Harappa. While the earliest references to potters (or *kulala)* are found in the *Rig Veda* (3000-2000 B.C.), some scholars believe that pottery existed in India at least 10,000 years ago.[2] The earliest mention of potter castes is found in literature pertaining to the pre-Mauryan period in north India (600-322 B.C.). Buddhist literature of the period refers to potters, weavers and a few other castes as *heena shilpa*, or lowly professions. At the same time, references to *Rajakumbharas* or court potters, indicate the emergence of a group of elite potters.[Box A]

The pre-Mauryan period saw the organisation of artisans, including potters, into guilds. Inscriptions of the second century A.D., mention Buddhist devotees depositing money with potters' guilds for providing goods and services to monks. These deposits were operated by the guilds as working capital for purchase of raw materials and implements.

During the Mughal period, the introduction of cash payments for rural artisans began to weaken the *jajmani* system. However, unlike many weavers and blacksmiths, potters produced both for sale in markets and for their village *jajmans*, who paid them in kind. As a result, unlike market-oriented artisans who tended to congregate in towns, potters remained a dispersed community. Also, the nature of pottery, with its dependence on land for obtaining clay, inhibited mass migration to towns.

In the seventeenth and eighteenth centuries, in Maharashtra, potters were often rewarded with small plots of land, under the *balutedari system* (See p.5). This was in addition to their customary remuneration, or *balute*, at harvest time. Towards the end of the eighteenth century, in western Deccan, when *balute* payments were made in cash instead of kind, potters received five rupees per annum. While this was the same as the rate for blacksmiths, carpenters recieved double the amount.[3]

In 1880, Sir Birdwood observed that the Indian potter "is passing rich" and enjoyed the "dignity of certain ceremonial and honorific offices. He bangs the big drums, and chants the hymns... at marriages; and at the *dowra*, or village harvest home festivals, he prepares the *barbat* or mutton stew. He is, in truth, one of the most useful and respected members of the community, and in the...organisation of Hindu village life there is no man happier than the hereditary potter, or *kumbhar*".[4 Box B] There are, however, other accounts which contradict Birdwood's romantic view of the potter. In Assam, for instance, one of the most despised communities was that of the *hiras*. The *hiras* were traditional potters, and were regarded as untouchables.[5]

A turn of the century monograph records that the potter's traditional products were "beginning to be elbowed from the market

Box A

POTTERY THROUGH THE AGES

Anthropological reconstructions suggest that food was cooked about 9000 years ago in clay-lined baskets. Once the possibilities of fired clay were discovered, neolithic communities began moulding clay into shapes that they were already familiar with, such as those of bamboo baskets, leather bags and stone vessels.

In India, neolithic pottery has been found in regions as far apart as Gujarat, Karnataka, Andhra Pradesh, Orissa and Kashmir. The artefacts consist of a variety of bowls, jars, pots and figurines. Excavations from Harappa reveal that several technological advances were made in pottery after the neolithic period. The most important of these was the introduction of the wheel. Hand-moulded pottery, of course, continued to be made simultaneously. In this period, kiln technology was also improved. Geometrical and naturalistic designs and colours enhanced the aesthetic appeal of the pottery.

Archaeological finds pertaining to the *Vedic* period (1500 B.C.-600 B.C.) included painted grey pottery objects in a number of sites in north-west India. Painted black and red pottery, and cream slipped pottery from this period, were found during excavations in Rajasthan and western Madhya Pradesh. The well-known black polished ware, characterised by a highly polished surface, and an almost lustrous metallic finish, made its appearance in the pre-Mauryan period (600 B.C.-322 B.C.).

Decorated pottery came into vogue during the Gupta period (300 A.D.-600 A.D.). Containers embellished with painting, stamping, incision, moulding and applique designs have been recovered from the north, south and eastern regions of India. Decorative bricks and tiles were also popular.

Sometime during the Sultanate rule in northern India, Muslim potters introduced painted glazed ware to India. An interesting product patronised by the Mughal nobles was the "perfumed" pottery of Patna.

During the twentieth century, terracottas continued to flourish, but mainly as plaques, carved bricks and tiles in temple architecture. But overall, the colonial period witnessed a decline in the production of earthenware pottery, on account of competition from the metal, china and glassware that had begun flooding the market.

In the post-Independence period, there has been an effort to encourage and diversify artistic pottery. This has resulted in the revival of blue pottery in Delhi and Jaipur, the glazed pottery of Karigiri in Tamil Nadu, the painted and glazed ware of Khurja, Rampur, Chunar and Azamgarh, and the glazed porous white clay pottery of Vellore (Karai Kuruchi). While earthenwares continue to decline in the face of intrusion by plastic products, terracotta has undergone a certain amount of rejuvenation. Potters now produce painted and non-painted terracotta toys and dolls, ritual figurines and other decorative items, for both rural and urban markets.

SOURCE: *Shanta Krishnan*

by the more durable cheap vessels. The Collector of Bijapur notes that many families of potters have already been driven by competition of metal ware to other trades or cultivation".[6]

POPULATION ESTIMATES

Calculations based on the Census of 1961 and 1981 suggest the following demographic trends with respect to potters: [Box C]

- **Total Population:**
  The total number of potters in 1981 was 9.8 lakhs.
- **Share of household vs. non-household sector:**
  Of the above, 5.8 lakhs were in the household sector.
- **Rural-Urban mix:**
  In 1981, the number of potters in urban areas was approximately 2 lakhs, representing 20 per cent of the total population of potters. Most of the urban potters were concentrated in the non-household sector.
- **Gender mix:**
  Females, numbering 2.1 lakhs, accounted for 21 per cent of potters in 1981, and were more or less evenly distributed between the household and non-household sectors. However, census figures generally underestimate female workers. While several factors are responsible for the under-enumeration, the main one is that only people working at the most visible aspect of the craft, e.g., using the wheel, are usually identified by the enumerators. Women who are engaged in many other essential processes of pottery are not accounted for. A quantitative measure of the statistical invisibility of female labour in traditional pottery is provided by Shanta Krishnan's analysis of the 1971 data. Her corrected figure for female pottery workers is nearly 4 lakhs, as against the census figure of under a lakh.
- **Intercensal shifts:**
  Between 1961 and 1981, there was a marginal increase in the number of potters, i.e., from 8.98 lakhs to 9.83 lakhs. A closer examination of the census data, however, reveals that the number of potters in the household sector dwindled sharply from 7.44 lakhs in 1961 to 5.76 lakhs in 1981. In contrast, the number of potters in the non-household sector rose from 1.54 lakhs in 1961 to 4.08 lakhs in 1981. This represents an increase of nearly 165 per cent over 1961.While the number of male potters increased by almost 28 per cent, from 6.06 lakhs to 7.75 lakhs between 1961 and 1981, that of female potters registered a decline, from 2.92 lakhs to 2.09 lakhs in the same period.

SOCIAL & ECONOMIC ASPECTS

A total of 48 potters were interviewed by the SRUTI research team. They accounted for around 10 per cent of the sample. The number of potters was largest in Hyethnagar (Ranga Reddy District, Andhra Pradesh) and Nimdih (Singhbhum District, Bihar), both of which are considered to be agriculturally backward blocks.

Social Aspects

Virtually all the potters interviewed (92 per cent) were traditional artisans, and many of them were still partially functioning under the *jajmani* system. Only three of the artisans interviewed were first generation potters. This suggests that migration into pottery in rural areas is negligible. That there is outmigration among potters, is evident from the fact that 36 per cent of the traditional potters interviewed reported that several family members had either shifted to other occupations, or planned to do so.

Pottery is essentially a caste-based craft. Potters in India are organised into a large number of endogamous groups. These groups are known by different names such as *hathera, gadahiya* and *rangia*.[Box D] In most parts of north India, potters are known more or less generically as *kumbhars*. Muslim potters are known as *kashigars*. The potters interviewed by SRUTI were largely from the following communities: *Kumbhar, Matti Kumbhari, Prajapati* and *Kumar*.

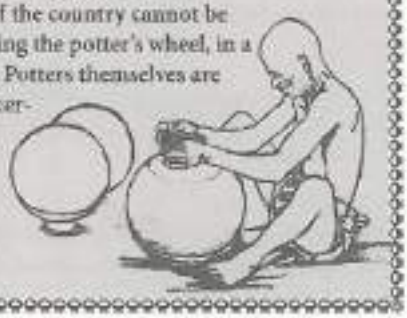
Women play an important part in pottery. The SRUTI survey of artisans confirmed that in all parts of India, the women of potter families perform a variety of tasks, such as fetching the clay, cleaning and kneading it into a smooth dough, drying the green ware, preparing the fuel, loading and unloading wares in the kilns, colouring or painting, stacking the wares and at times, marketing them. These are very time consuming activities. By and large, women do not operate the wheel or ignite the kiln, though there are notable exceptions. In the Nilgiris, among the *Kota* community, the throwing work is shared between the men and the women. The men turn the wheel, and the women shape

Box B

THE KUMBHAR AS PRAJAPATI AND BHAGAT

In Hindu mythology, an analogy is often drawn between the potter and creative deities. Thus, the *Kumbhar*, as the potter is popularly known, is often referred to as *'Prajapati'*, the progenitor or Lord of the people. The analogy goes further. The potter's equipment is regarded as a symbol of creation. The wheel is none other than Vishnu's *chakra*, or the "eternal law according to which everything proceeds into manifestation and is again withdrawn from it."[Box B] Indra's bolt manifests itself in the stick wielded by the potter, Shiva's *lingam* (or phallus) is the flat cone on the wheel from which clay objects spring to life, and the water container that the potter dips into to moisten his hands, is Brahma's *kunda*. A pot assumes form and a life of its own, when it is separated from the mound of clay atop the spinning wheel, with a thread. This is the *Janayn Pavit*, or the sacred thread of initiation."

Weddings in many parts of the country cannot be solemnised without worshipping the potter's wheel, in a rite known as the *Chaak Puja*. Potters themselves are often called upon to perform certain rites at religious functions, which has earned them the epithet of *Bhagat*, or pious man.



the clay into pottery objects. In parts of Tamil Nadu and Kerala, the women turn the wheel by hand, while the men shape the clay into pots. The SRUTI research team came across four potter families headed by females. But in none of them were the women found to be using the wheel – they all did hand moulding.

In pottery, as in most traditional artisanal occupations, the involvement of children is significant. Children either assist their parents in home-based units, or work in factories. In Khurja, the well-known pottery manufacturing centre in western Uttar Pradesh, pottery production is carried out largely in small-scale factories. Children below 14 years account for 25 per cent of the 20,000 strong labour force. Most of the children are not from traditional potter households, but from landless and small peasant families. They are employed essentially as underpaid substitutes for adult labourers.

For most potters, the home is also a workshop, showroom and sales depot. By and large, potters in rural areas own their homes, and have access to open space. In the large metropolitan cities, however, space is at a premium, and potters are usually pushed into squalor. Both Kumbharwada in Bombay, and Kumortoli in Calcutta, the main potter colonies in the two cities, are slums. The majority of the potters, in both cases, are immigrants, who live in cramped, rented quarters, and their work suffers significantly due to the lack of space. In Delhi, the situation varies with the location. The city's rapid expansion in the last few decades has engulfed many rural settlements. Potters' establishments in urbanised villages such as Chirag Delhi or Hauz Rani, and outlying areas like Bindapur, Palam Colony or Shahadara, are fairly spacious. Accomodation in inner-city areas like Paharganj, Ajmeri Gate or Turkman Gate, tends to be cramped and squalid. In Delhi, potters often have to pay for pavement space, to sell their wares.[Box E]

Economic Aspects

In rural areas, the most valued asset is usually land. However, in the SRUTI survey sample, a very small proportion of the potters (27 per cent) owned land. Compared to other artisans, the proportion of potters who owned some means of transport was high (77 per cent, as opposed to the total sample average of 54 per cent). Many potters used donkeys for transporting raw materials, as well as their finished products. 64 per cent of the potters owned livestock/poultry.

It is usually a problem to estimate income levels of self-employed artisans, because they rarely maintain written accounts. Therefore, to get even fair estimates of the value of production, sales, costs and prices is difficult. Employment of family labour, the seasonal nature of work, and income from other sources, add to the difficulties in computing estimates. Nevertheless, according to the SRUTI survey, the average annual income of potters was Rs.4028, placing them in a higher income bracket than cane and bamboo workers, but lower than the remaining artisan groups studied. It is not surprising, therefore, that a greater proportion of potters were found to be indebted (63 per cent) as compared to the all-artisan sample (47 per cent). This indebtedness did not include work-related loans. It included money borrowed for consumption and social expenditure, e.g., marriages or funerals. Smaller sums had also been borrowed for medicines and house construction. 44 per cent of the potters reported an annual household expenditure of below Rs.5000. 31 per cent reported that their annual household expenditure was in the range of Rs.5000-10,000. Only 3 per cent of the potters reported expenditures in excess of Rs.10,000 p.a. According to another survey conducted in Jalgaon District in Maharashtra in 1982, the annual income of potters from their artisanal activity ranged widely, from Rs.1649 in the case of households who made only pots, to Rs.7950 in that of households who made both pots and bricks. The highest incomes

Box C

POPULATION OF POTTERS: 1961 & 1981

The NCO (National Classification of Occupations, Census of India), upon which this table is based, classifies workers into 'families', on the basis of their occupations. Each family bears a code number, indicated in the table below. There is one such family (referred to as 'potters & related clay formers' in the 1961 Census and as 'potters & related clay & abrasive formers' in the 1981 Census) which best corresponds to the category of potters addressed by this report. The list of NCO codes in the table below indicates the precise families that have been included under the category of potters.

CATEGORY OF POTTERS	*YEAR*	*PERSONS*	*MALES %*	*FEMALES %*	*URBAN %*	*SECTOR*	*CENSUS CODES*
Potters & related clay	1961	7,44,365	4,89,648 (66)	2,54,717 (34)	80,382 (11)	HH	811
formers		1,54,082	1,16,346 (76)	37,736 (24)	61,990 (40)	NH	
	1981	5,76,189	4,55,065 (79)	1,21,124 (21)	89,605 (16)	HH	892
		4,07,639	3,20,113 (79)	87,525 (21)	1,11,694 (27)	NH	
% Change between 1961-81		-23	-7	-52	+11	HH	
		+165	+175	+132	+80	NH	
G. TOTAL	1961	8,96,447	6,05,994 (67)	2,92,453 (33)	1,42,372 (16)		
	1981	9,83,828	7,75,178 (79)	2,08,649 (21)	2,01,299 (20)		
% Change between 1961-81		+10	+28	-29	+41		

NOTES

- All Calculations based on Census of India, 1961 & 1981, National Classification of Occupations. (Table B-V for 1961 & Table B-18 for 1981)
- HH denotes workers in the household sector and NH those in the non-household sector

(Rs.10,673 p.a.)[7] were recorded in the case of potters who specialised in making bricks.

Potters have a greater dependence on secondary sources of income than other artisanal occupations. During the monsoon season, they are often forced to abandon pottery, and seek alternative employment. Only 46 per cent of the artisans in the SRUTI sample reported that they were involved in pottery for more than 6 months in the year. Judging by the SRUTI survey, on an average, potters effected sales of approximately Rs.6810 p.a. Raw materials accounted for over 50 per cent of the sales value. The average value added by each potter in the sample was approximately Rs.4135 per annum.[Box F]

II THEIR WORK

PRODUCTS & RAW MATERIALS

Potters make a variety of products. Pots are made for carrying and storing water, vessels for cooking, and jars for storing grain, oil, jaggery and pickles. Lamps, roof tiles, toys, and ritual artefacts, are also made by them. More recently, a number of potters have turned to brick-making as a supplementary source of income.[Box G & H]

The essential raw materials for pottery are outlined below.

- **Clay:**
  The basic qualities that make clay suitable for pottery are pliability when wet, retention of shape upon drying, and hardening without loss of shape, upon heating. Sticky and plastic clay *(chikrimitti* in north India, *jigiru mannu* in south India) is distinguished from sandy and plastic clay *(retilimitti)*. Red clay, also known as terracotta, is the clay most widely used by potters in India and is generally found in river beds, tanks and quarries.
- **Tempers:**
  The common tempering materials include animal dung (elephant, donkey, horse, cattle or goat), ash, straw, sand, husk,

Box D

POTTER COMMUNITIES

The names of various potter communities often suggest the basis on which they were formed, such as common descent, nature of technology used, product specialisation and religious affiliation.

BASIS OF FORMATION	*NAMES OF COMMUNITIES*	*REMARKS*
Territorial	*Telangi, Maratha, Kanauja, Andhra Nair, Maru, Brajbasi.*	Their names indicate territories of real/imagined origin.
Technological	*Chakrasalvi* of Konkan, *Chakere* of Madhya Pradesh, *Chakretia* of Bundelkhand.	Wheel-using potters. Names are derivatives of '*chakra*', meaning wheel.
	Hathere of Gwalior, *Hathelia* of Benares	Hand-moulding potters. Names are derivatives of *haath*, meaning hand.
	Lhangchake and *Thodchake*, both of Maharashtra.	'*Lhan*' means small, and '*thod*' means big. The diameter of the wheel of the first is smaller than that of the latter.
	Rangia of Uttar Pradesh	Hand-moulding toy makers. Name apparently a derivative of '*rang*', or colouring applied to their toys.
Product specialisation	*Handakia* or *Hanika* of Almora.	Specialise in manufacture of '*handi*,' or vessel.
	Gole or *Gola* of Punjab, Haryana, Delhi and Western Utter Pradesh or *Gor-gola* or *Goria* of Madhya Pradash	Specialise in making very large pots called *gole* or *gola*. Make only red pots, while black are made by another group.
Real or supposed descent from ancestors of a particular group	*Kansara Kumbhar* of Gujarat	*Kansara* means brassmith. Origin is traced to mixed brassmith and potter parentage.
	Chauhania-Misir	Descent claimed from mixed *Chauhan Rajput* and *Misir Brahmin* parentage.
Association with animals	*Gadahiya* or *Gadhere* of Delhi.	Those who keep donkeys *(gadhas)*. Looked down upon by all other endogamous groups of potters. There are other groups who keep donkeys, but are not known by this name.
Religious affiliation	*Wani Lingayat* of Marathwada. They are also called *Karnataki*, as their origin is traced to Karnataka.	Members of the *Lingayat* sect founded by Basava in Karnataka.

SOURCE: Shweta Krishnan

sawdust, coir, jute and *surkhi* (broken pieces of pottery that are crushed into powder).

- **Colours:**
  Normally, potters use colours derived from natural substances such as rice, turmeric, leaves and grasses. Soot, charcoal and certain resins are also used. Chemical paints and varnish have recently become popular among urban potters.
- **Glazing Materials:**
  The common glazing materials are red lead, feldspar (sodium or potassium aluminium-silicate), and oxides of tin, copper or cobalt. The last two oxides are used for glazing in blue pottery.
- **Fuel:**
  The main fuels used in pottery are firewood, cowdung cakes, agricultural residues like straw, paddy husk, cotton-waste, coal or sawdust.

Of all the artisans discussed in this report, it appears that potters are about the most severely affected by raw material shortages. The main causes for such shortages are discussed below.

- **Clay:**
  Traditionally, under the *jajmani* system, potters had a right to clay on any land in the village, including private fallow land. With the weakening of the *jajmani* system and encroachment of village commons, including river and tank beds, most potters now have to make some payment for collection of clay. In many villages, potters take part or full payment for agricultural labour, in the form of mud and other raw materials for pottery. Transportation costs add to the price of clay. At the time of the SRUTI survey, potters near Mhow had to pay as much as Rs.300 for a tractorload of mud from neighbouring villages. The expansion of cities and towns has led to a similar scarcity of mud for urban potters. In most cities, middlemen or contractors now supply mud or clay to potters at exorbitant rates. In Delhi, at the time of the survey, the costs varied from Rs.150 to Rs.300 per truckload, depending on the distance covered and the amount of sand or grit in the clay. Biharilal Prajapati, a 56-year old Delhi potter prophesised, "One day the pottery profession will end, because mud will not be available".
- **Fuel:**
  With rapid deforestation over the last few decades, firewood, the most commonly used fuel, has become scarce. Competition for other fuels, such as agricultural residues and dung, has also increased in the rural areas. Firewood, once a free resource, has become an expensive commodity. According to the SRUTI survey, in Alibag, potters used paddy husk (available at Rs.5 per bag) or firewood (Rs.10 per bundle). In Mhow, potters preferred cowdung cakes, which cost Rs.36 per bag. In Nimdih, a forested area of Singhbhum district in Bihar, wood was available for Rs.12 per 10 kg. bag.

Box 8

RESETTLED COLONIES, UNSETTLED LIVES

Delhi has a peculiar category of housing developments called resettlement colonies, first established during the Emergency (1975-77). In an attempt to "beautify" the city, the Delhi Administration evicted slum and pavement dwellers from their homes, and moved them to outlying areas of the city. Among those evicted from areas like Jhandewalan, Turkman Gate, and Ajmeri Gate, were entire groups of potters.

The potters from Jhandewalan were allotted plots in distant Sultanpuri. Their homes were now situated in one area, and their kilns, in another. They were cut off from their traditional customers and markets, as a result of which their production and marketing costs went up.

The situation of potters evicted from Ajmeri Gate was even worse. They were housed in multi-storied buildings, constructed by the Delhi Development Authority (DDA), at Mata Sundari Road and Saraiphoos. Couped up in one-room flats, devoid of open spaces, most of them were forced to abandon their profession and seek wage-labour. The few 'lucky' ones, who were awarded ground floor flats, somehow managed to continue their traditional craft. Even among the high wage-earners, there were some who yearned to return to pottery and self-employment, provided they were given the space and related infrastructure.

SOURCE : SRUTI survey

TECHNOLOGY

The Potter's Wheel

The most prominent piece of equipment used by potters, is the wheel. Wheels are of two types, the block wheel and the socketed wheel. The former consists of a solid disc of stone, concrete, or wood, about three inches thick. The latter consists of a smaller wooden disc, called the nave, which is attached to an outer rim, or felloe, with the help of spokes. The felloe is made of clay mixed with fibres such as coir, animal, or human hair. A pivot and socket arrangement facilitates the wheel's motion. The pivot is invariably made of wood, and fits into a wooden, stone or clay socket. In some wheels, the pivot is attached to the underside of the wheel, whereas the socket is embedded in a concrete base placed on the ground. These are known as pivoted wheels. In socketed wheels, this arrangement is reversed. The socket is attached to the wheel, and the pivot is fixed in a base of concrete, or even in the ground. The height of the pivot varies from region to region, but is always adjusted to ensure some clearance between the wheel and the ground. The wheel is spun either by hand, or by a stick placed in a notch on its upper surface.[Box 1]

The specific characteristics of the potter's wheel differ from region to region. Taking these differences into consideration, wheels can be classified as follows:

- The pivoted spoked wheel, which has four wooden spokes, with a felloe of bamboo splints or cane, covered with tempered clay. The felloe diameter varies between 30 and 42 inches. The central nave has a diameter of between 7 to 14 inches. This type of wheel is found in the states of Andhra Pradesh, Tamil Nadu, Kerala, Orissa, West Bengal and Assam. It is also used in parts of eastern Maharashtra, Bastar (Madhya Pradesh) and Almora (Uttar Pradesh).
- The pivoted block wheel, which is made of a solid block of wood, clay or stone. Its diameter is about 20-24 inches. It is commonly found in north Kerala, and in parts of Tamil Nadu. It is usually rotated by hand, by the women, while the men shape the clay.
- The socketed block wheel, which is a single block of wood, stone, or even cement. In this wheel, the postions of the pivot and socket are interchanged. The diameter varies between 30 to 40 inches. This wheel is characteristic of northern and western India.
- The socketed spoked wheel, which is typical of central India. The diameter of the felloe is 30 to 48 inches. The spokes are made of wood. This kind of wheel is found in Maharashtra, most areas of Gujarat and Madhya Pradesh, and in parts of Himachal Pradesh, Punjab, Bihar, West Bengal, Orissa and Karnataka.

Box 5

BHURA RAM THE POTTER

"Only rain can stop my potter's wheel from turning", says Bhura Ram, who heaves the wheel off its pivot the instant he detects rain clouds in the overhead sky. He can ill afford any blemishes on his pots, or to let them lie around partially baked. "My wares must sound as good as they look. You see, customers tap them with a coin to test their quality".

"I have to price my products very carefully – somewhat on the higher side – especially while selling them outside my village. If a pair of *matkas* is to fetch me three rupees, I must quote a price of five. In *mol-bhav* (bargaining), I invariably have to lower my original price."

In the past, Bhura borrowed money from the local *baniya* at the usurious interest rate of 20 per cent per month. But, fortunately, he has never been compelled to mortgage any of his possessions, nor, for that matter, to turn to the *baniya* for a loan of any substantial size. To the extent possible, he tries to borrow small amounts from friends and relatives who do not charge him any interest.

Bhura mentions that he applied for a loan of Rs.5000 under the IRD Programme, about four years ago, with the intention of purchasing a mule and cart. He badly needed the cart for transporting mud. "I only sought Rs.2000. However, I was advised by the *Gramsevak* to apply for a loan of Rs.5000, since there was a subsidy of Rs.1500, which I could avail of. I took his advice, but now regret having done that, since I ultimately ended up paying a bribe of Rs.600 to obtain the subsidy. Two years ago, I found it impossible to repay the loan from my earnings. So I sold the cart in order to pay back part of it. But I still owe the bank Rs.500."

Having sold the cart, Bhura once again has to rely on others to transport mud. Two cart loads of mud – purchased for Rs.120 – normally see him through 5 months of production. Dung cakes – which serve as fuel – cost him an additional Rs.600.

Besides making pots for his *jajmans* – numbering ten in all, Bhura takes his wares to the weekly markets in Pather and Chilkana. The left over articles, he loads onto his mule, and then roams from village to village, within a radius of 15 kms, in an effort to hawk them. Years of experience have taught Bhura to maintain the crucial balance between his production and sale levels.

He laments that the prices of his products have scarcely appreciated. Only very recently have his *jajmans* raised his wages to 2.5 *paseri* (12.5 kgs) of grain from the earlier 2. This is paid to him once every six months. By his reckoning, his six-monthly earnings are in the region of 9 quintals of grain, or the equivalent of Rs.1350. But, given the cost of mud and fuel, his net earnings are very meagre indeed, especially when one considers that he has nine mouths and one mule to feed. Breakage often cuts into his earnings: damaged goods either have to be sold at throwaway prices, or at times even gifted. "I am glad each time somebody takes them away, for they only clutter up this small hut of mine."

Bhura's children do not go to school. Nor do they work at the potter's wheel. But that is because Bhura will not permit them to until they are older – "The wheel exerts tremendous pressure and strain on the stomach. They say that working at the wheel from a very early age stunts the growth. Therefore, once my children are somewhat older and sturdier, they will start helping me, at first by making *kulhads*."

Returning to the subject of the loan, Bhura wonders why the Government will not accept his products in lieu of the unpaid loan. But he dismisses the thought rapidly, well aware that *'mati'* (mud) and money cannot be substituted.

SOURCE: SRUTI; Overview of Artisans; New Delhi; 1987; mimeo

- The double wheel, which is also known as the kick-wheel or the *Pathan* wheel. It consists of two wooden discs, one at the level of the foot, and the other at the level of the potter's hands. They are connected by a vertical shaft. The diameter of the upper disc is about 9 inches, and that of the lower one, 24 inches. The lower wheel is kicked by the foot, and the clay is thrown on the upper disc. This kind of wheel is generally slower than the other wheels. It is used in parts of Punjab and in Jammu and Kashmir.

Firing Devices

Green wares are fired to give them strength and hardness. The main types of firing devices used by traditional Indian potters are country clamps, ovens and kilns. Most potters in India use country clamps and ovens. Kilns are used only in areas where glazed ware is produced.

Box G

POTTERY PRODUCTS & AREAS OF SPECIALISATION

ASSAM	Clay dolls and toys of Goalpara District
GUJARAT	Ritual terracotta figures of Saurashtra & Kutch
HARYANA	Grain and water storage jars of Bahadurgarh, Faridabad, Gurgaon, Rewari, Pinjore and Karnal
J & K	Richly coloured glazed crockery, vases, tiles and jars. Also known as Dal Gate pottery
KARNATAKA	Terracotta vessels, stoves, flower pots, wall plaques and images of Ramanagaran and Khanapur
MADHYA PRADESH	Terracotta toys and figures of Bastar District
MAHARASHTRA	Black and artistic pottery of Bhadrawati
ORISSA	▸ Statues and toys of Cuttack ▸ Animal figures of Sambalpur and Balasore
RAJASTHAN	▸ *Kagzi* or paper thin pots ▸ Lac painted pottery of Nohar, Bikaner and Bharatpur ▸ Blue pottery plates, tiles and vases of Jaipur
TAMILNADU	▸ Glazed vases, water jugs, vases and ash trays of Karigiri ▸ Clay *aiyanars* or horses, bulls & human figures of Chettampatti, Nallur, Tirrupuvanam and Vadagapalayam
UTTAR PRADESH	▸ Blue pottery of Khurja ▸ Terracotta horses and elephants of Gorakhpur ▸ Black pottery of Azamgarh
W. BENGAL	Terracotta dolls, toys and images of Krishnanagar and Bankura

SOURCE: Compiled from Saraf, D.N., Indian Crafts. Development and Potential. Vikas Publishing House: New Delhi, 1982.

- In a country clamp, or *maidani bhatti*, the articles are piled up with layers of coal ash, paddy husk or firewood, on a flat piece of ground, on a raised platform, or in a hollow. Clamps are used mainly for baking bricks and tiles. Firing can be done either from the top, or through a horizontal channel on the ground. In each case, the piling of pots is done differently. Vertical firing (and cooling), common to north India, takes three to ten days. Horizontal firing, which is practiced more in central India, takes 12 to 24 hours. In south and eastern India, the firing is done from all sides of the pile, without using any channels. Since *maidani bhattis* require a large open area, they are not so common in urban areas. The temperatures attained are in the range of 400-700°C.
- The oven is a firing device used widely in south India, and parts of Orissa, West Bengal, Assam and Maharashtra. Ovens are of two types: enclosed and open. The open oven consists of a brick or clay wall, which may have one to four stoke-holes. Pots are piled up on any one side of the oven wall for firing. The enclosed oven consists of a semi-circular or rectangular walled enclosure, with temporary or permanent stoke-holes. Pots are piled up within this enclosure for firing. In both types of ovens, the method of piling pots and igniting is the same. The greenwares are piled around 9 to 12 fired clay props, approximately 30 to 40 cms in length, fixed at equal distances, near the stoke-hole(s). The arrange-

ment of pots in an oven may take several adults four to five hours to complete. Initially, the fuel is burnt slowly at the stoke-hole for a few hours. Thereafter, the potter ignites the fuel placed within the oven. Burning and cooling takes a day, or in the summer, two days. The temperatures attained in the oven range between 700-800°C.

- Kilns are considered technologically superior to clamps and ovens, chiefly because they are more fuel-efficient, and provide insulation from weather disturbances. Kilns are of three types: up-draught, down-draught and horizontal draught.

Processing

The steps in the manufacture of traditional pottery are outlined below:

- **Preparation of clay:**
  This involves cleaning the clay, mixing it with tempering materials and kneading it.
- **Forming:**
  Pottery products may be formed manually, or on the wheel. Very big pots, like the ones made in Chandrapur (Maharashtra) and Adilabad (Andhra Pradesh), cannot be wheel-thrown. Among the potters who specialise in hand forming are the *Urali Kurumbars* of Kerala, the *Hatheras* of Madhya Pradesh, the nomadic *Gondi* potters of central India, the *Handakias* of Almora, the *Kottas* of Jaunsar-Bawar (Uttar Pradesh) and the *Hiras* of Assam. Hand forming is considered more primitive and laborious than wheel-throwing. Moulding, scooping, and pressing are some other hand forming techniques.Throwing on the wheel is a visually fascinating process. A mass of clay is placed on the wheel, which is then set in motion. The spinning clay is then skilfully shaped beteen the fingers and palms of the potter's hands.
- **Finishing:**
  Once they have been formed, and removed from the wheel, pots are beaten with a paddle, to give more cohesion to the clay, or to enlarge the size of the pot. Small products that cannot be beaten, are shaved to pare off excess clay. Decorative techniques such as stamping, inlay work, cutwork and engraving are done prior to drying and firing the objects. Polishing and painting can be done either prior to, or after, firing.The green wares are sun-dried, in order to reduce the moisture content. This minimises the likelihood of cracking due to uneven shrinkage during firing. Once fired, the objects may again be painted, glazed or lacquered.

Technological Improvements

Some of the improvements introduced by the KVIC in the sphere of pottery equipment are the ball-bearing potter's wheel, the Sheila electric potters' wheel, and improved brick-kilns. Earthen pipes for irrigation and drainage, *janata sheetaks*, (water coolers) water filters, and *magan chullahs* (smokeless stoves), are some of the new products promoted by the KVIC. In the field of process innovation, the introduction of a tank for washing clay, and simple low temperature glazing of red clayware, are some of the KVIC's contributions.

- **Potter's Wheel:**
  Efforts have been made to improve the potter's wheel, with a view to increasing its speed and stability, and thereby, its quality and output. Wheels with a variety of drives have been tried: rope-drives, belt-drives, gear drives and cycle-chain drives. Diesel and electric-powered wheels have also been tried, as have been ones with ball-bearings and clutches. Of the many experimental versions, the electric-powered wheel and the wheel with ball-bearings, seem to have been the most successful. Nevertheless, most potters continue to use the ancient solid block wheel. Some of the reasons for this are the cost, erratic power supply, and personal preference.

According to a survey carried out by Shanta Krishnan in Bombay's crowded Kumbharwada, only 35 of the 500 potters owned electrically operated wheels. In Bindapur, one of the larger potter *bastis* in Delhi, there were barely a score of potters who had acquired the power-driven wheel. The use of the power-driven wheel, however, had spread to other potter colonies in Delhi. Many of these potters had not bought the KVIC power-driven wheel, but had fabricated their own versions, in keeping with their specific requirements. Some potters, despite realising the advantages of the Shiela wheel, had not acquired it on account of lack of funds, space and power.

Box H

BLUE POTTERY

Jaipur, Khurja and Delhi, are the three main centres for the production of blue pottery, characterised by blue and green floral designs on a white body. According to old Arab records, blue pottery originated in Damascus. While some versions credit the Turks with bringing it to India, others ascribe its origins in India to the Mughals. Muslim *Kashigars* migrated in large numbers from Delhi to Jaipur, attracted by Raja Man Singh, a great patron of blue pottery. The distinctive Jaipur school of blue pottery took root in the late nineteenth century.

Blue pottery objects are cast in a mould and glazed. The blue colour is obtained from cobalt oxide, and green from copper oxide. The body of the object is made from a mixture of quartz, glass, borax and *Katira* gum. These raw materials are finely ground, and sieved through fine mesh screens. The fine powder is mixed with water to the consistency of dough. It is subsequently kneaded, and cast in moulds. The moulded pieces are dried, and sanded on a wheel, to obtain a smooth outside finish. On the semi-finished piece, a thin solution of glass (20 per cent) and flintstone (80 per cent), mixed with water and wheat, is applied. The desired areas are then painted with different pigments. A second coat of glaze, made from a mixture of borax (30 per cent), red lead (15 per cent) and powdered glass (55 per cent), is applied along with wheat flour. The decorated and glazed wares are fired slowly in a kiln, at temperatures of upto 1000°C.

Among the oldest examples of this form of pottery are the glazed tiles at the Arab Ki Serai, near Humayun's Tomb, in New Delhi. Many of Delhi's well-known landmarks, India International Centre, Kerala House and the Oberoi Hotel, to name a few, are adorned with blue tiles produced in the workshop of Gurcharan Singh. He is Delhi's best known practitioner of blue art pottery.

SOURCE: SRUTI survey

In Delhi, the ball-bearing wheels have not fared as well as the power-driven ones. Biharilal, of Babaji-ki-Bageechi, who first saw a ball-bearing wheel several years ago, thinks that it is too big. "If it is made smaller" he says, "it may be more useful."[7] Similarly, Tekchand of Malkaganj, who has an electric wheel, finds the ball-bearing wheel very large, unwieldy and, therefore, less productive. Giriraj Prasad has two ball-bearing wheels. But, he believes that an electric wheel with certain extra fittings would be more profitable than a ball-bearing wheel. Interestingly, many potters of Uppal, near Hyderabad, have rejected the Sheila wheel, in favour of the ball-bearing wheel. They claim that the former cannot withstand the load of the clay used by them in making large objects.

- **Kilns:**
  Attempts to introduce the low temperature kiln in places where only the *maidani bhatti* is known, have met with limited success. For instance, in 1961, the government constructed a cylindrical kiln at Karigiri (Tamil Nadu) so that potters could glaze their wares. The kiln was capable of attaining a temperature of 1250°C, well above the maximum temperature achieved by traditional ovens. But the high cost of fuel made this improved kiln an unaffordable luxury, and it fell into disuse. The Central Glass and Ceramic Research Institute in Jadhavpur (West Bengal), has designed a low thermal mass (LTM) kiln. Potters from Bankura (West Bengal) and Khurja (Uttar Pradesh) are being trained to use this. However, on account of the high investment involved, the LTM kiln is viable only as a common facility for a group of potters.

The preceding review of attempts to upgrade the traditional potters' technology is not comprehensive. But it does indicate that a fair amount of effort has been invested in designing new technologies. University research and development centres, Gandhian institutions, and KVIC workshops, are littered with hand-operated, pedal-pushed and motor-driven wheels, clay washing machines, and tile-making machines. There are improved up-draught, down-draught, single-chamber, double-chamber, continuous and non-continuous kilns. Though much of the research and development work has been undertaken in the name of the traditional potter, little of this has been adopted by traditional potters, perhaps due to inadequate dissemination. This was clearly revealed by the SRUTI survey. The majority of potters interviewed reported the absence of any technological changes in their work. Only two had discarded one or more of their traditional tools, and only seven had introduced new ones.

ORGANISATION OF PRODUCTION & MARKETS

Most potters in India are self-employed. However, a small segment of potters, primarily those attached to brick-making units, are wage workers. In rural areas, potters usually sell directly from their residence, or at village *haats* and fairs. They also make products to order, particularly in areas where the *jajmani* system still exists. SRUTI's survey of rural artisans indicated that the maximum sales are effected by potters at their own premises, followed by sales at *haats* and fairs.

In urban areas, however, there are a variety of mechanisms and outlets for sale of pottery products, as revealed by a survey of potters in Delhi.[8] These have been classified as follows:

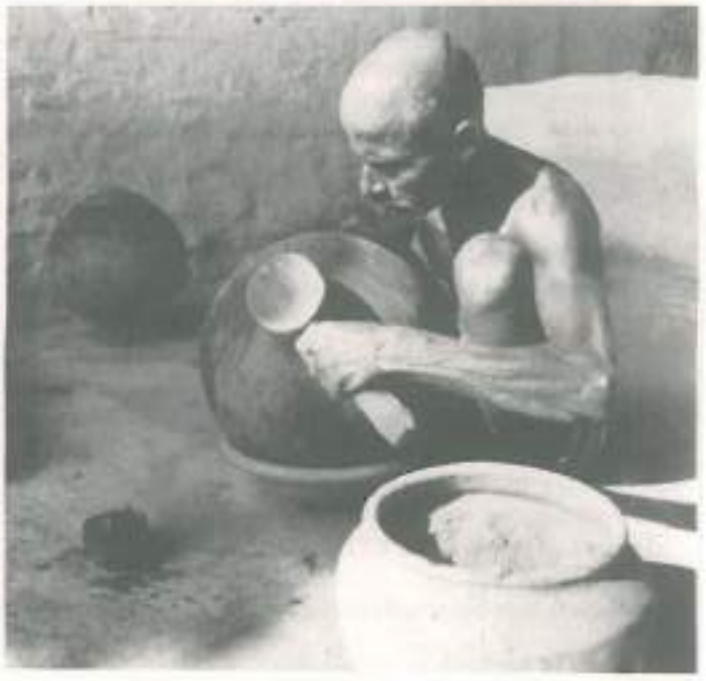
- **Direct sales by potters:**
  Sales are effected either from their own premises, or the footpath outside their homes. Some potters load their wares into baskets and hawk them in the streets. At times, bulk sales are made to sweet shops or hotels. The *haats* or weekly bazars are another outlet for direct sales.
- **Sale to potter traders:**
  There are some potters who, besides selling what they produce, also buy items from other potters, to expand their own product range.
- **Sale to *kumbhar* traders:**
  These are traditional potters, who have given up manufac-

Box 1

SPIN THE WHEEL, DON'T KICK IT

Legend has it that Shankar -an incarnation of Shiva- instructed the potter to spin the wheel just once, throw as many pots as he wanted, and then command the wheel to stop, when his work was done. The potter did as instructed, and discovered to his delight, that the wheel kept moving without him having to spin it mid-course. One day, he took a break for a meal, and forgot to command the wheel to stop. Sated, he returned to resume work, but was dismayed to find that the wheel had stopped of its own accord, and would no longer do as commanded. Ever since, the potter has had to spin the wheel frequently while working.[17]

In a variation of this legend, when potters were first given the wheel by Brahma, it used to turn automatically, but had to be stopped by hand. Once, in a fit of madness, a potter gave the wheel a kick to stop it. Thereafter, the wheel stopped turning on its own forever, and ever since, has had to be set in motion with a stick. That is why, in parts of Gujarat, touching the turning wheel with the foot is forbidden.[18]



turing pottery goods, and have taken to trading instead.

- **Sale to *kumbhar* shopkeepers:**
  Like the *kumbhar* traders, most of the shopkeepers who are engaged in the sale of pottery products, belong to the *kumbhar* community. Shopkeepers from outside this community are in greater evidence when it comes to sale of higher-value items, particularly idols and toys.

At festivals like Diwali, traders and shopkeepers become part of the marketing system to mop up quick profits. In Bombay, in 1987, the Kumbharwada potters sold their *diyas* to retailers at Rs.70 per thousand. In turn, the retailers sold them at about Rs.160 per thousand. On larger objects, the mark-ups were even higher. Most of the pottery products sold in India are traditional utility goods and ritual artefacts. But the potters' large rural market for utility goods is now under siege, due to the intrusion of plastic, metal, china and glassware. Today, an increasingly common sight in western and south Indian villages is that of women fetching water in plastic imitations of clay pots. The increasing competition from newer materials, and the greater concentration of purchasing power in urban areas, have pushed rural potters into newer urban markets. Increasingly, potters in rural areas are taking to brick making to offset the decline in demand for their traditional products. At the same time, potters are losing some of their traditional urban markets too. During Diwali, potters once sold tens of thousands of *diyas*. But now sales are dwindling because of competition from wax-pots, candles and electric bulbs. In urban areas, the largest demand continues to be for *matkas*. An interesting addition to *matkas* in urban areas is a metal tap for dispensing water. Other popular items in urban markets are *phooldans* (flowervases), *gamlas* (flower pots), flooring tiles, idols and decorative items.

Faced with the loss of markets for their traditional products, potters are finding it increasingly difficult to sustain themselves and their families. But, some observers feel that there is a potentially large market for non-traditional items made from common clay. Dr. T.N. Sharma, a Khurja-based ceramicist, is of the view that "our rural pottery industry cannot be ignored any longer", and that it can "make a substantial contribution in the national devel-

Box 1

ENTITLEMENTS AND ENABLEMENTS FOR TRADITIONAL POTTERS

In her book, *"Entitlements and Enablements of Traditional Artisans"*, Shanta Krishnan discusses a package of entitlements and enablements for traditional potters, evolved through a process of dialogue with them. Summarised below, this package reflects the potters' experiences, and the author's own as an extension worker among the artisans.

1. RAW MATERIALS & FUEL

All non-private lands bearing clay should be recognised as the inalienable birthright, or *'watan'*, of the potter. Identification of all non-private lands which bear clay suitable for pottery ought to be supported by legal enactments prohibiting diversion of such lands to other uses. Potters should be empowered to report infringements of the prohibitory enactments to the enforcement authorities. They should be educated about the advantages of scientific testing and grading of different samples of clay. This could be complemented with testing facilities within convenient reach of potters. Alternative fuels need to be identified and made available to potters at affordable costs. Wastelands in the vicinity of large concentrations of potters should be identified and made available to potters for growing fuel-wood.

2. TECHNOLOGICAL UPGRADATION

- Wheel Technology: Potters should be trained in the use of improved wheels. Simultaneously, an effort should be made to remove constraints relating to finance, workspace, and power, which inhibit the acquisition and use of improved wheels.
- Kiln Technology: R & D efforts are required to develop (a) thermally efficient kilns, keeping in view affordability and cultural acceptability, for individual potters as well as collectives and (b) blower-type equipment for feeding fuels like sawdust and rice-husk, where continuous feeding is necessary. New technologies and designs are also required in the following areas: improved shaving/finishing tools; mini-equipment for clay processing; and cheap, space-saving drying galleries.

3. TRAINING FOR TECHNOLOGICAL UPGRADATION

Potters need training in order to upgrade their technologies in the following areas: clay-pugging, slip-making, moulding, casting, finishing, decoration, lacquering, glazing, and in operating improved kilns.

4. NEW PRODUCTS & MARKETS

Potters need to be equipped with the neccessary skills to carry out market research and product development activities. Interventions are also necessary to (a) Improve potters' access to markets by constructing stalls for them in existing or potential market-sites; and (b) reserve purchase of pottery goods needed by all government departments, railway station stalls, and public sector units, directly from producers.

5. PLANNING PROCESS

Consultation with potters in the course of national, regional and local planning is necessary.

6. SPACE AND INFRASTRUCTURE

Potters require assistance with a space plan, keeping in view all aspects of their domestic and economic activity. Short-term relief measures to mitigate space constraints in each locality are needed.

7. AVAILABILITY OF CREDIT

Procedural formalities involved in applying for, and obtaining credit, have to be streamlined. An effective credit delivery system needs to be developed, and provisions made for extension education of potters regarding different aspects of credit.

8. ORGANISATION OF ARTISANS

Considerable mobilisation effort will have to be made to organise potters into collectives that can play an active role in the various action schemes listed above and press for their legitimate entitlements and enablements.

opment programme". For instance, Dr. Sharma feels that:

- A policy thrust on improved rural housing would create a demand for 1200 million tiles annually.
- More efficient use of irrigation water and proper drainage for soil conservation and increased food production, will require 4100 million irrigation-cum-drainage pipes annually.
- The demand for clay pipes for smokeless *chulhas* could be stimulated in about 80 million rural homes, as part of an energy conservation programme.

All the items cited by Dr. Sharma can be made by traditional potters from common clay.[8]

III INTERVENTIONS

Most of the non-government organisations that work with traditional potters are KVIC supported institutions, such as the Gramodaya Sangh in Bhadrawati (Maharashtra). Some voluntary agencies involved in promoting appropriate technologies have also assisted traditional potters. Much of this has been at the level of product innovation and improved tools. On the whole, however, the presence and impact of non-government organisations in the sphere of pottery has been very limited.

Various Central and State Commissions on Backward Castes appointed under the Commissions of Enquiry Act (1953), have recommended that potter-castes be included in the lists of Other Backward Castes (OBC's) or Socially and Educationally Backward Classes (SEBC's). All members of potter-castes thus become eligible for affirmative action programmes, e.g., reservation of seats in institutions of higher learning and jobs, special training programmes and loan schemes arising out of the recommendations of these Commissions. Article 43 of the Indian Constitution says "the State shall endeavour to promote cottage industries on individual or cooperative basis in rural areas". In the case of potters, most of this promotional work has been undertaken by the KVIC. Besides its efforts to upgrade technology, discussed earlier, the KVIC also provides financial assistance in the form of loans and grants for capital expenditure and working capital, to potters or institutions working with potters. Financial assistance is also provided for the following purposes: purchasing improved wheels and tools; constructing kilns and worksheds; and purchasing or leasing land with clay deposits. The Office of the DC (Handicrafts) also channelises assistance to potters who make artistic pottery goods. Potters and institutions working with such potters can avail of any of the credit, raw material or marketing assistance schemes administered by the Office of the DC (Handicrafts). In addition, the Office of the DC has set up 26 centres for imparting training in pottery and stone artwares under the Apprenticeship Training Scheme.

Besides the schemes of the KVIC and Office of the DC (Handicrafts), potters qualify for assistance under various poverty alleviation schemes such as TRYSEM and IRDP. During the SRUTI survey, the potters were asked to comment about the nature and effectiveness of government interventions. Since the sample size was limited to 48 potters, the survey results might not be truly representative but, in so far as they are, the awareness and impact of the KVIC and TRYSEM schemes seem negligible. Of the 48 potters interviewed, only three were aware of the TRYSEM scheme, and four of the KVIC schemes. The potters, like most other artisans, showed a much greater awareness of subsidy-cum credit schemes. 30 per cent (14 out of 48) were aware of these. This may be because the IRDP, of which subsidy-cum-credit schemes are a part, is a major poverty alleviation programme in the rural areas, and has a far wider coverage of the rural population than schemes intended only for artisans. Given that the entire government machinery is involved in publicising and promoting this programme, it is not surprising that it is far better known than other schemes of assistance.

A little over half the potters interviewed, 25 out of 48, had tried to get institutional credit, and of these, only half had succeeded. The main problem encountered by those who succeeded was the complicated procedure involved. No clear reasons emerged for the failure of others to get the loan. The major reasons cited by the potters for not trying to obtain institutional loans were lack of awareness of the loan schemes, and the fear of indebtedness. In the potters' perception, the most meaningful interventions, other than loans and supply of raw materials would be: direct access to markets (identified by 71 per cent of the respondents), training in new skills (44 per cent), formation of cooperatives (38 per cent), reservation of markets (31 per cent), cheaper transport (29 per cent) and better storage facilities (23 per cent).[Box I]

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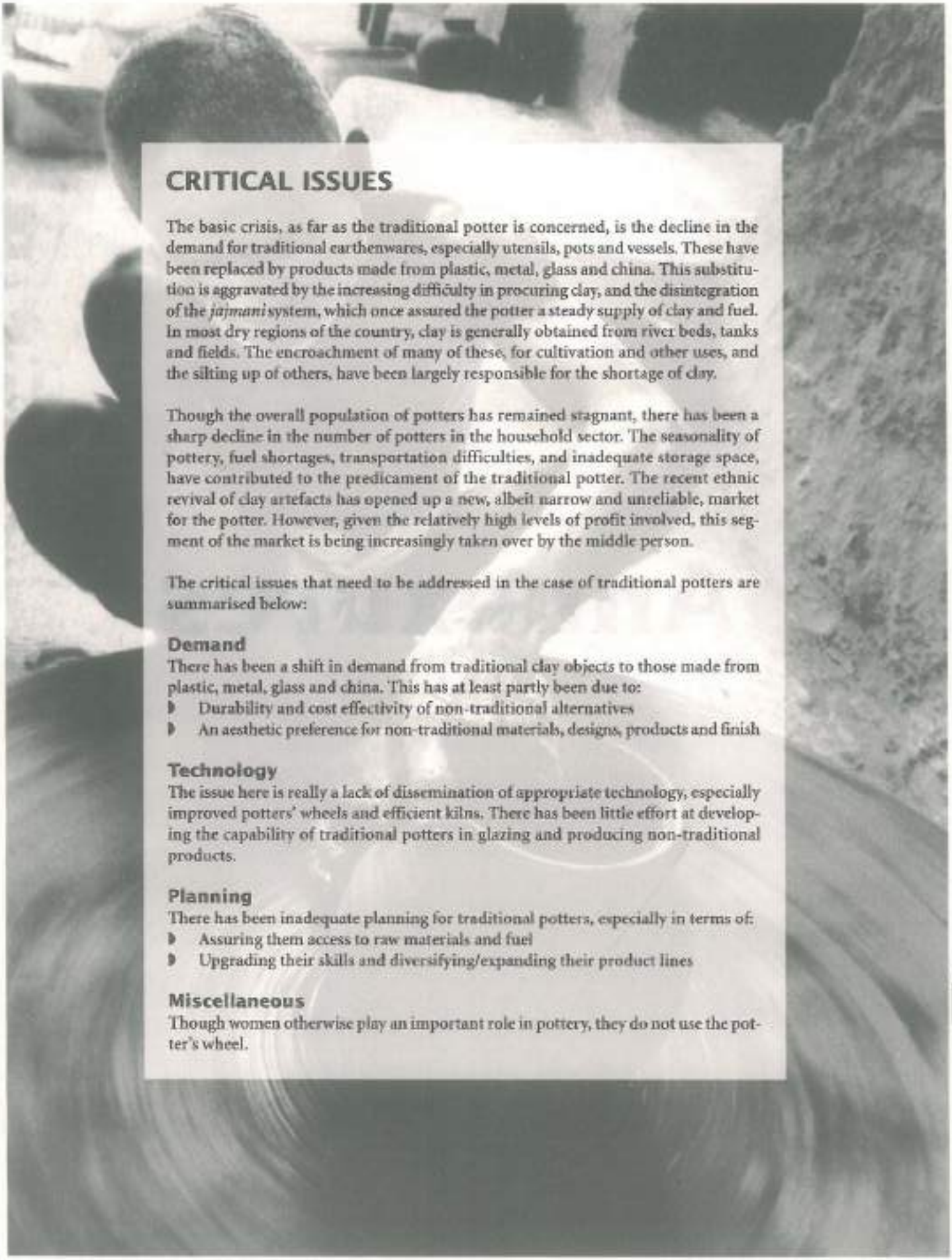

CRITICAL ISSUES

The basic crisis, as far as the traditional potter is concerned, is the decline in the demand for traditional earthenwares, especially utensils, pots and vessels. These have been replaced by products made from plastic, metal, glass and china. This substitution is aggravated by the increasing difficulty in procuring clay, and the disintegration of the *jajmani* system, which once assured the potter a steady supply of clay and fuel. In most dry regions of the country, clay is generally obtained from river beds, tanks and fields. The encroachment of many of these, for cultivation and other uses, and the silting up of others, have been largely responsible for the shortage of clay.

Though the overall population of potters has remained stagnant, there has been a sharp decline in the number of potters in the household sector. The seasonality of pottery, fuel shortages, transportation difficulties, and inadequate storage space, have contributed to the predicament of the traditional potter. The recent ethnic revival of clay artefacts has opened up a new, albeit narrow and unreliable, market for the potter. However, given the relatively high levels of profit involved, this segment of the market is being increasingly taken over by the middle person.

The critical issues that need to be addressed in the case of traditional potters are summarised below:

Demand

There has been a shift in demand from traditional clay objects to those made from plastic, metal, glass and china. This has at least partly been due to:

- Durability and cost effectivity of non-traditional alternatives
- An aesthetic preference for non-traditional materials, designs, products and finish

Technology

The issue here is really a lack of dissemination of appropriate technology, especially improved potters' wheels and efficient kilns. There has been little effort at developing the capability of traditional potters in glazing and producing non-traditional products.

Planning

There has been inadequate planning for traditional potters, especially in terms of:

- Assuring them access to raw materials and fuel
- Upgrading their skills and diversifying/expanding their product lines

Miscellaneous

Though women otherwise play an important role in pottery, they do not use the potter's wheel.

Section III

Annexures

Annexure 1: The Primary Survey of Artisans

DEFINITION

Artisans have been defined elsewhere in this report in terms of attributes such as use of traditional manual skills and family labour. For purposes of the primary survey, only workers who satisfied the following criteria formed part of the sample of artisans:

- Workers involved in any one of the following manufacturing activities: cane and bamboo work; manufacture of jewellery; leather work; pottery; wood work; tailoring; textile work and metal work
- Workers who were self-employed
- Workers who were involved in their artisanal activities for more than five years preceding the survey; or, were engaged for at least three months per year in that activity; or, derived at least fifty per cent of their annual income from their artisanal activity

METHODOLOGY

The survey was conducted with the help of a structured interview schedule. The schedule was so designed as to elicit information on

- problems associated with raw materials, finance, marketing and technology
- employment patterns
- traditionality and occupational mobility
- income, asset and consumption patterns
- impact of state sponsored welfare schemes and interventions
- occupational hazards

A two-day orientation workshop was conducted for the research team in June, 1987. This was followed by a pilot survey in Mahendragarh District, Haryana to field test the draft questionnaire. The questionnaire was subsequently modified. (See Tables 1-15 for survey findings)

LOCATION OF SURVEY & SAMPLE SELECTION

The primary survey was conducted in eight administrative blocks in different parts of the country. These blocks represented different configurations of the following locational factors which were thought to influence artisanal activities: agricultural growth, proximity to forests and proximity to urban markets. While selecting the blocks, an attempt was made to get as wide a geographical representation within the country as possible, within the time and budgetary constraints.

A list of the blocks in which the survey was conducted, along with the criteria they represent is provided in Table 1. Within each block, random sampling was used for selecting the sample villages. The sample of artisans to be interviewed within each village, in turn, was selected by random sampling. The village sample included:

- all the trades of self-employed artisans selected for the survey;
- half the number of artisans from a particular trade, with a maximum limit of-five per trade, residing in that village.

The sample profile presented in detail in Table 2 is summarised below:

No. of artisan trades covered:	8
No. of villages covered:	50
No. of blocks covered:	8
No. of artisans interviewed:	488

As the number of jewellers in the sample was too small to draw any meaningful inferences from, they were omitted from the analysis, reducing the sample size from 488 to 475 artisans.

Table 1

Description of the sample blocks

			PROXIMITY TO URBAN AREAS		*AGRICULTURALLY*		*PROXIMITY TO FORESTS*	
BLOCK	*DISTRICT*	*STATE*	*Near*	*Far*	*Advanced*	*Backward*	*Near*	*Far*
Alibag	Raigad	Maharashtra	*		*		*	
Daurala	Meerut	Uttar Pradesh	*		*			*
Mhow	Indore	Madhya Pradesh	*			*	*	
Hyethnagar	Ranga Reddy	Andhra Pradesh	*			*		*
Vyara	Surat	Gujarat		*	*		*	
Tohana	Hissar	Haryana		*	*			*
Nimdih	Singhbhum	Bihar		*		*	*	
Shirahatti	Dharwad	Karnataka		*		*		*

Table 2

Sample profile

ARTISANAL GROUP	BLOCKS								Group total
	Alibag	Daurala	Hyethnagar	Mhow	Nimdih	Shirahatti	Tohane	Vyara	
Cane & bamboo workers	7	4	4	7	8	3	10	12	55
Leather workers	2	4	9	20	0	12	5	1	53
Metal workers	1	11	6	4	14	7	5	0	48
Potters	6	7	15	7	9	4	0	0	48
Tailors	17	13	22	7	7	12	22	20	120
Textile workers	6	10	2	4	0	7	1	4	34
Wood workers	21	9	10	8	18	15	13	23	117
TOTAL	60	58	68	57	56	60	56	60	475

Table 3

Number of traditional artisans reporting occupational shifts

ARTISANAL GROUP	TOTAL NUMBER OF		
	Artisans	Traditional artisans	Traditional artisans reporting shifts
Cane & bamboo workers	55	47	9
Leather workers	53	44	25
Metal workers	48	43	4
Potters	48	45	16
Tailors	120	22	9
Textile workers	34	24	11
Wood workers	117	66	19
SAMPLE AVERAGE	475	293	93

Table 4

Percentage of artisans engaged in artisanal activity for more than six months per annum

ARTISANAL GROUP	NUMBER OF RESPONDENTS	SAMPLE SIZE	%
Cane & bamboo workers	38	55	69
Leather workers	46	53	87
Metal workers	37	48	77
Potters	22	48	46
Tailors	107	120	89
Textile workers	28	34	82
Wood workers	77	117	66
TOTAL	355	475	75

Table 5

AVERAGE ANNUAL INCOME FROM ARTISANAL ACTIVITY BY LOCATIONAL FACTORS

ARTISANAL GROUP	INCOME OF ARTISANS ACCORDING TO LOCATION (Rs.)						SAMPLE AVERAGE
	I	II	III	IV	V	VI	
Cane & bamboo workers	2721	1890	2507	1739	2354	1973	2219
Leather workers	5346	4433	3884	5388	5624	4560	5036
Metal workers	6812	2560	5812	4205	4661	4809	4741
Potters	3492	5100	3973	4052	4285	3706	4028
Tailors	4715	4105	4662	3900	5251	3639	4398
Textile workers	2622	7997	4050	5618	4027	5056	4638
Wood workers	11247	4152	8890	4021	5243	10516	7018
AVERAGE	5816	3974	5549	4169	4670	5167	4899

KEY FOR COLUMN HEADINGS:

I - Near urban area. II - Far from urban area. III - In agriculturally advanced area. IV - In agriculturally backward area. V - Near forested area. VI - Far from forested area.

Table 6

NUMBER OF ARTISANS IN DIFFERENT HOUSEHOLD EXPENDITURE CATEGORIES

ARTISANAL GROUP	EXPENDITURE CATEGORY				
	Upto Rs.5000	*Rs.5000-10,000*	*Above Rs.10,000*	*No reply*	*Sample size*
Cane & bamboo workers	24	21	7	3	55
%	44	38	13		
Leather workers	26	13	13	1	53
%	49	25	25		
Metal workers	14	25	9	1	48
%	29	52	19		
Potters	21	15	11	1	48
%	44	31	23		
Tailors	41	43	36	0	120
%	34	36	30		
Textile workers	16	11	7	0	34
%	47	32	21		
Wood workers	29	61	26	1	117
%	25	52	22		
TOTAL	171	189	109	7	475
%	36	40	23	1	

Table 7

ASSET PROFILE OF ARTISANS

ARTISANAL GROUP	*% OWNING LAND*	*% OWNING LIVESTOCK/ POULTRY*	*% OWNING MEANS OF TRANSPORT*	*% INDEBTED FOR SOCIAL & CONSUMPTION PURPOSES*
Cane & bamboo workers	19	29	31	58
Leather workers	37	48	35	43
Metal workers	26	54	54	67
Potters	27	64	77	63
Tailors	48	54	57	34
Textile workers	18	35	53	62
Wood workers	63	60	61	41
SAMPLE AVERAGE	40	52	54	47

Table 8

ARTISANS' AWARENESS OF VARIOUS SCHEMES

ARTISANAL GROUP	*AWARE OF SUBSIDY-CUM-CREDIT SCHEMES*		*AWARE OF KVIC SCHEMES*		*AWARE OF TRYSEM*		*SAMPLE SIZE*
	No.	*%*	*No.*	*%*	*No.*	*%*	
Cane & bamboo workers	15	27	-	-	-	-	55
Leather workers	20	38	2	4	2	4	53
Metal workers	20	42	1	2	2	4	48
Potters	14	29	4	8	3	6	48
Tailors	48	41	-	-	28	24	117
Textile workers	16	47	5	15	7	21	34
Wood workers	47	39	3	2	11	9	120
TOTAL	180	38	15	3	53	11	475

Table 9

Marketing modes & outlets used by artisans

ARTISANAL GROUP	FREQUENCY								
	Jajmani	*Barter*	*Own premises*	*Haat*	*Trader*	*Co-op/Govt.*	*Other **	*No Reply*	*Sample Size*
Cane & bamboo workers	8	5	21	28	1	5	29	1	55
%	15	9	38	51	2	9	53	2	
Leather workers	11	2	34	11	2	1	14	1	53
%	21	4	64	21	4	2	26	2	
Metal workers	24	1	18	10	1	-	21	1	48
%	50	2	37	21	2	-	44	2	
Potters	10	20	29	11	10	-	15	1	48
%	21	42	60	23	21	-	31	2	
Tailors	1	-	43	10	1	1	67	3	120
%	1	-	36	8	1	1	56	2	
Textile workers	-	2	9	4	2	6	15	-	34
%	-	6	26	12	6	18	44	-	
Wood workers	18	7	23	5	1	4	87	3	117
%	15	6	20	4	1	3	74	3	
TOTAL	72	37	177	79	18	17	248	10	475
%	15	8	37	17	4	4	52	2	

** Comprising largely of sales by order & vending*

Table 10

Attempts to avail of institutional finance

ARTISANAL GROUP	*1 DID NOT TRY*	*2 NO REPLY*	*3 TRIED*	*3a TRIED & FAILED*	*3b TRIED & SUCCEEDED*	*3c NO REPLY*	*(1+2+3) TOTAL*
Cane & bamboo workers	25	3	27	10	14	3	55
%	45	5	49				
Leather workers	19	3	31	13	18	-	53
%	36	6	58				
Metal workers	22	1	25	14	9	2	48
%	46	2	52				
Potters	23	-	25	12	12	1	48
%	48	-	52				
Tailors	56	15	49	19	25	7	120
%	47	12	41				
Textile workers	21	-	13	3	10	-	34
%	62	-	38				
Wood workers	65	10	42	20	16	6	117
%	56	8	36				
TOTAL	231	32	212	91	102	19	475

Table 11

Reasons for not trying to obtain institutional finance

REASON	*FREQUENCY OF RESPONSES*	*%**
Apprehension about indebtedness	104	45
Distrust of the mechanism	60	26
Lack of knowledge about source	60	26
Uncertainty about sanction	25	11

* Frequency of responses expressed as a percentage of the total number of artisans who did not try to obtain institutional finance, i.e., 231

Table 12

Difficulties faced by artisans who succeeded in getting institutional finance

DIFFICULTIES FACED	*FREQUENCY OF RESPONSES*	*%**
Complicated procedure	60	59
Difficulty in meeting collateral	17	17
Delay in processing	29	28

* Frequency of responses expressed as a percentage of the total number of artisans who tried & succeeded in obtaining institutional finance, i.e., 102

Table 13

Artisans' perceptions about the reasons for failing to get institutional finance

REASON	*FREQUENCY OF RESPONSES*	*%**
Complicated procedure	23	25
Lack of collateral	9	10
Corrupt practices	35	38

* Frequency of responses expressed as a percentage of the total number of artisans who tried & failed to obtain institutional finance, i.e., 91

Table 14

Artisans reporting financial difficulty while procuring raw materials

ARTISANAL GROUP	*ARTISANS REPORTING INADEQUATE FINANCES*	
	Frequency	*%*
Cane & bamboo workers	30	55
Leather workers	41	77
Metal workers	30	61
Potters	34	71
Tailors	54	45
Textile workers	16	47
Wood workers	25	21
TOTAL	228	

Table 15

Artisans' complaints regarding raw material supply

ARTISANAL GROUP	*CATEGORY OF ARTISANS*		*FREQUENCY*						*SAMPLE SIZE*
			Nature of complaints						
	A	*B*	*1*	*2*	*3*	*4*	*5*	*6*	
Cane & bamboo workers	10	43	29	31	7	14	20	19	55
Leather workers	4	25	7	15	8	5	19	1	53
Metal workers	1	22	4	11	2	2	17	12	48
Potters	-	36	22	17	7	4	20	12	48
Tailors	12	27	1	14	-	6	14	5	120
Textile workers	15	12	3	4	1	1	5	2	34
Wood workers	78	18	8	13	4	5	10	3	117
TOTAL	120	183	74	105	29	37	105	54	475

KEY FOR COLUMN HEADINGS:

▶ Category of Artisans

A. Job workers, who do not procure their own raw material B. Artisans reporting problems

▶ Nature of Complaints

1. Depletion of natural resources 2. Current local non-availability 3. Diversion to other sectors of industry

4. Deterioration of quality 5. Increase in cost 6. Transportation problems

Annexure 2: Comments on Draft Report and Workshop Deliberations

This section contains a summary of:
a. The proceedings of a workshop held on December 18, 1992, to dicuss the draft report, (see below for list of participants)
b. Additional comments and documents received, as follows:

- Comments from Mr. K.K. Kak
- Excerpts from a paper titled: "Towards an Objective for the Handicrafts Sector - An Examination of the Five Year Plans", by B.B. Bhasin & K.K. Kak
- Comments received from Ms. Kathy Sopa, IDS
- Comments from Mr. Rajagopalan, Gandhigram Trust
- Excerpts from a paper titled: "Concept of Artisan Guilds - Gandhigram Trust"

To avoid repetition the discussions and comments have been grouped under various heads.

List of participants

- Jaidev Baghel, Paramparik Bastar Shilpee Parivar
- L.C. Jain, IDS
- Shantha Krishnan
- N.C.B. Nath, FAIR
- D. Raghunandan, Delhi Science Forum
- R. Rajagopalan, Gandhigram
- Kanika Satyanand, SRUTI
- S.S. Sharma, NABARD
- Jagpal Singh, CAPART
- Shekhar Singh, IIPA
- A.K. Sinha, Tribal Handicrafts Marketing Cell
- Arun Sud, CAPART
- Kathy Sopa, IDS
- Gautam Vohra, DRAG

DEFINITION/TYPOLOGY OF ARTISANS

- "It is noteworthy that the opening paragraph 'defines' the artisan sector in essentially techno-economic (and not cultural) terms i.e. not as bearers of a tradition or as being hereditary producers, but as being skilled labour. But then what is a 'traditional skill' ? The last two paragraphs on this page (and the opening portion of p.2) recognise and state an extremely important and fundamental historical process - that, with industrialisation, there is an inevitable decline and that the artisan, as we recognise him or her, eventually dies out. What might be called artisans in, say, an advanced industrial economy like America are, by and large, studio artists. This process is recognised on p.2 again when the report speaks of 'artisans who were once indispensable', and it is recognised for every category of artisans on which SRUTI reports: it is amply clear that the traditional artisan is on his or her way out. Since the government is committed to industrialisation and since - as the SRUTI report shows - government policies and actions in various sectors have contributed substantially to the decline of the artisan sector, this is one of the key issues that has to be addressed when considering the future fate of this sector." (Kak)
- "The pre-occupation with 'definitions' is disturbing - why is it so important to have a definition ? A definition excludes; it sets up a hierarchy; it differentiates others from us; and there are always, in dealing with categories of human beings, cases to disturb the neatness and exactitude required by a definition. The report itself acknowledges that a 'framework' is 'somewhat more dynamic than a definition'. An alternative title for this section could be 'Towards a Description of the Artisan' (Kak)".
- "A refined definition of 'artisan' could be as follows:
...archetypal artisan is an independent producer who owns the tools and implements of his or her craft; sells the products of his or her own labour; uses manual skills in doing so; and has control over raw materials and other inputs" It is difficult to move from the working definition offered in the report, to something that is more all inclusive. Though we all know what we are talking about, one trivial aspect that might be considered is to distinguish between 'artist' and 'artisan'. The definitions offered in this report focus mainly on the types of tools used and the style of production. But both artist and artisan may "manufacture and repair goods.....use traditional and manual skills and own the means of production'; both create forms/items which they find visually appealing; both may produce things in bulk, and both are doing it for a livelihood. But one may be selling in galleries for thousands of rupees, and another selling on the streets or markets. One factor that could be mentioned is that though both create 'artistic' goods, the artisans played an integral part in the community, and the primary role was to provide a necessary service to the community. Even though the goods may be purchased from artists for their aesthetic qualities, people primarily rely on the artisan for purposes of utility. Exceptions to this are those who create for tourists and for export. Ultimately, anonymity is the defining factor. An artisan is one who is promoting not a name, but a business." (Sopa)
- Some participants were in favour of distinguishing between traditional and non-traditional artisans. Others, however felt, that in doing so we'll only end up with a new caste system. Such a distinction would also give rise to other problems. For instance, how would one regard artisans making polo balls ? A more valid distinction would be between artisans producing decorative items and those making utilitarian products, because the marketing linkages in the case of each would be completely different, with the former producing for distant markets and the latter for more local ones.
- A typology of artisans is definitely needed. The matrix in the draft report may be developed further through different permutations and combinations. While developing a typology of artisans, a distinction should be made between artisans producing goods and those providing services.

REVIEW OF PAST PLANS

- "Handicrafts has been described as constituting 'an important segment of decentralised cottage sector of our economy and (providing) employment to nearly 2 million artisans scattered all over the country. A large number of handicraft artisans belong to weaker sections, namely, Scheduled Castes, Scheduled Tribes, women and other backward classes. According to rough estimates,

handicraft industry produced goods amounting to Rs.2255 crores in 1980-81'. Nevertheless, in spite of and after three decades of planning, we have a Planning Commission document telling us that while 'the basic expectation in the plans is to develop the Village and Cottage Industries so as to provide greater and more remunerative employment to the increasing number of labour participants that the population is throwing up (and) even though this has been the stated objective, the comparative analysis of the employment...shows that the number of those employed in this sector has definitely shrunk...one can safely conclude that contrary to our desire, the sector has certainly not provided greater employment...the stated objective has not been achieved. The reason is not far to seek. The problem has not been studied in any depth and remedies have not been sought.' The Public Accounts Committee of Parliament goes further - in considering the performance of the All India Handicrafts Board it says that 'even after 30 years, the very objective of setting up the Board remains to be realised' and elaborates that 'the primary task of the Board was to make handicrafts an effective instrument of reducing unemployment and under-unemployment among artisans and to promote economic independence and social status and individual dignity of craftsmen. The committee regret that the Board has not been able to achieve any concrete results in this regard...'

In the reviews of progress in the various plans, comment is mixed. Satisfaction is expressed, particularly at the money spent, or the increasing number of institutions set up, or even at the rise in exports. The craftsmen appear to be incidental, and that they are "still typically below the poverty line, they are not among the major beneficiaries of the banking system or of research and development, and their living and working environment is unsatisfactory' is merely 'another important parameter of inadequacy.'"

There have been ambitious schemes, a rapid expansion of official agencies, steadily increasing expenditure, and yet what has gone wrong that there should be such caustic criticism ? We felt an answer could be found by examining what was proposed to be done. The plans are statements of official policy and in this paper we give a description of the objectives thus officially stated. We go on to ourselves suggest an objective and we briefly suggest, again after an examination of the plans, an institutional direction towards achieving this objective.

Except in the First Plan, in which handicrafts was grouped with small industries (and village industries distinguished), in all Plans handicrafts has been part of village and small industries. Unfortunately, in no plan have objectives for this sector been clearly written - it becomes necessary therefore to consider the objectives for the larger sector, and the official objectives for the VSI sector. In the First Plan there is a simple statement, the Second Plan is more ambitious, the Third Plan drops direct reference to both employment and income and concentrates on what are really policies and not objectives. This is true of the Fourth Plan too. The Fifth Plan is entirely silent (though the draft Plan is elaborate and the Sixth Plan is a mix of objectives and policy. Even the policy directions change from plan to plan. While this is unexceptionable in principle, in practice these changes do not appear to be the result of adjustments that become necessary towards achieving the basic objectives, nor do they appear to be consciously reflected in the schemes that follow, at least where the handicrafts sector is concerned.

For handicrafts, we have to infer objectives. The First Plan has a lengthy section, generally emphasising the importance of marketing. The Second Plan could be read to be supporting development of a heritage, the Third Plan suggests a reorientation towards the domestic market and towards rural crafts, the Fourth Plan takes us back to exports, the Fifth Plan is silent (though the draft Plan is wordy) and so is the Sixth.

There are also the government Resolutions constituting the All India Handicrafts Board. We have not been able to secure a copy of the first one, of 1952. That for 1960 describes the functions of the Board and these are repeated in those for 1964, 1971, and both of 1974. In 1978, presumably for the first time, the resolution gives the "objectives of the Government in respect of handicrafts" and redefines the functions of the Board. In 1981, a joint Board for handlooms and handicrafts was constituted and fresh objectives stated, and these were repeated in 1982.

Over 30 years of planning there has clearly been no consistency in defining, or even stating objectives for the handicrafts sector. It follows that policies, schemes and activities officially taken up for and in this sector have lacked a unifying purpose, and it is not surprising that performance has attracted criticism. In fact, the Public Accounts Committee has asked for "corrective measures to tone up the working of the Board so that the Board may actually function as a powerful catalytic agency for development of handicrafts in the country and for improving the lot of artisans." (Bhasin & Kak)

CONSTRAINTS FACED BY ARTISANS

- Working capital is the most pressing need of artisans. But credit delivery through public channels takes so long, that by the time it materialises, it is diverted to consumption needs. This often leads to blacklisting of the artisans by the banks. Loans are extremely difficult to come by as the artisan is not considered 'creditworthy'. The banks insist on asking the artisan to furnish evidence of land owned, house, nature and quantum of products sold.
- Traditional artisans face several difficulties with respect to raw materials. Bell metal artisans earlier used to smelt and refine their own iron. With depletion of their traditional sources, they now have to buy scrap or old articles. They are unable to purchase this in sufficiently large quantities as they lack the requisite capital. Fuel has also become a problem, since cutting of wood from the forests now attracts fines from the forest department.
- It is local markets that have sustained artisans despite all the depredations. They are now beginning to feel the pinch, in the sense that they can no longer produce their traditional goods at prices that the poor rural consumer can afford. There is a large market/opening (look at the statements of corporate heads of HLL, Batas etc. about the untapped rural market). The question is whether the artisans can find a slot in this market.

POLICIES AND OBJECTIVES

- "The first measure should be a definite and unambiguous statement of objectives, and a second measure that all policies be devised and schemes framed keeping these objectives very clearly and centrally in view. Again, the evaluation of a policy or the review of a scheme must always be with reference to the basic objectives. Unless the path itself is not clearly shown, the adjustment of details will be purposeless.

For the handicrafts sector, there can be no doubt that the craftsman, the human being, must always be the centre of official focus. Yet, in no planning has he really featured so. 'The artisan finds himself against odds at each level of his operations, be it the purchase

of raw materials, the marketing of products, the arrangement of credit, access to institutional cover, etc. His weak sustaining and bargaining power is exploited by all and sundry, naturally to his utter disadvantage'. We are to 'improve his lot' and yet, to go by official documents themselves, we have in 30 years not succeeded. Should this then not be our basic objective, 'improving his lot', helping him gain the strength to bargain for a fair earning, enabling him to choose to remain in handicrafts as his favoured means of livelihood ?

We propose as the official objective for the handicrafts sector 'the achievement by craftsmen of economic self-reliance'. We suggest this objective is less equivocal and easier to translate into official policies and schemes than existing stated objectives. We also suggest that the review of policy or the evaluation of schemes can easily be made against this objective. Thus, to what extent does any proposed policy or scheme directly or indirectly assist craftsmen in achieving economic self-reliance, and to what extent has a policy or scheme directly or indirectly taken craftsmen along this path ? 'Self-reliance' is of course relative, but we suggest it is far more specific than the objectives generally spelled out over the years and supposedly aimed at benefitting craftsmen.

Given the highly dispersed and decentralised character of the handicrafts sector, we suggest a careful examination is necessary of the official role in achieving this objective. Handicrafts are generally considered today to be products of essentially ornamental or decorative value. Earlier, they were, of course, the result of a skill, objects of daily use, whether for secular or religious purposes. A fundamental measure of assistance to craftsmen will be if the official approach can bring handicrafts back into daily life This can be done broadly in two ways - by policies of pricing and reservation which promote the purchase and use of hand-crafted articles, and by Government, through its agencies, being the patron for Indian handicrafts.

It must be understood that on the one hand encouraging handicrafts is encouraging handskills and handcrafted articles per se and on the other it is encouraging handcrafted articles that are identifiably Indian, expressions of traditional Indian culture, and where they have been adapted for contemporary use, showing the traditional root.

The producers of both are craftsmen and the official objectives must therefore cover both. The growth and development of handcrafted articles per se can by encouragement of official policy be done most effectively in the non-government sector. Indian handicrafts, expressions of traditional culture, too receive the attention of the non-government sector. But because of their very nature and because the roots of traditional culture are rapidly being cut and a time can be foreseen when these as expressions of this culture will probably survive only in craft studios, and because it is a national responsibility that the nation's heritage be protected, the Government must be the patron for these crafts and products. Thus, not only will the basic objective be served, but this will be done on the 'cultural foundation'.

We therefore see a basic objective for the handicrafts sector. We see two overlapping strategies towards attaining this objective - one strategy designed to do it in terms of the craftsman being a skilled worker, the other acknowledging him to be the repository of an unbroken but evolving tradition. We see policy mechanisms for and organisational structures of craftsmen to help them towards the attainment of the objective by either strategy. And we see an active role for Government as patron of Indian handicrafts." (Bhasin & Kak)

- There must be a clear set of preservative and promotional policies for the artisanal sector. The only policy, however, that this sector has known is a policy of extraction: Look at the data of all the Handloom and Handicrafts Corporations. They all give out figures on exports, sales, etc. but none on returns to weavers.
- The clubbing of village industries along with the small scale sector in successive plans (and also the administrative machinery) has obliterated the needs and identity of the artisanal sector. There has to be a focal point at the State and national level for village industries.

SCOPE FOR GOVERNMENT INTERVENTION

- The intervention of the Government and financial institutions is necessary. The chief problem is that often the artisans are not aware of various Government schemes. Even when they are aware, they cannot cope with the corruption and red tape.

  On whether the artisanal sector can be propped up by loans, subsidies and other bureaucratic institutions: Yes. After all, all major industries get loans and subsidies, or concessional electricity charges. Why not the artisans? Taking *khadi* and the mills of NTC for comparison, the annual subsidy for *khadi* is about Rs.50 crores. The budget for Khadi Commission is around Rs.200 crores, which is eqivalent to the annual loss incurred by the NTC mills. *Khadi* production provides employment to 15 lakh poor people in rural India, whereas NTC provides a few 1000 jobs in urban areas. There is a deep rooted urban bias in our very thought process. The widespread belief is that "without subsidy there is no *khadi*." What is forgotten is that just a handful of public sector undertakings incur losses that run into thousands of crores of rupees, not to mention the huge expenditure on hospitals, roads and civic facilities in towns. This urban bias has to be overcome.

  It is well known that the subsidies for inputs in the farm sector, like pesticides and fertilisers exceed Rs.2500 crores. Should there be no subsidy for industries in the non-farm sector ?
- The scope for bureaucratic institutions is limited, but if the government can do anything, they should use their powers as controllers of the airwaves to promote artisans and to create markets. Media can also be used to disseminate information to artisans about the schemes in operation and the availability of facilities, finance and markets. Loans and subsidies must also be a part of the initial schemes in which the government could assist. Of course, with an effective program these should be limited, not be seen as the solution and continue indefinitely. Working capital and consumption loans are necessary for the initial set-up. (Sopa)

ORGANISING THE ARTISANS

- There is a need for appropriate forms of organisation and mobilisation among artisans for entitlements regarding their occupations. This is no easy task, given the inter-regional variations and the caste nature of traditional artisan groups. One of the best examples of mobilisation of traditional groups into interest groups is the fishermens' agitation.
- "The organisational structures officially recommended for craftsmen and the development of handicrafts are in the Government sector (first departmentally run emporia, later public sector emporia), in the co-operative sector, and registered associations. The official emphasis has changed from Plan to Plan, but in the field such attention as has been paid to the co-operative sector has been really to the promotion all through, and apparently without any reference to the

Plan statements, of producers' co-operatives. Possibly this is so because there has been no clarity about the basic objectives, and it seems to be an *a priori* opinion that co-operatives are the form of organisation that can best protect the interests of the craftsmen. In addition to official policy promoting co-operatives, official schemes encourage the public sector, though conceptually why this should be so is not particularly clear from official documents.

In terms of an organisation of and for craftsmen, the co-operative is not a success story. The reason is not difficult to identify. It has not been the craftsmen themselves who believe this structure will best serve their purpose, it is planners and officials who think so. We feel a detailed study is necessary to determine the kind of organisation that is, from the view of the community of craftsmen, historically perceived by them to be best suited to help them attain the basic objective. The design of any organisation here must take into account not only the historical but also the cultural and social character of the craft community, and evolution of the kinds of structural linkages must be researched that have down the ages governed craftsmen. Official policy must support a variety of structures, provided all effectively aim at the basic objective.

It has frequently been stated that the primary incentive to craftsmen in 'improving their lot' is marketing - whether this be within the country or outside. Official policy recommends the public sector company as being the suitable agency for this purpose. Unfortunately, no philosophy for the public sector in handicrafts has been worked out, so that most corporations really function simply as trading organisations, an attractive profit and loss account their real objective. Any craftsman directly benefitted is, in their operations, merely incidental and many are worse than middlemen. Nevertheless, because they are public sector, they receive generous official assistance - though the efficient ones can do without it and the inefficient ones shouldn't be given it.

We see no contradiction in a corporation functioning in a business-like manner, and yet serving the basic objective. Public sector management must clearly realise - and can be made to realise - that it exists for the craftsmen and not for itself. It is a catalyst for his growth, and not a self-perpetuating empire. The public sector must be the Government patron of Indian handicrafts, and must develop an image of being so. It must consciously in its emporia promote authentic Indian handicrafts, and it must to the greatest possible extent buy directly from the craftsmen or their organisations. Given a committed and enlightened management, this is entirely feasible. It must, towards the attainment of the basic objective, also promote handicrafts per se -but intelligent marketing will keep the two apart (for example, while both can be exported or sold within the country, the emporia must have only the former kind of product). Pious exhortations apart, we cannot see in the near future any diminution in the spread of the non-Government sector. Given the inevitable constraints and inadequacies of Government trying to do retail business, we certainly cannot see the public sector providing any real challenge to the private sector in marketing. And without successful marketing, all 'development' programmes will ultimately fail. If there must be a public sector in handicrafts, the role we see for it is essentially as a 20th century patron of Indian craftsmen and handicrafts." (Bhasin & Kak)

- Artisans' Guilds have been put in place by Gandhigram Trust after four decades of experimentation. The idea was to establish a structure which will combine in itself the best features of co-operatives as also those of voluntary groups. The area of operation of each guild is a block. Normally each block has an average of 300 to 400 artisans like blacksmiths, carpenters, tanners, tappers, potters, brick manufacturers, lime burners, fibre extractors, mat manufacturers, blacksmiths etc. The craftsmen belonging to each of the important trades elect their own representatives to the Executive Committee of the Artisan Guild. All members elected to the Executive Committee in turn elect the President of the Guild. The constitution provides for a nominee of the DRDA and the lead bank to be included in the Executive Committee. An experienced extension staff of a voluntary group is the Secretary of the Guild. This constitution has been approved by NABARD.

  Four Artisans' Guilds have been registered under the Tamil Nadu Societies Registration Act of 1975, covering Athoor, Nilakottai, Sanarpatti and Vedasandur blocks. The guilds have provided opportunities for the artisans to be involved in decisions regarging the implementation of different programmes that have been introduced by Government - State and Centre - by banks, by semi-government organisations like CAPART, NABARD, SIDBI etc. The participation of the artisans has helped in proper selection of beneficiaries of the IRDP and other programmes, the quick disposal of aid with the least leakage, the proper use of financial assistance, repayment of loans according to schedule, building up solidarity between the different artisan groups, and improving the credibility of the borrowers. In the second phase, upgradation of their skills will be taken up. For this purpose NABARD has sanctioned Rs.28.14 lakhs for establishing common facility centres for blacksmiths and carpenters, basket manufacturers, potters, cotton rope manufacturers brass metal workers, and file manufacturers.

  Some of the difficulties experienced by the guilds so far are as follows:

  - Leadership development is slow
  - The incidence of defaulters is 20% - cobblers and potters are chronic defaulters.
  - Not all the artisans accept improved technology.
  - They are slow in understanding new product demands.
  - A few master craftsmen function as exploiters.
  - Despite strict monitoring, leakages to the extent of 20 to 25% continue. (Rajagopalan)

RESEARCH & DOCUMENTATION

- Futuristic and sectoral studies need to be undertaken. An attempt must be made to assess the employment potential of each artisan trade with 25-50 year projections. A national level scouting for tools must also be undertaken.
- A report such as this is necessary so that one gets an idea of the scope of the situation and the importance of creating successful programmes, but when it comes to carrying out the programmes, the focus must be on the individual. Ideally, small programmes focusing on specific aspects of concern to each local sector would operate under a larger programme which would function mostly in an administrative capacity, dealing with such things as finance, national marketing schemes and establishing networks for supply of raw materials, as well as insuring that the local programmes are functioning properly. The need assessments must be conducted on an individual or a local community basis and programmes must be carried out with the purpose of achieving targets.

Annexure 3: Traditional Occupations of some Scheduled Caste Communities

NAME OF SC COMMUNITY	STATE WHERE CONCENTRATED	TRADITIONAL OCCUPATION
Ad Dharmi/Chamar	Punjab & Delhi	Tanning
Adi Andhra/Mala/ Madiga	Andhra Pradesh, Karnataka, Tamil Nadu	Tanning, making footwear, sweeping & beating drums
Adi Dravida/Pallan/ Chakkiliyan/Madiga	Andhra Pradesh, Karnataka	Carrying carcasses, conveying messages
Adiya/Adiyan/ Adiyar	Karnataka	Making baskets, playing music
Agaria	Uttar Pradesh	Iron smelting, making agricultural implements
Ager	Karnataka	Making salt
Arunthatiyar/ Arundhatiya	Tamil Nadu, Kerala, Karnataka, Andhra Pradesh	Making leather articles
Badaik/Barik	Orissa	Spinning & weaving
Berwa/Bairwa	Rajasthan	Making footwear
Bajgi/Auji	Uttar Pradesh	Beating drums & tailoring
Balahi/Balai	Madhya Pradesh	Spinning & weaving
Balai	Rajasthan	Tanning & making footwear
Bandhi/Badhi, Nagalu	Himachal Pradesh	Making bamboo baskets
Bansphor/Basod	Uttar Pradesh, Rajasthan, Assam	Making baskets
Bantar	Bihar	Making bamboo articles
Barad/Bard	Himachal Pradesh	Making winnowing fans & mats
Bargunda	Madhya Pradesh	Making baskets, brooms, & mats
Basor/Burud/ Baskar	Madhya Pradesh, Uttar Pradesh, Maharashtra	Making baskets, beating drums
Bellara	Karnataka	Making baskets
Betra	Orissa	Making baskets
Bhambi	Maharashtra	Making footwear
Bhambi/Asadaru	Karnataka	Leather work
Bhambi/Khalpa/ Bhambi Mochi/ Sindhi Mochi	Gujarat	Flaying, making & repairing footwear
Bhogta	Bihar	Making ropes & cots
Brittial Bania/ Sonari	Assam	Making gold & silver ornaments
Chadar/Athia	Madhya Pradesh	Weaving
Cheek/Chaikwa	Madhya Pradesh	Weaving
Chakkiliyan	Tamil Nadu	Making & repairing footwear
Chamar/Raidas	Uttar Pradesh	Leather work
Chamar/Harijan/ Charmkar	Bihar	Tanning & making footwear
Chandala	Orissa	Weaving
Chaupal/Basak/Tanti	Bihar	Weaving
Chhimba/Chimmba	Himachal Pradesh	Calico printing
Dabgars	Bihar, Uttar Pradesh	Tanning
Damai/Darjee/ Dorjee	W. Bengal	Tailoring, playing music
Dangashia	Gujarat	Wool weaving
Daule	Himachal Pradesh	Gold washing
Deha	Haryana	Making winnowing fans
Dhanwar	Orissa	Making baskets, hunting
Dharkar	Uttar Pradesh, Madhya Pradesh	Making cane & bamboo articles
Dhed	Madhya Pradesh	Weaving
Dhogri	Himachal Pradesh, Punjab	Blacksmithy, spinning & weaving
Dhor	Maharashtra, Karnataka	Tanning & making leather articles
Suddha Dombo	Orissa	Making baskets
Dom	Bihar, W. Bengal, Uttar Pradesh, Orissa, Jammu & Kashmir	Making bamboo baskets, thatch, cremating dead bodies, scavenging
Dumna	Himachal Pradesh	Making bamboo & grass articles
Gancha/Garancha	Rajasthan	Making baskets
Gavaria	Rajasthan	Making buffalo horn combs
Ghantra	Orissa	Blacksmithy
Gharami	Delhi	Leather work
Godagali	Andhra Pradesh	Making bamboo mats, winnows & sieves
Godari	Andhra Pradesh	Making footwear
Hali	Himachal Pradesh	Flaying
Halsar	Karnataka	Flaying & making cane articles
Hira	Assam	Making pots
Holar	Maharashtra	Making leather articles
Jaggali	Orissa	Tanning
Jambuvulu	Tamil Nadu	Tanning & making leather articles
Jingar	Rajasthan	Making saddles & embroidered shoes
Julaha	Himachal Pradesh	Weaving
Kabir Panthi	Punjab	Weaving
Kadaiyan	Kerala	Making iron knives & agricultural implements
Kaikadi	Maharashtra	Making baskets & stone cutting
Kakkalan	Kerala	Soothsaying, tailoring, mat-weaving, selling garments
Kami	W. Bengal	Iron-, gold-, copper- & silversmithy
Kanjar/Gianah	Delhi	Making *khas* screens

NAME OF SC COMMUNITY	STATE WHERE CONCENTRATED	TRADITIONAL OCCUPATION
Karenga	W. Bengal	Carpentry, castrating goats & bullocks
Katia	Madhya Pradesh	Spinning
Khangar	Rajasthan	Weaving
Koliyan	Tamil Nadu	Cotton weaving
Korma/Kunbi Korava	Karnataka	Making rope, mats & brooms, soothsaying
Kori/Koli	Uttar Pradesh, Rajasthan, Madhya Pradesh, Maharashtra	Weaving
Kumhar/Kumbhar	Madhya Pradesh	Pottery
Kummari/Kummer	Orissa	Pottery
Kurunga	Orissa	Carpentry, castrating bullocks & goats
Lohar	Himachal Pradesh	Blacksmithy & carpentry
Madiga	Andhra Pradesh, Tamil Nadu, Kerala	Leather work
Mahyavanshi	Maharashtra	Making baskets
Mang	Maharashtra, Karnataka, Madhya Pradesh, Andhra Pradesh	Making rope, brooms, leather work
Megh	Jammu & Kashmir, Haryana, Punjab, Himachal Pradesh	Weaving
Mehar	Rajasthan	Weaving
Meghia	Madhya Pradesh	Making baskets
Mushkan	Madhya Pradesh	Making leaf plates & cups
Naribat	Delhi, Rajasthan, Gujarat	Making leather cords & braids
Pamidi	Andhra Pradesh	Weaving cotton blankets, saris & towels
Pan	W. Bengal	Weaving
Pasi/Sawasi	Bihar	Weaving
Panan	Kerala, Tamil Nadu	Making umbrellas
Panka	Orissa	Weaving
Pardhi	Madhya Pradesh	Making mats, baskets & brooms
Patial	Orissa	Weaving
Phrera	Himachal Pradesh	Dyeing
Rahtl	Jammu & Kashmir	Handling carcasses, flaying
Rehar	Himachal Pradesh	Making ornaments of base metals
Samagara	Karnataka	Leather work
Sarki	W. Bengal	Making footwear
Semman	Tamil Nadu	Leather work
Senva	Gujarat	Making mats, brooms & rope
Sikligar/Saiqalgar	Delhi, Haryana, Punjab	Making locks & keys, polishing arms, sharpening knives
Silawat	Madhya Pradesh	Cutting stones, making idols
Sirkiband	Punjab, Haryana, Delhi	Making mats, rope & winnows
Sutradhar	Assam	Carpentry
Tamudia	Orissa	Pressing oil-seeds
Teli	Himachal Pradesh	Pressing oil seeds
Thathiar/Thathera	Himachal Pradesh	Making bronze, brass, copper & iron vessels
Thori	Gujarat	Making wooden utensils & furniture
Tirgar	Gujarat	Making arrows
Zamral	Madhya Pradesh	Making bamboo baskets & thatch roofs

SOURCE: Compiled from Singh, K.S.: The Scheduled Castes. People of India National Series Volume II. Anthropological Survey of India & Oxford University Press; 1993.

Annexure 4: Size & Contribution of the Artisanal Sector in India

This is a detailed note on how the size of, and value added by, the artisanal sector in India were computed.

I NUMBER OF ARTISANS IN INDIA: 1980

ESTIMATE BASED ON ECONOMIC CENSUS

For purposes of arriving at estimates of the total artisanal population in India, we have made use of the Economic Census of 1980. The Economic Census used the 1981 Population Census household list, and provides data on workers in Own Account Enterprises (OAE's) and Establishments engaged in manufacturing, repair and service activities. OAE's are defined as household enterprises that use only family labour, while Establishments are enterprises that use both family and hired labour. Establishments are further sub-divided into employment-size classes of upto 5 workers; between 6 and 19 workers; between 20 and 49 workers and 50 or more workers. Workers are defined as those who "usually work" i.e. those found to be working even for a day in the year preceding enumeration. Presented in Table 1 are statistics on the number of workers in OAE's and Establishments with workers upto 20. The statistics for OAE's help us in setting the lower bound to the artisanal population, while those of Establishments with upto 20 workers provide the upper bound to the artisanal population.

Based on the Economic Census, the number of workers in the OAE's and Establishments in the manufacturing, repair and services sector, and therefore, the artisanal sector, can be pegged between 74,53,400 and 12,507,818.

Limitations of the data

The above picture needs to be qualified, since it may be argued that some of the activities covered under the industry groups listed in the Economic Census (Table 1), may not be strictly artisanal. Manufacture of chemicals and rubber products are examples of such activities. Therefore, taking all industry groups in the manufacturing, repair and services division into account, as we have, may not provide an accurate picture of the artisanal sector. However, it has not been possible, within the scope of this report, to do a detailed analysis of the industry groups at a disaggregated level, and to segregate artisanal activities from non-artisanal ones. Keeping the above limitations in mind, the actual artisan and artisan-related population in India in 1980 should be read as between 74,53,400 and 12,507,818.

OTHER ESTIMATES & THEIR LIMITATIONS

The NSSO (National Sample Survey Organisation) is another agency that collects data on the unregistered manufacturing sector, on a regular basis. NSSO data covers various economic characteristics: employment, capital, value of output, and value added. Employment data are collected on the basis of "usual status", the definition of which has changed over time: In the 18th Round (1958-59), a "usual worker" was one who had worked for at least one day in the preceding year. The 23rd and 29th Rounds, on the other hand, (1968-69 and 1974-75), defined a "usual status" worker as one who had worked for a month in the preceding year, or 15 days in the case of a seasonal enterprise. Furthermore, the data for the 14th Round was limited to households, whereas the 23rd Round canvassed non-household unregistered enterprises as well, but inadequately so. The 29th Round defined all non-institutional unregistered workshops as household industries, thus excluding from its purview institutional unregistered enterprises.[1] Finally, the intensity of work, in terms of man days in relation to output was not fully reflected.[2]

In 1972, the Small Industries Development Organisation (SIDO) conducted a Census of small-scale industrial units, covering the modern small scale sector. As a criterion for 'small', investment limits of Rs.0.75 million for small units and Rs.1 million for small ancillary units were set.[3] The units registered with the State Directorate of Industries (SDI) were covered by the survey. Despite the publicity prior to the Census, focussing on the benefits that would accrue to units which got registered,[4] the Census was bound to have omitted a large number of units that were unregistered. Moreover, the investment criterion ignored the employment one, with the result that there was an overlap between the factory sector and the unregistered manufacturing sector. For e.g., units with 20 or more workers, though fewer in number than those with less than 20 workers, accounted for about 55 per cent of the gross output of the units covered.

As can be seen from the above discussion, the major problems with these estimates relate to a Census/sample frame which adequately covers not only the household sector, but the unregistered factory/workshop sector as well. Several surveys were sparked off by the Economic Census. The NSSO 33rd Round survey canvassed OAE's and non-directory establishments as part of their normal work, while directory establishments were enumerated in 1978-79 under the supervision of the CSO. The 33rd Round adopted the establishment as an ultimate stage unit, as opposed to the earlier household frame. To that extent, there would be an under-enumeration of household units, akin to the under-enumeration of establishments in earlier rounds. Moreover, studies[5] point out that included in the directory enterprises are units with more than twenty workers, while units employing between 10-19 workers and using power, could also have been included. These, naturally, should belong to the registered factory sector. Before moving to other estimates, a word on the discrepancies between data from different sources is in order. Table 3 gives some idea of how definitions affect data collection, even though the time periods may not be too far apart.[6]

Yet another estimate of the extent of employment in the artisanal sector is that used by the Planning Commission in the 7th Five Year Plan.[7] This places the population of artisans in *Khadi*, Village Industries, Handlooms, Sericulture and Handicrafts (together referred to as the "Traditional Industries"), at about 16.5 million persons. This would seem somewhat exaggerated in relation to the estimates which have been examined this far. One possible reason for this is that the data is based on information provided to the Planning Commission by specialised Boards such as the KVIC, AIHB, etc. The KVIC, for example, gets data on the number of artisans under its coverage from the various *Khadi* co-operatives operating under its umbrella. Typically, such

information is gleaned from the Accounts Books of the various *Khadi Ashrams* and *Mandals* under the KVIC/KVIB's. An example of how over-estimation can take place is cited in a study[8] of the woollen handlooms sector: The *Khadi Ashrams* procure raw wool and distribute it to spinners for conversion into yarn. If the same spinner comes thrice in a year for raw wool, the books would enter him as three different spinners. Since spinning is normally considered an irregular or ad-hoc activity, such a practice is not surprising. For, what is important from the *Khadi Ashram/ Mandals* point of view is the total quantum of wages paid out, rather than the wages per head, in the case of spinners.

What is particularly surprising about the Planning Commission figure (i.e., 16.5 million artisans), is that it is so much higher than the ones discussed earlier, despite the fact that it pertains only to those artisans that are covered by the various programmes of the specialised Boards, and not all the artisans in the country. In our judgement, data from one, centralised agency (such as that of the Economic Census), are more acceptable, *a priori*.

II INTERCENSAL CHANGES: 1961-1981

ESTIMATE BASED ON POPULATION CENSUS

An attempt was also made to study the changes in the artisanal population between 1961 and 1981. This was done with the help of the National Classification of Occupations (NCO). The NCO provides data on workers in different occupations in the manufacturing, repair and services sector. This data is available at the one-, two-, and three-digit levels. The NCO lists out 10 occupational divisions, each consisting of various groups (at the two-digit level of occupational classification). Each group is further broken down into several families (at the three-digit level of classification). The NCO also provides separate data for workers in the household and non-household sectors.

According to the NCO data, the number of workers in the household industry sector, in 1961, was 9,862,523. The corresponding figure for 1981 was 6,993,616. Since we are assuming that the artisanal sector broadly corresponds to the household industry sector, we can say that the overall artisanal population between 1961 and 1981 declined by around 29 per cent. (It must be clarified here, that the 1981 estimates exclude marginal workers which, according to another estimate total 862,247.[9] If this estimate of marginal workers is pooled with that of main workers, the estimate of decline would have to be corrected to around 20 per cent).

A detailed comparison was also done of workers spread over 8 occupational groups between 1961 and 1981. The analysis has been done for both the household and non-household sectors. These 8 groups correspond to the 8 artisanal groups addressed by this report.[Table 2] Judging by Table 2, several changes took place in the strength and composition of the artisanal population between 1961 and 1981. These have been discussed earlier in the report (see p.15).

Limitations of the data

One set of problems pertaining to Census data is the redefinition and reclassification that took place between 1961 and 1981. In order to make intercensal comparisons, therefore, a certain amount of regrouping of categories listed in the 1961 and 1981 Census was necessary. Another problem is that the Population Census of 1961 and 1981 provide information on workers in the household and non-household industry sectors. The former broadly corresponds to the category of workers listed under OAE's in the Economic Census. These, it might be recalled, have been used to set the lower bound to the artisanal population. Since the Population Census does not provide data on workers in Establishments, the comparisons in Table 3 are based on one – albeit major – segment of the artisanal population.

Another weakness of the Census data is that they do not follow a consistent definition of the term 'worker'. The 1961 Census regarded as a worker anyone who had worked for at least one hour a day throughout the normal working season. In the 1981 Census, on the other hand, an attempt was made to distinguish "main workers" (defined as those who have worked for some six months or more in a year), from "marginal workers" (defined as those who have worked for some – but not the major – part of the year preceding enumeration). Unfortunately, since the NCO for 1981 does not give the distribution of marginal workers across the various occupational divisions, we compared the total workers of the 1961 Census with the "main workers" of the 1981 Census. Consequently, the estimates for 1981 are probably on the lower side, and there is, therefore, a likely margin of error in computing the changing size of the artisanal sector discussed above.

III VALUE ADDED BY ARTISANS

Estimates of the value added by the artisanal sector, and related 'small' industries, have been generated by SRUTI using data from various sources. The NSSO, in its various surveys, carries figures on the value added by manufacturing industries in the household sector. The Annual Survey of Industries (ASI) contains estimates of the small-scale registered factory sector, covering: a) Factories employing 50 or more workers and using power, and 100 or more workers without power on a census basis. b) Factories employing 10-49 workers and using power, and 20-99 workers without power. The ASI data are, strictly speaking, for factories (albeit small-scale ones) and are not relevant to this exercise. The 29th Round of the NSSO was conducted with a view to complement the ASI data with information on the unregistered manufacturing sector. However, this Round failed to adequately cover this sector. Information on this sector, as we have seen, came from both the Census of Small Scale Industrial Units of 1972 and the Establishment Tables of the 1971 Census. The latter, as we know, did not give any information on value added. One study[10] has pooled the value added figures from a) The ASI sample and Census Sectors, (which do not provide a rural-urban break-up) and b) The data on unregistered workshops in the Census of Small Scale Industrial Units. This study provides data on the value added per worker separately for rural and urban household industries, for unregistered workshops and small-scale industries in the sample and census sector of the ASI, along with the employment shares. The same set of problems or discrepancies hold true as much for value-added figures from these sources as for employment figures. It was therefore important to pool data from various sources in order to get some idea of the value added in this sector. In the study cited above, for unregistered workshops, employment data was culled from the establishment tables.

This study provides data on value added per worker in rural and urban household industries separately; for the census and sample sectors of the ASI (1974-75 report) separately; and for the unregistered workshops with five or more workers (for the year 1972). It also calculates

employment shares by first excluding unregistered workshops, and then by including them. All figures are at the 2-digit level. Using these employment shares as weights, we have calculated the value added per worker in household industries and in household-cum-unregistered manufacturing enterprises. The data so arrived at are presented in Table 4. The figures pertain to 1974-75, and would help us form some idea of the situation prevailing in the latter half of the seventies.

Table 6, which is a product of the 'value added' figures presented in Table 4 and the employment figures given in Table 1, gives us an idea of the contribution of the artisanal sector to the economy. For eleven industry groups, the contribution of Household Enterprises, or OAE's, was Rs.8647.93. For OAE's and Establishments, the figure ranges from Rs.13,386.04 million to Rs.16,945.10 million. If we include other industry groups as well, we find that the contribution of the small-scale sector was between Rs.10,611.52 million to Rs.24,207.24 million.

In order to offer some comparison to these figures, we tried to generate a fresh set of estimates of value addition in the artisanal sector, based on a scrutiny of existing micro-studies. (See Annexure 4A) A note on the methodology used in arriving at these estimates is appended herewith. (See Annexure 4B) We have had to make several assumptions on labour use. The studies we have used are mostly localised, being confined to a very small geographical and administrative area, and with limited samples. All these studies belong to different time periods and different geographical areas. We reproduce the results of our analysis of these studies, covering industry groups 20-21, 22, 23, 24, 25, 26, 27, 29, 32, 34, 35, and 38, in Table 5.

The value-added figures based upon this analysis have all been adjusted to the prices of 1985-86, by using the wholesale price indices (given in the Economic Survey 1987-88), of manufactured products. Table 5 along with Table 1 (on employment) have been pooled together to get an idea of the value added by industrial groups. These figures for 1985-86 have been summarised in Tables 7a & 7b.

All workers in these micro-studies have been converted to the equivalent of full-time workers according to two standards: (a) In the first, a full-time worker is one who works at least 183 eight-hour days in a particular activity in a year and (b) in the second, a full-time worker works 270 eight-hour days in that activity in a year. The tendencies exhibited in the two estimates are naturally similar (see Table 5). Jewellers record the highest value added per worker and *bidi* workers the lowest. Tailors and needle workers record a value added per worker of less than Rs.3000 (by the 270 day standard), and seem to make the least contribution per worker.

Coming to the contributions made to the economy at the 2-digit level, we can see that the overall contribution by various trades rose in the eighties as compared to the late seventies. In 1985-86, the artisanal sector can be said to have contributed between Rs.18146.65 million (OAE's) to Rs.29316.38 (OAE's plus Establishments) if full-time workers are regarded as those who work 183 days a year. The same range increases from between Rs.23542.55 million to Rs.38724.54 million, if fully-employed workers are considered to work 270 days a year. However, these figures must be scaled down, because the Economic Census of 1980 does not use a strict employment-intensity criterion.

Table 1

Employment in the Small Scale Sector: 1980

INDUSTRY CODE	*OAE'S*	*ESTABLISHMENTS*			*TOTAL*
		Upto 5 workers	*6-19 Workers*	*=(2)+(3)*	*=(2)+(3)+(4)*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
20-21	893,663	367,381	449,414	1,261,044	1,710,458
22	811,675	158,456	193,837	970,131	1,163,968
23	1,185,836	388,296	474,999	1,574,132	2,049,131
24	143,851	54,789	67,023	198,640	265,663
25	17,888	40,239	49,224	58,127	107,351
26	1,015,153	191,875	234,718	1,207,028	1,441,746
27	1,152,296	67,975	83,153	1,220,271	1,303,424
28	36,522	83,661	102,342	120,183	222,525
29	219,130	22,507	27,532	241,637	269,169
30	11,926	42,513	52,005	54,439	106,444
31	51,429	101,848	124,590	153,277	277,867
32	667,825	164,139	200,790	831,964	1,032,754
33	43,230	79,796	97,614	123,026	220,640
34	300,372	88,435	108,181	388,807	496,988
35	49,938	100,484	122,921	150,422	273,343
36	5,217	47,514	58,123	52,731	110,854
37	9,689	45,241	55,342	54,930	110,272
38	263,850	95,710	117,081	359,560	476,641
39	573,912	132,539	162,134	706,451	868,585
Total	7,453,402	2,273,398	2,781,023	9,726,800	12,507,823

SOURCE : The Economic Census, 1980

Table 2

Changes in the Artisanal Population between 1961 & 1981

ARTISANAL GROUP	*YEAR*	*TOTAL*	*MALE %*	*FEMALE %*	*URBAN %*	*SECTOR*
CANE & BAMBOO WORKERS	1961	883,652	399,824 (45)	483,828 (55)	108,163 (12)	HH
		47,350	26,140 (55)	21,210 (45)	15,142 (32)	NH
	1981	671,430	373,459 (56)	297,971 (44)	95,473 (14)	HH
		152,528	95,675 (63)	56,853 (37)	41,465 (27)	NH
% Change between 1961-81		-24	-7	-38	-12	HH
		+222	+266	+168	+174	NH
G.TOTAL	1961	931,002	425,964 (46)	505,038 (54)	123,305 (13)	
	1981	823,958	469,134 (57)	354,824 (43)	136,938 (17)	
% Change between 1961-81		-11	+10	-30	+11	
JEWELLERS	1961	339,327	327,137 (96)	12,190 (4)	84,828 (25)	HH
		196,065	194,798 (99)	1,267 (1)	149,980 (76)	NH
	1981	236,061	230,503 (98)	5,558 (2)	119,644 (51)	HH
		605,093	597,233 (99)	7,860 (1)	413,823 (68)	NH
% Change between 1961-81		-30	-30	-54	+41	HH
		+209	+207	+520	+176	NH
G.TOTAL	1961	535,392	521,935 (97)	13,457 (3)	204,472 (38)	
	1981	841,154	827,736 (98)	13,418 (2)	563,803 (67)	
% Change between 1961-81		+57	+59	negligible	+176	
LEATHER WORKERS	1961	594,623	524,246 (88)	70,377 (12)	94,844 (16)	HH
		210,128	204,997 (98)	5,131 (2)	152,522 (73)	NH
	1981	262,965	249,287 (95)	13,679 (5)	70,760 (27)	HH
		370,135	361,058 (98)	9,077 (2)	237,327 (64)	NH
% Change between 1961-81		-56	-52	-81	-25	HH
		+76	+76	+77	+56	NH
G.TOTAL	1961	804,751	729,243 (91)	75,508 (9)	247,366 (31)	
	1981	633,100	610,345 (96)	22,756 (4)	308,087 (49)	
% Change between 1961-81		-21	-16	-70	+25	
METAL WORKERS	1961	473,736	426,107 (90)	47,629 (10)	78,029 (16)	HH
		725,953	718,759 (99)	7,194 (1)	556,187 (77)	NH
	1981	397,311	371,032 (93)	26,279 (7)	83,938 (21)	HH
		1,476,218	1,452,276 (98)	23,942 (2)	57,762 (72)	NH
% Change between 1961-81		-16	-13	-45	+8	HH
		+103	+102	+233	+90	NH
G.TOTAL	1961	1,199,689	1,144,866 (95)	54,823 (5)	634,216 (53)	
	1981	1,873,529	1,823,308 (97)	50,221 (3)	1,141,680 (50)	
% Change between 1961-81		+56	+59	-8	-80	
POTTERS	1961	744,365	489,648 (66)	254,717 (34)	80,382 (11)	HH
		154,082	116,346 (76)	37,736 (24)	61,990 (40)	NH
	1981	576,189	455,065 (79)	121,124 (21)	89,605 (16)	HH
		407,639	320,113 (79)	87,525 (21)	111,694 (27)	NH
% Change between 1961-81		-23	-7	-52	+11	HH
		+165	+175	+132	+80	NH
G.TOTAL	1961	898,447	605,994 (67)	292,453 (33)	142,372 (16)	
	1981	983,828	775,178 (79)	208,649 (21)	201,299 (20)	
% Change between 1961-81	+10	+28	-29	+41		
TAILORS	1961	605,421	464,214 (77)	141,207(23)	151,029 (25)	HH
		580,125	542,109 (93)	38,016 (7)	406,539 (70)	NH
	1981	566,648	461,306 (81)	105,340 (19)	215,204 (38)	HH
		1,570,832	1,433,127 (91)	137,705 (9)	941,645 (60)	NH
% Change between 1961-81		-17	-1	-25	+42	HH
		+171	+164	+262	+132	NH
G.TOTAL	1961	1,185,546	1,006,323 (85)	179,223 (15)	557,568 (47)	
	1981	2,137,480	1,894,433 (89)	243,045 (11)	1,156,849 (54)	
% Change between 1961-81		+80	+88	+36	+107	

ARTISANAL GROUP	YEAR	TOTAL	MALE %	FEMALE %	URBAN %	SECTOR
TEXTILE WORKERS	1961	3,535,097	1,524,599 (43)	2,005,998 (57)	865,926 (25)	HH
		1,361,936	1,182,931 (87)	179,005 (13)	1,060,990 (78)	NH
	1981	1,852,134	1,304,837 (70)	547,297 (30)	620,293 (33)	HH
		2,708,245	2,367,988 (87)	340,256 (13)	1,904,283 (70)	NH
% Change		-48	-14	-73	-28	HH
between 1961-81		+99	+100	+90	+79	NH
G.TOTAL	1961	4,892,533	2,707,530 (55)	2,185,003 (45)	1,926,916 (39)	
	1981	4,560,379	3,672,825 (81)	887,553 (19)	2,524,576 (55)	
% Change between 1961-81		-7	+36	-59	+31	
WOOD WORKERS	1961	622,299	613,387 (99)	8,912 (1)	77,031 (12)	HH
		512,759	509,163 (99)	3,596 (1)	294,326 (57)	NH
	1981	578,737	572,046 (99)	6,691 (1)	125,887 (22)	HH
		900,863	895,062 (99)	5,803 (1)	482,180 (54)	HH
% Change between 1961-81		-7	-7	-25	+63	HH
		+76	+76	+61	+64	NH
G. TOTAL	1961	1,135,058	1,122,550 (99)	12,508 (1)	371,357 (33)	
	1981	1,479,600	1,467,108 (99)	12,494 (1)	608,067 (41)	
% Change between 1961-81		+30	+31	negligible	+64	

NOTES

- This table is based upon (i) Table B-18 in Census of India, 1981; Series 1, India, Part II Special, Reports and Tables based on 5 per cent Sample Data; pp. 145-181 and ii) Table B-V in Census of India, 1961. The National Classification of Occupations (NCO) has been employed here.
- HH denotes workers in the household sector and NH those in the non-household sector
- From the listing provided in Table B-18 and Table B-V, individual families (each bearing a code) have been selected and regrouped, so as to match the 8 artisanal categories being addressed by this report, and also to afford comparability between the 1961 and 1981 data. The codes of the families so selected are listed below:

	CENSUS CODE	
ARTISANAL GROUP	1961	1981
1. CANE & BAMBOO WORKERS		
▸ Basketry Weavers, brush makers & related workers	850	942
2. JEWELLERS		
▸ Jewellers, goldsmiths, silversmiths, engravers	741/742	880/881/882/883/889
3. LEATHER WORKERS		
▸ Tanners, fell mongers & pelt dressers	853	760/761/762/769
▸ Shoemakers & leather goods makers	720/721/722/729	800/801/802/803/809
4. METAL WORKERS		
▸ Metal Processors	730/731/732/734/735/739/758	720/721/722/723/724/725/726/727/728/729
▸ Blacksmiths, hammersmiths, forgemen	733	831
▸ Welders, sheet metal workers, tool-makers	750/751/754/756/757/759	830/832/833/834/835/836/839/870/872/873/874/879
5. POTTERS		
▸ Potters & related clay formers	811	892
6. TAILORS		
▸ Tailors, dress makers	710	791
▸ Upholsterers	713	796
▸ Embroiderers, darners	715	793
▸ Miscellaneous workers	714/719	790/794/799
7. TEXTILE WORKERS		
▸ Fibre preparers, spinners, winders, warpers, sizers	700/701/702/703	751/752/753
▸ Weavers	704	755
▸ Carpet makers	708	756
▸ Bleachers, dyers, printers, finishers	706	758
▸ Miscellaneous	705/709	750/754/759
8. WOOD WORKERS		
▸ Carpenters	770	811
▸ Cabinet makers	775	812
▸ Cart, boat & ship builders	774/771	814/816
▸ Miscellaneous workers	773/772/779	810/813/815/819

Table 3

Size of Employment in Household Units

DATA SOURCE	*NUMBER OF HOUSEHOLD UNITS (in'000)*	*EMPLOYMENT (in'000)*
1971 Establishment Census	2,080	3,804
NSSO 23rd Round (1968-69)	8,574	13,916

SOURCE: Saluja, M.R. in Suri, K.B, (ed): Small-Scale Enterprises in Industrial Development: The Indian Experience; Sage Publications; New Delhi, 1988, p.60

Table 4

Value Added Per Worker: Estimate 1

(based on Sundaram and Tendulkar's estimates 1974-75)

INDUSTRY GROUP	*VALUE ADDED PER WORKER (Rs.)*	
	Including UR 5+ (1)	*Excluding UR 5 (2)*
20-21	2111.1	1840.0
22	1361.1	864.5
23	1366.5	927.1
24	–	1763.7
25	–	777.0
26	1344.7	1154.7
27	1301.9	1123.8
29	1708.1	1348.6
32	1339.9	1258.5
34	2906.8	2053.2
35	2605.6	1809.4
38	2756.1	2367.6
28	5007.2	3187.7
30	6123.2	5576.1
31	4797.7	3842.6
33	1803.9	1030.8
36	6409.4	4863.7
37	5532.2	4869.2
39	2814.3	2554.3

SOURCE: Sundaram, K. and Tendulkar, S.D. in Suri, K.B, (ed); Small-Scale Enterprises in Industrial Development: The Indian Experience; Sage Publications; New Delhi; 1988

EXPLANATORY NOTE FOR TABLES 4-7

Tables 4-7 follow the National Industrial Classification (NIC). The artisanal groups which correspond to the industry group codes used in these tables are explained in the key below:

(1) Industry Group	*(2) Artisanal Group*
20-21	Food processors
22	*Bidi* workers
23	Cotton textile workers
24	Wool, silk, synthetic textile workers
25	Jute, hemp & mesta textile workers
26	Tailors & other needle workers
27	Wood & basketry workers
28	Paper makers
29	Leather workers
30	Manufacturers of rubber & plastic products
31	Manufacturers of chemicals & chemical products
32	Potters
33	Manufacturers of basic metal & alloys
34	Metal product manufacturers
35	Manufacturers of metal machinery and tools
36	Manufacturers of electrical machinery
37	Manufacturers of transport equipment
38	Jewellers
39	Repairers

The terms used to describe various artisanal groups in Column 2 are our own, and differ from those found in the Census data.

Table 5

Value Added Per Worker: Estimate 2

(based on SRUTI's survey of micro studies)

INDUSTRY GROUP	*VALUE ADDED PER WORKER (Rs.)*	
	(183 day standard) (1)	*(270 day standard) (2)*
20-21	2702.5	3964.9
22	1935.7	1935.7
23	2540.3	3352.3
24	2049.4	3012.2
25	–	–
26	2176.3	2758.4
27	2788.5	3378.5
29	3184.4	3722.9
32	2442.2	3300.4
34	3597.2	4388.4
35	6005.5	9008.8
38	6524.8	9620.5

NOTE

Value added is calculated at 1985-86 prices

SOURCE: SRUTI (Present study)

Table 6

Value Added by Industry Group: Estimate 1

(Based on Sundaram & Tendulkar's estimates of value added per worker 1974-75)

INDUSTRY GROUP	*VALUE ADDED (IN Rs.'000,000)*		
	House Hold Units	*Household Units and Unregistered Workshops*	
	(2)of Table 4 X (2)of Table 1	*(1)of Table 4 x (5)of Table 1*	*(1)of Table 4 x (6)of Table 1*
20-21	1,644.34	2,662.19	3,610.94
22	701.69	1,320.45	1,584.28
23	1,099.39	2,151.05	2,800.14
24	253.71	–	–
25	13.90	–	–
26	1,172.20	1,623.09	1,938.72
27	1,294.95	1,588.67	1,696.93
29	295.52	412.74	459.76
32	840.46	1,114.73	1,383.79
34	616.72	1,130.18	1,444.65
35	90.36	391.94	712.22
38	624.69	990.98	1,313.67
Sub Total	8,647.93	13,386.04	16,945.10
28	116.42	601.80	1,114.22
30	66.50	333.33	651.77
31	197.62	735.38	1,333.12
33	44.56	221.93	398.01
36	25.57	337.98	710.51
37	47.18	303.88	610.05
39	1,465.94	1,988.16	2,444.46
Sub Total	1,963.59	4,522.46	7,262.14
Total	10,611.52	17,908.50	24,207.24

Table 7a

Value Added by Industry Group: Estimate 2a

(based on SRUTI estimates of value added per worker 1985-86. Employment standard = 183 days)

INDUSTRY GROUP	*VALUE ADDED (IN Rs.'000,000)*		
	(1)of Table 5 x (2)of Table 1	*(1)of Table 5 x (5)of Table 1*	*(1)of Table 5 x (6)of Table 1*
20-21	2,415.12	3,407.97	4,622.51
22	1,571.16	1,877.88	2,253.09
23	3,012.38	3,998.77	5,205.41
24	294.81	407.09	544.45
25	–	–	–
26	2,209.28	2,626.86	3,137.67
27	3,213.18	3,402.73	3,634.60
29	697.80	769.47	857.14
32	1,630.96	2,031.82	2,522.19
34	1,080.50	1,398.62	1,787.77
35	299.90	903.29	1,641.56
38	1,721.57	2,346.06	3,109.99
Total	18,146.65	23,170.56	29,316.38

SOURCE: SRUTI, present study

Table 7b

Value Added by Industry Group: Estimate 2b

(Based on SRUTI estimates of value added per worker 1985-86. Employment standard = 270 days)

INDUSTRY GROUP	*VALUE ADDED (IN Rs.'000,000)*		
	(2)of Table 5 x (2)of Table 1	*(2)of Table 5 x (5)of Table 1*	*(2)of Table 5 x (6)of Table 1*
20-21	3,543.28	4,999.91	6,781.79
22	1,571.16	1,877.88	2,253.09
23	3,975.28	5,276.96	6,869.30
24	433.31	598.34	800.23
25	–	–	–
26	2,800.20	3,329.47	3,976.91
27	3,893.03	4,122.69	4,403.62
29	815.80	899.59	1,002.09
32	2,204.09	2,745.81	3,408.50
34	1,318.15	1,706.24	2,180.98
35	449.88	1,355.12	2,462.49
38	2,538.37	3,459.15	4,585.52
Sub Total	23,542.55	30,371.16	38,724.52

SOURCE: SRUTI, present study

NOTES & REFERENCES

1. Saluja, M.R., in Suri, K.B., (ed); *Small-Scale Enterprises in Industrial Development: The Indian Experience*; Sage Publications; New Delhi; 1988
2. *Ibid*
3. These limits are set by policy considerations, and revised from time to time. At present, the limits are Rs.35 lakhs for main units, and Rs.45 lakhs for ancillary ones.
4. Ramachandran, G.; in Suri, K.B.; *op.cit*
5. Saluja, M.R.; *op.cit*
6. *Ibid*
7. GOI, Planning Commission; 1985
8. See FAIR, various reports on the Woollen Handloom Sector
9. See SRUTI; *Overview of Artisans in India*; New Delhi; 1987
10. Sundaram & Tendulkar, in Suri, K.B.; *op.cit*

Annexure 4A: List of Micro Studies

The list of micro-studies used for calculating the value added by the artisanal sector is given below according to different artisanal groups.

ARTISANAL GROUP	*YEAR*	*CONDUCTED BY*	*LOCATION OF STUDY*
WOOD WORKERS (NIC 27)*			
Cane & bamboo workers	1982	VMST, Bombay	Ratnagiri District, Maharashtra
Wood workers	1973	ASCI, Hyderabad	All-India
Wood workers	1978-79	Kerala Artisan's Development Corporation	Kerala
Wooden toy makers	1978-79	ISEC, Bangalore	Channapattanna, Karnataka
Wood & cane workers	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Carpenters & bamboo workers	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
Carpenters & cane workers	1984-85	SSWRC, Pachhad	Pachhad, H.P.
Carpenters & bamboo workers	1986	HSWRC, Khori,	Jatusana Block, Haryana
Carpenters & bamboo workers	1986	HSWRC, Khori,	Kanina Block, Haryana
Wood, cane & bamboo workers	1987-88	SRUTI, New Delhi	All-India.
LEATHER WORKERS (NIC 29)			
Cobblers & tanners	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Flayers	1982	VMST, Bombay	Chandrapur, Maharashtra
Footwear makers	1982	VMST, Bombay	Nanded, Maharashtra
Leather workers	1984-85	SSWRC, Pachhad	Pachhad, H.P.
Leather workers	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
Leather workers	1986	HSWRC, Khori	Jatusana Block, Haryana
Leather workers	1986	HSWRC, Khori	Kanina block, Haryana
Flayers, tanners & leather goods makers	1987-88	SRUTI, New Delhi	All-India
WOOL SPINNERS & WEAVERS (NIC 24)			
Wool spinners & weavers	1984-85	SWRC, Pachhad	Pacchad, H.P.
Khadi wool spinners & weavers	1982	FAIR, New Delhi	Panipat, Haryana
Khadi wool spinners & weavers	1982	FAIR, New Delhi	Rajasthan
Wool weavers	1986	Foundation for Public Interest, Ahmedabad	Kutch, Gujarat
COTTON SPINNERS & WEAVERS (NIC 23)			
Handloom weavers	1986	SWRC, Khori	Jatusana Block, Haryana
Handloom weavers	1986	SWRC, Khori	Kanina Block, Haryana
Cotton weavers	1986	Foundation for Public Interest, Ahmedabad	Kutch, Gujarat
Cotton weavers & spinners	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
Weavers	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Weavers	1987-88	SRUTI, New Delhi	All-India
TAILORS, MAKERS OF ROPE, CARPETS, TEXTILE PRODUCTS (NIC 26)			
Embroiderers, *zari* workers, rope makers	1986	HSWRC, Khori	Jatusana Block, Haryana
Zari workers	1986	HSWRC, Khori	Kanina Block, Haryana
Tailors, coir & rope makers	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Sisal fibre workers	1982	VMST, Bombay	Solapur, Maharastra
Rope makers	1984-85	SSWRC, Pachhad	Pachhad, H.P.
Rope makers	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.

ARTISANAL GROUP	*YEAR*	*CONDUCTED BY*	*LOCATION OF STUDY*
POTTERS (NIC 32)			
Potters	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Potters	1973	ASCI, Hyderabad	All-India
Potters	1982	VMST, Bombay	Jalgaon District, Maharashtra
Potters	1986	HSWRC, Khori	Jatusana Block, Haryana
Potters	1986	HSWRC, Khori	Kanina Block, Haryana
Potters	1978-79	Kerala Artisans' Development Corporation	Kerala
Potters	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
Potters	1987-88	SRUTI, New Delhi	All-India
TOBACCO WORKERS (NIC 22)			
Bidi workers	1982	VMST, Bombay	Nasik, Maharashtra
JEWELLERS & MUSICAL INSTRUMENT MAKERS (NIC 38)			
Jewellers & musical instrument makers	1986	HSWRC, Khori	Jatusana Block, Haryana
Jewellers & musical instrument makers	1986	HSWRC, Khori	Kanina Block, Haryana
Musical instrument makers	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
Goldsmiths	1978-79	Kerala Artisans' Development Corporation	Kerala
Jewellers	1987-88	SRUTI, New Delhi	All-India
METAL WORKERS (NIC 34)			
Blacksmiths	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Blacksmiths	1982	VMST, Bombay	Yavatmal District, Maharashtra
Blacksmiths	1980-81	NPC, New Delhi	Jangaon Block, Andhra Pradesh
Coppersmiths & goldsmiths	1978-79	Kerala Artisans' Development Corporation	Kerala
Coppersmiths & goldsmiths	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
AGRICULTURAL IMPLEMENT MAKERS (NIC 35)			
Agricultural implement makers	1985	ILO-ARTEP	Ballia & Muzaffarnagar, U.P.
FOOD PROCESSORS (NIC 20 & 21)			
Oil pressers	1972	State Planning Institute, U.P.	Saharanpur, U.P.
Oil pressers	1982	VMST, Bombay	Aurangabad, Maharashtra
Oil pressers	1987-88	SRUTI, New Delhi	All-India

* (Nos. in brackets are NIC codes

Annexure 4B: Methodological Note

The idea behind our quantitative exercise was to generate (a) estimates of value added per worker in different industrial categories, at the NIC two-digit level, and (b) to use these estimates along with employment figures from the Economic Census to obtain estimates of value added in each industrial category. Three clarifications need to be made at the outset:

- Most micro-studies on the artisanal sector focus on particular artisanal trades, and thus no one study encompasses a two-digit industrial horizon.
- These micro-studies have very small samples. Therefore, generalisations based on them are inherently limited (even if there are several studies for a single trade).
- Each study concentrates on small geographical areas. To generalise to an all-India level is again problematic.

The first step was to define a full-time worker. This we defined as an adult equivalent working either 183 days or 270 days in a year. The number of workers in a sample in any one study was converted, according to the details of labour time spent on artisanal activity, to first full time workers by the 183 day standard and then by the 270 day standard. This presented several problems. Most of the studies focussed on the family, and on the incomes of these artisanal families rather than the intensity of employment. Thus, the workers could be "seasonal" or working "around the year"; "full-time" or "part-time", not in terms of number of hours spent in a day/days in a year, but in terms of whether they were solely occupied in the trade. Sometimes the number of members from each family working in the occupations are not specified. Consequently, many assumptions have had to be made, specific to each study. Having obtained an idea of labour use, the family income was pooled for the entire sample and divided by the number of 'workers'. A study-wise description of the assumptions made is given below:

- **ASCI Report**

  For the entire sample, "full-time" means workers who spend 43 per cent of their time on the artisanal activity. This we have taken to be true for each trade too. For part-time workers, we assume 4 months of employment in a year. The ASCI report, however, is problematic in that its estimates of "family income from trade" and value added (derived by subtracting the value of output from the sale value, ignoring for the moment "cost of labour", details of which in terms of extent of hired labour are not given) do not match. Thus it has not been used for as many trades as it covers.
- **State Planning Institute, U.P.**

  The number of earners per family is counted trade-wise. Since it is common for each head of household to have another helper, where the number of earners per family are more than two, we have assumed workers per family to be two; where less than two, we have taken the actual numbers. The extent of employment in a year is given in employment size intervals. The percentage figures, we have assumed, hold for all workers. The average employment in a year per worker is calculated by the assumed mean method.
- **ILO-ARTEP**

  In this study, for the entire sample, 43 per cent of the hired labour works less than 6 months in the year. We have assumed, therefore, that for each trade, all hired labour works 4 months. For the sample, 56 per cent of family labour works full time. "Full time" we have assumed to be 6 months. The other family labour is assumed to work 4 months.
- **FAIR Reports on Woollen Handloom Sector**

  The report for Rajasthan lists the daily earnings of spinners; the "number" of spinners (the same spinner may be counted more than once, because a spinner is registered every time he/she comes to take raw wool from the various Khadi outlets;) and the wage bill disbursed to spinners. From this, it is easy to get an idea of how many days in a year a spinner is employed. The total number of spinners listed can then be converted into full-time spinners. The employment per weaver per year is calculated and converted to "full time weaver", using the above standard. Based on the costing tables, we estimate that for every one rupee of output, yarn worth Rs.0.66 is consumed. Thus, the cost of yarn can be estimated and deducted from the value of output to get an idea of the value added. In calculating value added, our estimate is likely to be on the higher side, because we have not included other workers such as office personnel, cleaners, dyers, and bobbin-winders. This is because their numbers are not mentioned in the report. For Haryana, the figures for the *Khadi* sector as a whole and the *Khadi Ashram*, Panipat, are used. For the former, cost of yarn used in production is taken to be the value of yarn produced in the sector in 1979-80. For the latter, a procedure similar to the one followed for Rajasthan is used to estimate the value of yarn consumed (estimated at Rs.0.89 per Re.1 of output, from the costing tables of the *Ashram*). For employment per spinner, the number of days calculated for Rajasthan is also assumed to be true for Haryana. For weavers, the wage per day per weaver, the number of weavers, and the wage bill of the *Khadi Ashram* in the year 1978-79 are used. These are then generalised to the entire *Khadi* sector. The value added at the spinning stage is taken to be the wage bill paid out to spinners, since the practice of *Khadi Ashrams* and institutions is to buy raw wool, give it to spinners and pay them conversion charges at the time of delivering yarn.
- **VMST reports on various trades**

a. **Sisal Fibre Workers:** Hired labour works for 1-3 months a year at the rate of Rs.5 per day per person. Given that wages are 6 per cent of production cost, we get an idea of the number of hired labourers per family, who, we assume, work for 2 months. Output of rope per family on an average is 2-3 quintals per week. The number of weeks in a year that family labour works is derived from the per annum output of rope of each household.

b. **Cane & Bamboo Workers:** Straightforward, no particular treatment.

c. **Potters:** Out of 50 families, 6 who are employee artisans are left out. Details of hired labour and family labour for the rest are given. For value added, we have to add the cost of hired labour to the family income for brick makers and potter-cum-brick makers. Table 8.4 tells us that for an average output of 42,000 bricks per brick making unit, labour costs amount to Rs.4565. The number of bricks produced per annum per family is roughly 1,43,000.

d. **Leather Workers:** For flayers-cum-tanners-cum-leather workers, we have assumed 6 months of employment, because they work 12 months, part-time.

e. **Footwear Makers:** We have taken them to work 20 days a month (the report says 15-20 days) for 8 busy and 4 slack months.

f. **Metal Workers:** Are assumed to work an average of 11 days pm.

- **SRUTI Survey:** Hired labour is assumed to work for 4 months.
- **NPC Study of Metal Workers:** By 'Break-Even Analysis', the no. of hired labourers per unit is assumed to be 3, paid Rs.150-350 pm.

Annexure 5: Schemes of Assistance for Artisans

This section contains a summary of schemes of assistance for artisans offered by NABARD, Office of the DC (Handicrafts), and the KVIC.

I NABARD

(NABARD's assistance to artisans & organisations working with artisans is routed under its refinance schemes through Co-operative Banks, regional Rural Banks and Commercial Banks.)

1 WORKING CAPITAL CREDIT

A. Through Co-operative Banks

- Loans upto 40% of anticipated production to individual handicraft artisan members of PACS/LAMPS/FSS for production and marketing activities
- Loans upto 40% of anticipated production to Industrial Co- operatives of handicraft artisans for production and marketing activities

B. Through Regional Rural Banks

- General line of credit to RRB's for providing working capital assistance to handicraft artisans for production & marketing activities

2 TERM LOAN ASSISTANCE OR INVESTMENT CREDIT

Production activities

A. Through Commercial Banks

- Loans upto Rs.5 lakhs under General Refinance Scheme for individuals, proprietory/partnership concerns, and groups of individuals (not exceeding 25 persons) for starting a handicraft unit
- Composite loans upto Rs.30,000 to individual handicraft artisans for purchase of equipment and tools and working capital requirements
- Loans upto Rs.5000 in the case of individual artisans and Rs.30,000 in that of groups of artisans, in notified tribal areas and in the North-Eastern region, for establishing handicraft units
- Loans upto Rs.5 lakhs to Tribal Development Corporations or promotional agencies for establishing handicraft units
- Loans upto Rs.5 lakhs (net of subsidy) to registered institutions of handicraft artisans for investment in plant and machinery, equipment, tools, workshed and godown, and purchase of delivery van or truck for establishing production and marketing units
- Composite loans upto Rs.10,000 (net of subsidy) to individual handicraft artisans for establishing handicraft production units under ISB Component of IRD programme
- Composite loans upto Rs.10,000 to SC/ST handicraft artisans covered under SC/ST Action Plan outside IRD Programme

B. Through Regional Rural Banks

- Composite loans upto Rs.Rs.30,000 to individual handicraft artisans for equipment, tools and working capital requirements
- Composite loans upto Rs.5000 in the case of individual artisans and Rs.30,000 in that of groups of artisans located in notified Tribal areas and the North-Eastern Region for equipment, tools and working capital requirements
- Composite loans upto Rs.10,000 (net of subsidy), to individual artisans for establishing handicraft production units under ISB component of IRD programme
- Composite loans upto Rs.10,000 (net of subsidy), to individual artisans for establishing handicraft production units under SC/ST Action Plan outside IRD programme

C. Through Co-operative Banks

- Block capital assistance upto Rs.13,000 to individual handicraft artisan members of PACS/LAMP/FSS and Primary Industrial Societies for acquisition of equipment, tools and construction of workshed
- Block capital assistance upto Rs.5 lakhs to industrial co-operative societies of artisans for production & marketing activities. Loan assistance available for plant & machinery, equipment, tools, construction of workshed and godowns and purchase of delivery van/truck
- Composite loans upto Rs.10,000 (net of subsidy) to individual handicraft artisans under ISB component of IRD programme
- Composite loans upto Rs.30,000 to individual handicraft artisans
- Integrated Term loans upto Rs.5 lakhs to proprietory/partnership concerns, groups of individuals
- Composite loans upto Rs.10,000 (net of subsidy) to individual handicraft artisans under SC/ST Action Plan

D. Through Co-operative Land Development Banks

- Composite loans upto Rs 30,000 to industrial handicraft artisans who are members of PACS for investment in equipment, tools, construction of workshed and working capital requirements of one operating cycle.

Construction of workshed

A Through Commercial Banks

- Loans upto Rs.30,000 to individual artisans for production unit
- Loans of Rs.3,000 for Common facility centre/workshed to be put up by Govt./quasi-Govt./voluntary agencies for the benefit of artisans

B. Through Regional Rural Banks

- Term loans upto Rs.3000 for construction of workshed by individual artisans

Raw material supply centres

A. Through Commercial Banks

- Loans between Rs.1 lakh and Rs.3 lakhs to registered institutions, for setting up raw material supply centres for the benefit of artisans
- Loans based on actual costs to promotional organisations for purchase of delivery van/truck normally in conjuction with the loan for the foregoing scheme

Marketing support activities

A. Through Commercial Banks

- Loans between Rs.2 to Rs.5 lakhs to promotional organisations for marketing handicrafts/setting up/refurnishing showrooms/emporia
- Loans upto Rs.4 lakhs to promotional organisations for construction of godowns
- Loans based on actual costs to promotional organisations for purchase of delivery van/truck normally in conjunction with the loans for the previous 2 schemes
- Loans to State Handicraft Development Corporations on the basis of cost estimates for setting up/renovation of emporia

B. Through Co-operative Banks

- Loans based on actual costs to Apex/Regional Co-operative Handicraft Societies for setting up/renovation of emporia

Project formulation & consultancy services

A. Through Commercial Banks

- Loans upto Rs.10,000 to individual artisans and/or promotional organisations for engaging consultants for project formulation, implementation and operation

Soft loan assistance for margin money

A. Through Commercial Banks/Co-operative Banks

- Interest free loans to borrowers eligible for refinance assistance under various schemes for meeting the gap between margin money requirements and own resources

II OFFICE OF THE DC (Handicrafts)

- Grants for recurring and non-recurring expenditure to voluntary organisations/apex societies/co-operatives for setting up Craft Development Centres in identified craft pockets
- Assistance through voluntary agencies to co-operative societies of handicraft workers in the form of share capital assistance, managerial subsidy and Members' Education Programme
- Assistance to State Corporations, Central Corporations and Apex Co-operative Societies to strengthen their equity base through share participation
- Assistance to State Corporations, Apex Co-operative Societies and voluntary organisations for engaging professional designers and developing prototypes
- Assistance through the Regional Design and Technical Development Centres to artisans for procuring improved tools and equipment at subsidised rates
- Stipends to artisans for undergoing basic and advanced training in carpet weaving, art metalware work, cane and bamboo work, wood carving and hand printing at Centres run by the Department
- Stipends to artisans for undergoing training in various crafts under the Apprenticeship Training Scheme under the instruction of Mastercraftspersons
- Grants to co-operatives and voluntary organisations to engage the Mastercraftspersons for imparting training to artisans
- Assistance to members of handicraft co-operatives for undergoing orientation courses in co-operative laws, procedures, management and marketing at the National Co-operative Union, under the Member Education Programme.
- Assistance to artisans in marketing their products through the Marketing and Service Extension Centres by organising craft bazars, market meets and product promotion programmes
- Grants for capital expenditure and working capital to Central/ State Corporations, Apex Societies, voluntary organisations and co-operative societies for opening new sales outlets and renovating old ones
- Pensions to craftspersons who are unable to work due to old age
- National Awards and Merit certificates to outstanding craftspersons
- Part contribution to the insurance premium to cover medical treatment of craftspersons
- Assistance to craftspersons through State Corporations, Apex Societies, voluntary agencies for constructing worksheds godowns, worksheds upto Rs.75 per sq. ft.
- Loans for purchasing approved models of the New Model Charkha
- Loans for setting up a ginning unit
- Loans upto Rs.70,000 for introduction of Standard Carding Machine and Scutcher
- Loan cum grants to institutions for purchasing improved Sevagram Loom & Semi-automatic Loom
- Grant (Rs.4860) cum loans (Rs.50,000) for setting up a Readymade Warping Unit
- Grants (Rs.21,660) cum loan (Rs.57,000) for setting up a Composite Spinning and Weaving Unit
- Grant to institutions @ Rs.25 per weaver per annum for loom spares & accessories
- Grant cum loans for renovation of looms @ Rs.140 per loom
- Grant (Rs.50) cum loans (Rs.50) for renovation of Wooden Ambar Charkha
- Grant (Rs.2500) cum loans (Rs.2500) for construction of pre-processing shed for preparing long warp beams
- Grants to encourage weavers to shift to areas where there is a concentration of spinning activity but dearth of weavers @ Rs.2500 per weaving household for provision of workshed and transportation of the family and its belongings
- Assistance in paying weaving wages under the Vastra Swavalamban Scheme
- Loans for setting up a Finishing Centre

Working capital

- Loans for production and sale of yarn and cloth
- Share Capital Loans to Co-operatives of spinners, weavers and other artisans engaged in *khadi* work to the extent of 7 times the value of shares held by a member, upto a maximum of Rs.1750 per member.
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000

Managerial assistance

- Management grants to institutions on a tapering basis for 4 years

Training

- Grants to institutions for imparting training to traditional weavers on improved looms
- Grants for revival of traditional crafts such as *patola* weaving, *khes* weaving, fine yarn spinning

III KVIC

1 COTTON KHADI

Capital assistance

- Loans to registered institutions for construction of buildings, godowns, worksheds upto Rs.75 per sq. ft.
- Loan cum grants to institutions for purchasing improved Sevagram Loom & Semi-automatic Loom
- Grants to institutions @ Rs.25 per weaver per annum for loom spares & accessories
- Grants (Rs.2500) cum loans (Rs.2500) for construction of pre-processing shed for preparing long warp beams
- Grants to encourage weavers to shift to areas where there is concentration of spinning activity but dearth of weavers @ Rs.2500 per weaving household for provision of workshed and transportation of the family and its belongings
- Loans for setting up a Finishing Centre
- Loans for purchasing spinning equipment such as twisting

2 WOOLLEN KHADI

Capital assistance

- Loans to registered institutions for construction of buildings, godowns, worksheds upto Rs.75 per sq. ft.

machine, carding machine, warping unit
- Loans for purchasing 4 spindle charkha unit

Working capital

- Loans for production and sale of yarn and cloth
- Share Capital Loans to Co-operatives of spinners, weavers and other artisans engaged in woollen *khadi* work to the extent of seven times the value of shares held by a member, upto a maximum of Rs.1,750 per member.
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000

Managerial assistance

- Grants to institutions and co-operatives for 4 and 3 years respectively to appoint a manager and accountant

Training

- Grants to institutions for imparting training to traditional weavers on improved looms

3 SILK KHADI

Capital assistance

- Loans to registered institutions for construction of buildings, godowns, worksheds upto Rs.75 per sq. ft.
- Loan cum grants to institutions for purchasing improved Sevagram Loom & Semi-automatic Loom
- Grants to institutions @ Rs.25 per weaver per annum for loom spares & accessories
- Grant cum loans for renovation of looms @ Rs.140 per loom
- Grant (Rs.2500) cum loans (Rs.2500) for construction of pre- processing shed for preparing long warp beams
- Loans for setting up a mulberry reeling unit, *tassar* reeling unit, *muga* reeling unit, and mulberry twisting unit
- Grant cum loans for setting up weaving units for all types of reeled silk
- Loans for setting up a spinning and pre-processing unit
- Grant cum loans for setting up a spun silk weaving unit
- Grant cum loans for purchasing a big boiler, big twisting unit, improved loom and reeling machine to institutions operating 3 or more reeling units
- Grants to encourage weavers to shift to areas where there is concentration of spinning activity but dearth of weavers @ Rs.2500 per weaving household for provision of workshed and transportation of the family and its belongings
- Loans for setting up a Finishing Centre

Working capital

- Loans for production and sale of yarn and cloth
- Share Capital Loans to Co-operatives of spinners, weavers and other artisans engaged in silk *khadi* work to the extent of seven times the value of shares held by a member, upto a maximum of Rs.1750 per member.
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000

Training

- Grants to institutions for imparting training to traditional artisans in the use of improved reeling, weaving, twisting and spinning equipment

4 LEATHER WORK

- Grant cum loans for capital expenditure and working capital to self-employed individual cobblers or leather goods artisans
- Grant cum loans for capital expenditure and working capital to family units of cobblers or leather goods artisans
- Grant cum loans for capital expenditure and working capital to family units of tanners
- Loans for capital expenditure and working capital to individuals/entrepreneurs for setting up an ordinary flaying centre
- Loans for capital expenditure and working capital to individuals/small entrepreneurs for manufacturing shoes
- Loans for capital expenditure and working capital to small entrepreneurs for setting up a bone crushing unit
- Loans for capital expenditure and working capital to individuals for manufacturing leather goods other than footwear
- Loans for capital expenditure and working capital to individuals/small entrepreneurs for setting up a leather servicing unit
- Grants to local bodies/*Gram Panchayats*/institutions for construction of a flaying platform
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions for setting up an ordinary or intensive flaying centre
- Grant cum loans for capital expenditure and working capital to institutions for setting up a bone crushing unit
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions for setting up a village tannery, chrome tannery or retanning cum finishing unit
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions for setting up a footwear manufacturing unit
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions for setting up a unit for manufacturing leather goods other than footwear
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions for setting up a leather servicing unit
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions for setting up a footwear and leather goods shop
- Grants to institutions for setting up a training cum production centre for tanning, flaying, carcass utilisation, and leather goods production
- Share Capital Loans to Co-operatives of leather workers to the extent of seven times the value of shares held by a member, upto a maximum of Rs.1750 per member
- Capital formation loan for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000

5 POTTERY

- Grant cum loans for working capital and capital expenditure to individual artisans for improved tools and equipment, improved kiln with shed, construction of workshed, brick clamp, and land for clay
- Loans for capital expenditure and working capital to skilled/educated potters
- Grant cum loans for capital expenditure and working capital to co-operatives for a common workshed for a minimum of 4/10 potters
- Loans for capital expenditure and working capital to skilled/educated potters for producing artistic pottery
- Grant cum loans for capital expenditure, working capital and oper-

ational expenses to potters co-operatives for manufacturing earthen pipes for sub-surface drainage
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions and co-operatives for manufacturing Raniganj and Mangalore tiles
- Loans for capital expenditure and working capital to institutions and co-operatives for setting up a brick *bhatta* unit
- Grant cum loan for capital expenditure, working capital and operational expenses to institutions for production of porcelain, chinaware and stoneware products
- Grant cum loans for capital expenditure, working capital and establishment costs for setting up a Marketing Service Centre to provide marketing facilities to a minimum of 30 potters
- Working capital loans to co-operatives and institutions for manufacturing bricks using the clamp system
- Working capital loans to individuals for manufacturing bricks
- Share Capital Loans to Co-operatives of potters to the extent of seven times the value of shares held by a member, upto a maximum of Rs.1750 per member
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000
- Grants for demonstration and introduction of improved equipment to traditional potters by a demonstration team
- Grants for setting up a regional pottery training centre
- Grants for undergoing artisans training programmes

6 FIBRE WORK

- Loans to registered institutions for construction of buildings, godowns, worksheds upto Rs.75 per sq. ft.
- Grant cum loans for purchasing machines, tools and equipment
- Working capital loans for production of fibres
- Share Capital Loans to Co-operatives of fibre workers to the extent of seven times the value of shares held by a member, upto a maximum of Rs.1750 per member
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000
- Management grants for institutions
- Grants for conducting apprenticeship courses and training programmes for supervisors and artisans
- Grant cum loans to individuals for capital expenditure and working capital for setting up a *ban* making unit
- Loans for capital expenditure and working capital to individuals, institutions and co-operatives for setting up a sisal fibre production unit

7 CARPENTRY

- Grant cum loans for capital expenditure and working capital to be routed through institutions to individuals for setting up a carpentry home unit using either hand tools, with an annual production capacity of Rs.10,000, or a unit using power operated tools with an annual production capacity of Rs.30,000
- Loans for capital expenditure and working capital to small entrepreneurs for setting up a carpentry unit with an annual production capacity of Rs.1 lakh
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions and co-operatives for setting up/expanding a carpentry workshop
- Share Capital Loans to Co-operatives of carpenters to the extent of three times the value of shares held by a member, upto a maximum of Rs.1500 per member.
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000
- Loans for construction of godowns to institutions and co-operatives, in exceptional cases only

8 BLACKSMITHY

- Grant cum loans for capital expenditure and working capital to be routed through institutions to individuals for setting up a blacksmithy home unit using hand tools, with an annual production capacity of Rs.12,500, or a power operated unit with an annual production capacity of Rs.30,000
- Loans for capital expenditure and working capital to small entrepreneurs for setting up a blacksmithy unit with an annual production capacity of Rs.1 lakh
- Grant cum loans for capital expenditure, working capital and managerial assistance to institutions and co-operatives for setting up/expanding a blacksmithy workshop
- Share Capital Loans to Co-operatives of blacksmiths to the extent of three times the value of shares held by a member, upto a maximum of Rs.1500 per member.
- Capital formation loans for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000
- Loans for construction of godowns to institutions and co-operatives, in exceptional cases only

9 CANE & BAMBOO WORK

- Loans to institutions for construction of a workshed, subject to a maximum of Rs.60,000
- Grant cum loans to institutions for purchasing tools, equipment and implements for upto 20 artisans, @ Rs.500 per artisan
- Grant cum loans for capital expenditure and working capital to individuals for setting up a unit to manufacture cane and bamboo products worth Rs.10,000 per annum
- Management grants to institutions and co-operatives for three years
- Grant cum loans for capital expenditure and working capital to institutions and co-operatives for setting up a unit to manufacture wicker products
- Grant cum loans for capital expenditure and working capital to institutions and co-operatives for setting up a unit to manufacture cane and bamboo products worth Rs.2 lakhs annually
- Share Capital Loans to Co-operatives of cane and bamboo artisans to the extent of three times the value of shares held by a member, upto a maximum of Rs.1500 per member.
- Capital formation loan for registered institutions upto a maximum of 4 times their collection, but not exceeding Rs.1,50,000

IV OTHER SCHEMES

- Loans for capital expenditure and working capital to artisans through State Financial Corporations/banks under the Refinance Scheme of the IDBI
- Loans and subsidies to artisans through the DRDA under the IRDP
- Stipends for undergoing training under the TRYSEM programme through the DIC

Section IV

Glossary

Abbreviations

Bibliography

Glossary and Abbreviations

GLOSSARY

Atharva Veda	Branch of the Vedas that relates to incantations
Balutedari	A variation of the *jajmani* system in Maharashtra
Basti/bustee	Urban settlement
Chappal	Slippers
Charkha	Spinning wheel
Charpoi	Cot of traditional design
Chulhah	Stove
Crore	Ten million
Dadan	Advances given to artisans
Dalal	Broker
Dalit	One who belongs to the oppressed sections of society
Desi	Indian, indigenous
Gaonha	Player
Gomasta	Clerk
Grama	Village
Gullies	Lanes
Haat	Periodic rural market
Jajmani	Traditional system of rights and obligations between specific families in a village
Jati	Caste
Jutti	Shoe of traditional design
Karkhana	Manufacturing workshop
Khadi	Handloom fabric, woven from handspun yarn
Kuccha	Uncooked (food); mud (house)
Lakh	One hundred thousand
Mandi	Wholesale market
Panchayat	Village council
Patwari	Village accountant
Puga	Guild
Puranas	Legendary histories that are part of the sacred writings of the Hindus
Raja	King
Rajput	Caste in northern India, claiming royal descent
Ramayana	One of the great Indian epics, dealing with the adventures of Rama
Rasta roko	Road blockade as a form of protest
Rig-Veda	One of the four Vedas
Sammelan	Conference
Sreni	Guild
Takli	Spindle
Ustad	Teacher; one who has mastered a particular craft or trade
Varna	One of the four orders into which traditional Hindu society was divided
Vedas	Sacred writings of the Hindus
Yajurveda	Branch of the Vedas that deals with worship and sacrifices

ABBREVIATIONS

AIHHB	All India Handlooms & Handicrafts Board
AIHB	All India Handicrafts Board
CAPART	Council for Advancement of Peoples Action & Rural Technology
CCB	Central Co-operative Bank
DIC	District Industries Centre
DPAP	Drought Prone Area Programme
DRDA	District Rural Development Agency
DRI	Differential Rate of Interest
DWCRA	Development of Women & Children in Rural Areas
FAIR	Foundation to Aid Industrial Recovery
GOI	Government of India
HDC	Handloom Development Corporation
IDBI	Industrial Development Bank of India
IDS	Industrial Development Services
IRDP	Integrated Rural Development Programme
ISB	Industries Services & Business Component of IRDP
ITI	Industrial Training Institutes
KVIC	Khadi & Village Industries Commission
LAMPS	Large Agricultural Multipurpose Societies
NABARD	National Bank for Agriculture & Rural Development
NCO	National Classification of Occupations
NGO	Non-governmental organisation
NREP	National Rural Employment Programme
PACS	Primary Agricultural Credit Society
RLEGP	Rural Landless Employment Guarantee Programme
RMSC	Rural Marketing & Service Centre
RRB	Regional Rural Bank
SC/ST	Scheduled Caste/ Scheduled Tribe
SCB	State Co-operative Bank
SFC	State Financial Corporation
SLIPP	Special Livestock Production Programme
SRUTI	Society for Rural, Urban & Tribal Initiative
TRYSEM	Training of Rural Youth for Self-employment
VMST	Vaikunthbhai Mehta Smarak Trust
VSI	Village & Small Industries

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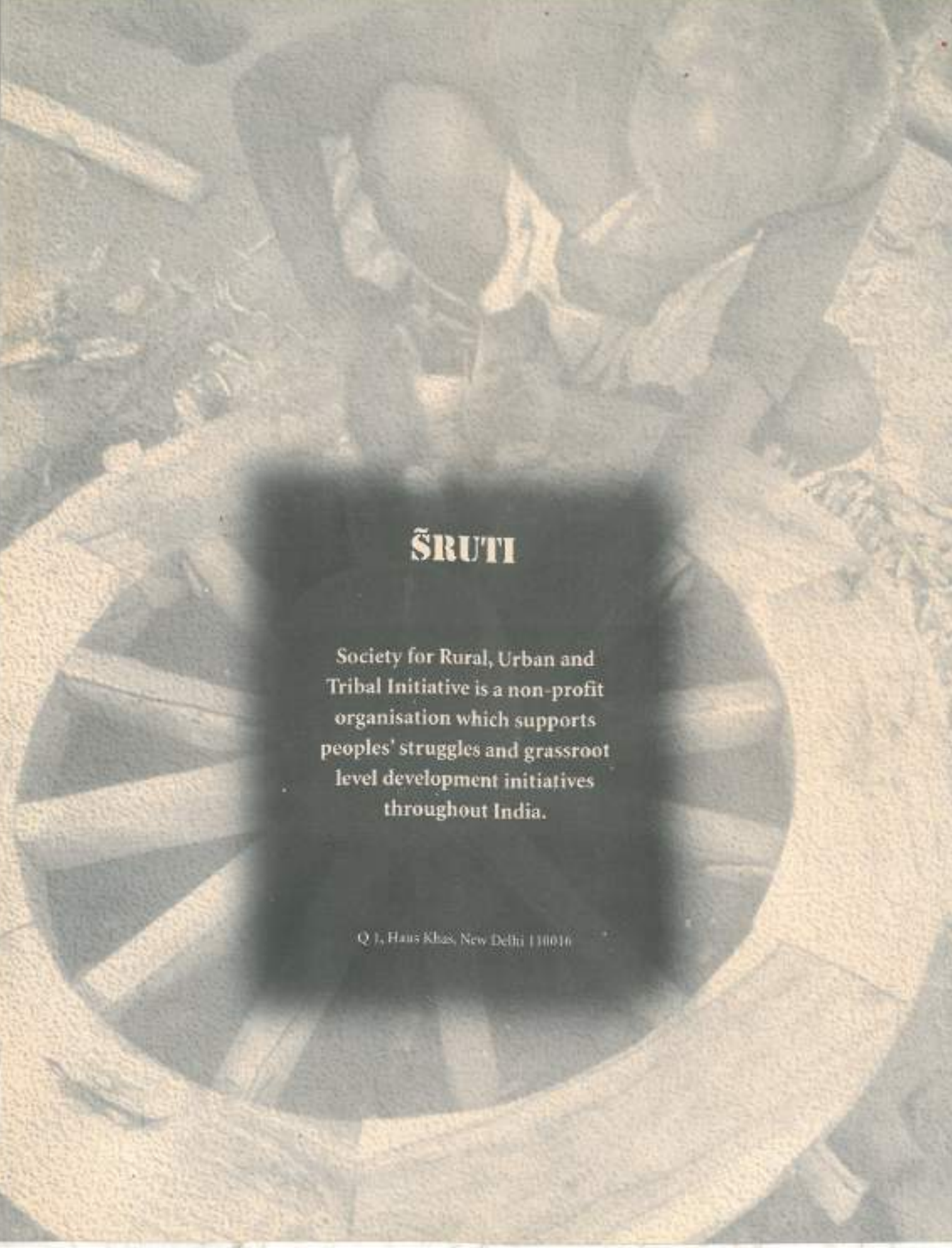

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