



# CENSUS OF INDIA 1961

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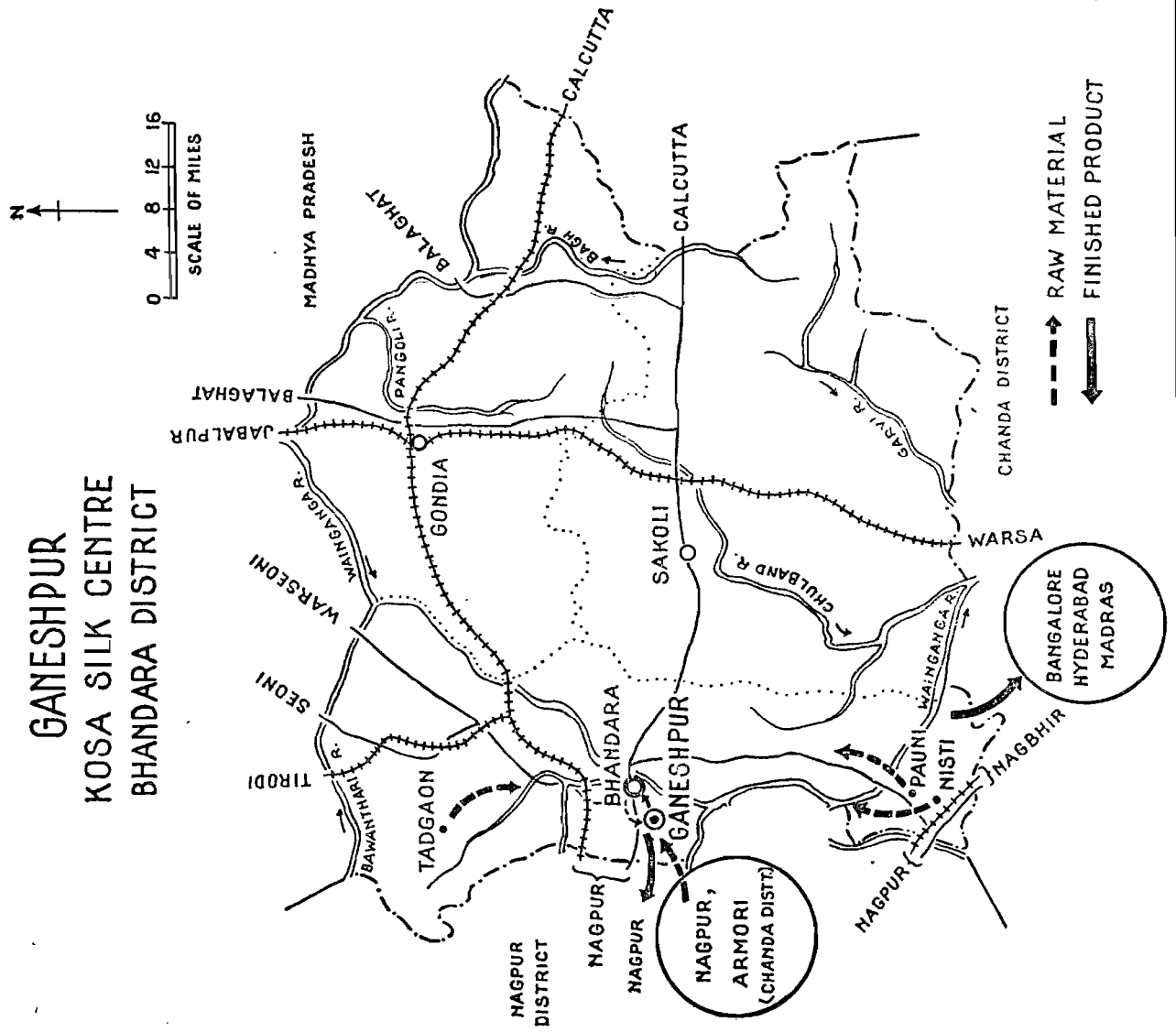
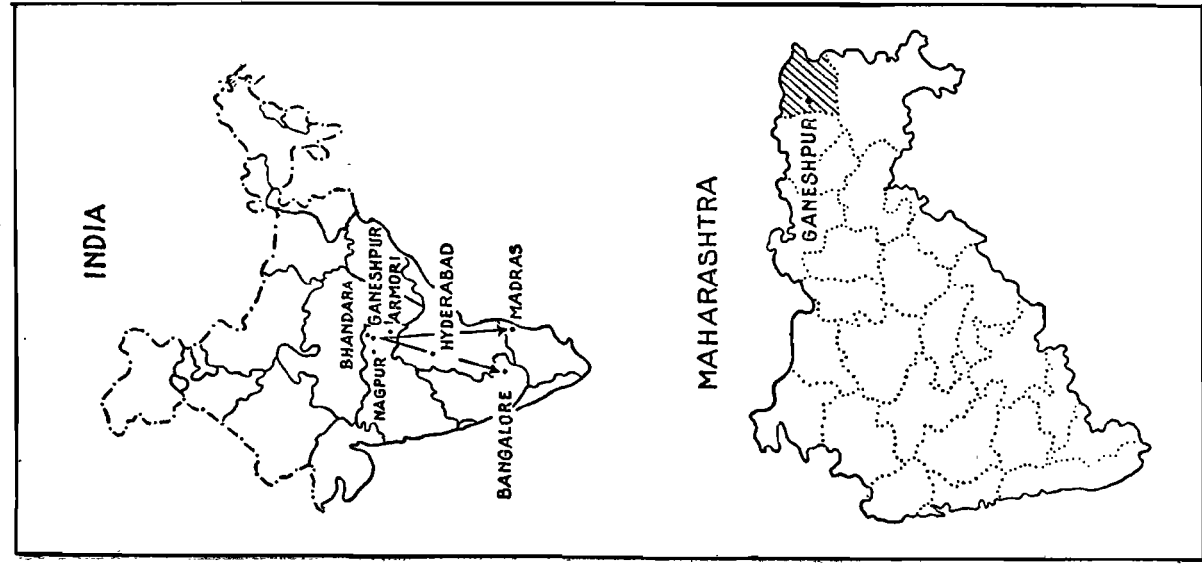
HANDICRAFTS IN MAHARASHTRA  
KOSA SILK WEAVING AT GANESHPUR

*Prepared by*  
**THE MAHARASHTRA CENSUS OFFICE, BOMBAY**

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## FOREWORD

ONE OF THE FIRST STEPS to be taken in the First Five Year Plan was the establishment of six Boards for the promotion of handicrafts, village and small industries : (1) The Khadi and Village Industries Board ; (2) The All India Handicrafts Board ; (3) The All India Handloom Board ; (4) The Central Silk Board ; (5) The Coir Board ; and (6) The Small Industries Board.

The rapid expansion of the activities of these Boards which concentrated not only on production and techniques, but also on organisation, extension, credit, marketing and export, consolidated and enlarged the position that the household industries sector had so long enjoyed in the nation's economic life. It was this fact that forced itself upon the preparations for the 1961 Census and demanded that household industry should be separately investigated for a proper accounting of the nation's manpower resources and its specific contribution to the national income. The 1961 Census therefore asked a special series of questions on household industry, input of family and hired labour, and the periods over which household industry is conducted. It was felt, however, that an enumeration of the total number of establishments and their industrial classification would be incomplete without a proper description of what they produce and how they produce. It was important to make an assessment of the limits of rigidity within which traditional skill operates. This could be obtained by studying the caste, occupational, social and economic stratifications, the limitation of credit and marketing facilities, the dominance of custom over contract, the persistence of traditional tools and design forms, the physical limitations of transport, communication and mobility, the inability to adopt new lines or adapt to changing circumstances. It was important also to make an assessment of the limits of flexibility that traditional skill is capable of because the transformation of traditional skills to modern skills is easier said than done and a thorough study may well reveal that it is perhaps cheaper from the social point of view to develop industrial skills from scratch than to try to graft traditional skill on alien soil. A rather tragic case of failure to make what would on the face of it seem a minor adjustment cast its heavy shadow on the nation when it was discovered that goldsmiths used to working on 22-carat gold all their lives felt sadly helpless when asked to work on 14-carat, so narrow and unadaptable were the limits of their skill and proficiency and so rudimentary the tools and equipment with which they and their forefathers had worked. This fiscal accident revealed that tools are even more important than skills.

An early opportunity was therefore taken in February 1960 to suggest to State Census Superintendents, that the Census provided a unique opportunity for conducting and documenting a survey of this kind. As such a survey was quite outside the usual terms of reference of Census work it was thought prudent cautiously to feel one's way with the thin end of the wedge of what would, it was hoped, prove to be an exciting pursuit. It was therefore considered the wiser course to wait until the State Census Offices felt so interested that they would no longer take the inquiry as an imposition but rather want to do it on their own and ask for the necessary staff and equipment. This office, too, in its turn, could make use of the interval to organise and elaborate the design of inquiry in order to feed the appetite that work in progress would serve to whet. Because it was a labour of love, sought to be unobtrusively thrust on one's colleagues and because the inquiry itself was so vast that normally it would demand in any country as big a set-up, if separately established, as the Census organisation itself and that over a much longer period, and because it was almost a pioneer venture, nothing like it having been undertaken since the 1880's, it was decided to move towards a build-up by stages, to let the inquiry unfold itself only as fast as my colleagues chose to ask for more.

Thus, in the first circular of 18th February 1960, it was suggested that the inquiry might be conducted through the agency of the Development Department, the State Director of Industries,

the Director of Tribal Welfare, the Registrar of Co-operative Societies, and other organisations concerned with the promotion of household industry. A draft questionnaire containing 30 questions in three parts was recommended for canvassing. It was suggested that information on this questionnaire, village by village and area by area might either be obtained through the regular departmental channels of the State Government, or through the newly set up Census organisation, or through the hierarchy of the newly-created Panchayats. Stress was laid on the need of photographic documentation and illustration of designs, shapes and forms not only by photographs but with the help of line drawings or sketches together with a full description of the materials used.

Almost the whole of 1960 and the first half of 1961 were spent in organising and taking the Census count, although several States even during this period had not allowed the grass to grow under their feet but made exploratory studies and decided in their minds how the inquiry should be organised. A series of regional conferences held in Trivandrum, Darjeeling and Srinagar in May and June 1961 revealed much enthusiasm among State Superintendents to proceed with the survey, but the need of separate staff and equipment was felt at the same time as the realization dawned that this was much too serious an enquiry to be treated casually and left to be achieved through the usual administrative channels and State Census Superintendents proceeded to augment their staff with qualified research and investigating officers, technical persons, photographers, artists, draughtsmen and other trained personnel.

This was followed by rapid progress in co-ordination between the Central and State Census offices in the matter of exchange and processing of information, documentation and investigation, of assisting each other with trained investigators and in editing and finalizing drafts, layouts, presentations.

Mention has been made of a questionnaire in three parts and thirty questions. The idea was to make a beginning with empirical, analytical studies based on a structured questionnaire which would replace general descriptive accounts that had obtained so far. The primary aim was to obtain a picture as much of the artisan himself as of his craft, to obtain a perspective of the artisan and his craft in his social and economic setting, the extent to which tradition bound him and the winds of change ruffled him, the extent of his mobility and immobility, the conditions of market, credit, new contacts and designs in which he operated, the frame of new as well as traditional producer-customer relationships in which he still worked, and how far he was ready to pierce his own caste-tribe socioeco-nomic cocoon and make a breakthrough to new opportunities promised by the Five-Year Plans. The aim was to hold up the mirror to hereditary skills struggling with the dialectics of tradition and change.

Thus the first part of the questionnaire, purporting to be a village schedule, sought to take account of the size and population of the village, its remoteness from or proximity to centres of trade and commerce, in short, the degree of isolation in which the artisan worked, and the relative strengths of various communities in the village which would afford clues to social interdependence and the prevalence of the JAJMANI system. The second part was devoted to artisan communities in the village : the several castes of artisans, the number of families in each, the total number of workers, males and females, the extent of co-operative activity among them, the extent of dependence upon employers and of wage or contract labour. There were questions on the raw materials used, the means of their procurement, the possible extent of dependence on others for raw materials, the extent of the material that artisans can handle within the limits of their skill. There were other questions on the exchange and flow of designs, the use of colours, the ancientness of the craft and legends associated, the colonization of the craftsman on patrons and customers and on social and economic contact with the world inside and outside the village. There were specific questions on the workshop itself and particularly the tools and the source of supply of these tools, because it was felt that tools decide everything and are the surest index

of inertness or flexibility. Separate blocks of questions were designed to bring out the ramifications of artisan castes throughout the country and the ways they sustained themselves, the type of clientele they catered for, the extent to which they operated on money or barter or service, how specialized their craft was, how wide the market, how dependent they were on their socially preordained clientele and how restricted the latter was by the seemingly unalterable laws of social custom; the extent to which they could operate in the open market, the range of their wares and the sizes to which these were ordinarily restricted either by the limits of their own skill or the length of their customers' pursestrings. Inquiries were to be made about the operation of middlemen and of co-operative societies, the people who gave new designs and demanded new products. Finally, the several stages of production of the articles themselves were to be fully described including the final and finishing stage and a list of very skilled craftsmen of each community was to be furnished. The third part was devoted specially to tribal communities and designed to find out how self-sufficient or dependent they were on the production and supply of manufactured goods, the extent to which they produced themselves or depended on others, their contacts with other communities and the specific forms of production and commerce through which these contacts were maintained.

Particular emphasis was laid on the need of obtaining as full an account as possible of unique regional design differentiations as they reflect not only the very culture patterns of the country but the persistent inventive faculties of the craftsmen. The importance was emphasised of giving full attention to articles of domestic use as it is in their shapes, designs and forms that the culture patterns and traditional skills persist most tenaciously.

Simultaneously with the investigation of specific crafts, State Superintendents proceeded to compile a comprehensive list of all types of handicrafts obtaining in their State. As for the specific crafts to be investigated several tables were devised from the structured questionnaire in order to guide investigators toward pointed observation and analysis, to enable them to write, not just general descriptions, but with their eye on the object and on facts.

Investigations conducted between September 1961 and May 1962, including a study group of all States and the Social Studies Division in December 1961 at Delhi, stimulated many of the States into going in for a much enlarged schedule. The revised village schedule itself, the counterpart of the first part of the February 1960 schedule, contained 19 large sections containing elaborate and probing questions. The Family Schedule for practising artisan families similarly contained 19 main questions each sub-divided into many questions. The Family Schedule for non-practising artisan families contained 21 questions. There were schedules for the study of co-operative societies, of production-cum-training centres, and of consumer's preference. This enlarged schedule of investigation, in the formulation of which the States themselves actively assisted, was greatly welcomed. The surveys that will appear in this series will therefore consist of two main types: (a) those based on the original short schedule and (b) those based on the much enlarged schedule. In some cases Census Superintendents felt enthused enough to scrap the work based on the original short schedule and do it over again on the enlarged schedule. In the meantime much experience was gained on the analysis of facts and figures to clothe each observation with plenty of authentic information so that the reader could make his own judgment instead of being expected to see all the time through another pair of eyes.

This programme of survey of handicrafts and household industries has been fortified by several ancillary surveys, each one of which would deserve major attention. Along with the survey a compilation has been made of all handicraft centres in each State and an inventory prepared of skilled craftsmen. Photographic and other documentation has been built up to constitute what may now

be regarded as the most considerable repository in the country. Elaborate and accurate maps of craft centres in talukas, tehsils and districts are either ready or under preparation. A full census of all fairs and festivals, weekly *hats* and markets, throughout India, has been taken and is being published for the first time. Andhra Pradesh has embarked upon a project of chronicling the social and religious antiquity and uniqueness of every fair and festival. A separate volume will be devoted to each district which promises to be of the utmost value to sociologists and orientalists. A full and complete inventory, replete with sketches and measurements of every object, has been prepared of exhibits in museums of tribal crafts in India. There has been a fairly satisfactory survey of houses and buildings, indigenous architectural designs and use of local building material of the whole country. All this has been entirely a labour of love, patiently organized and executed under great strain and in disregard of health and comfort, for which I take this opportunity of expressing my appreciation and grateful thanks to my colleagues.

NEW DELHI,  
July 30, 1964

ASOK MITRA,  
*Registrar General, India*

## P R E F A C E

This part of the Census Report presents a monograph on the "Kosa Silk at Ganeshpur" which is one of the following eight handicrafts selected for detailed study in Maharashtra :—

- (1) Himroo Weaving at Aurangabad, district Aurangabad.
- (2) Clay Images of Ganapati and images of Plaster of Paris at Pen, district Kolaba.
- (3) Kosa Silk at Ganeshpur, district Bhandara.
- (4) Silver Ornaments at Hupari, district Kolhapur.
- (5) Wooden Toys at Savantvadi, district Ratnagiri.
- (6) Coir Ropes at Achare, district Ratnagiri.
- (7) Glass Bangles at Tarapur, district Thana.
- (8) Musical Instruments—flute, at Amravati, district Amravati.

For various reasons it has not been possible for the Maharashtra Census Office to strictly follow the scheme referred to by the Registrar General, India, in his "Foreword". The prescribed village schedules could not be canvassed and, therefore, statistical tables based on the villagewise statistical survey covering all household industries with special emphasis on rural arts and crafts were not prepared. The scope of the study was restricted to (i) collection of data on important aspects of crafts, *viz.*, sources of raw material, fuel, service condition, wages, processes involved in manufacture, market for finished products etc., at the selected centres only from the manufacturing establishments and households connected with the selected crafts and (ii) tabulation of data regarding household industries including arts and crafts from columns 4 to 8 of the Census Houselists according to a codified list of Common Household Industries prepared by the Registrar General's Office on the basis of the Indian Standard Industrial Classification. The data collected under the former formed the basis of the monographs on eight selected crafts and the tables prepared from the Census Houselists showing for each village, taluka and district the distribution of establishments and workers of different household industries classified upto minor group codes of the Indian Standard Industrial Classification are published in Part II of the District Census Handbooks.

We are very much grateful to Shri Asok Mitra, Registrar General, India, for his encouragement and inspiring guidance to us in various Census assignments including the Rural Craft Studies. Our thanks are due to Dr. Roy Burman, Officer on Special Duty, and Mrs. Ruth Reeves of Handicrafts Section of the Registrar General's Office for their valuable suggestions to improve the Monograph.

During the period when the survey of this craft was undertaken valuable assistance was rendered to us by Shri A. M. Mulherkar, Tassar Superintendent, Armori, district Chanda, who supplied the first 6 photographs printed in this Volume. The office bearers of the "Shuddha Kosa Khadi Weaver's Co-operative Society, Ltd., Ganeshpur" as also the Deputy Registrar, Co-operative Societies, Bhandara and Block Development Officer, Bhandara, helped in securing the necessary co-operation from the craftsmen families.

The survey was conducted by Shri V. B. Aradhye, Statistical Assistant, under the supervision of Shri N. Y. Gore, Tabulation Officer. The maps and line drawings appearing in this Monograph are prepared by Shri S. Y. Pradhan, draughtsman. The entire work of the survey of selected handicrafts was carried out under the guidance of Sarvashri G. G. Laulkar and V. B. Sawant, Deputy Superintendents of Census Operations.

BOMBAY :  
5th April 1966

D. V. RANGNEKAR





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## CHAPTER I

### INTRODUCTION

The use of woven cloth as a garment for the body is known from very ancient times in every civilized country and the ancients were thoroughly conversant with the art of weaving even in those early days. India probably was the first country to attain perfection in the art of weaving. "Indian textiles have been famous from remote ages. Cotton was known to the Babylonians as *sindhu*, to the Greeks as *sindeon* and the natural inference as to its origin was confirmed by the discovery at Mohenjo-Daro, in the Sind valley, of true cotton (*Gossypium*) fabric dating from the 3rd millennium B. C."\*

Silk is described as :

"a fibrous substance produced by many insects, principally in the form of a cocoon or covering within which the creatures are enclosed and protected during the period of their principal transformations; the webs and nests, etc., formed by spiders are also of silk. But the fibres used for manufacturing purposes are exclusively produced by the mulberry silk-moth of China, *Bombyx mori* and a few other moths closely allied to that insect".†

Ganeshpur, a village in Bhandara taluka of Bhandara District, lies a few furlongs south of Bhandara Town, the district headquarters. It has an area of 0.9 sq. miles with a population of 2,208 as per 1961 Census. The distribution of this population into workers and non-workers, the former by 9 broad industrial categories of workers, is given in the table below.

It will be seen that as many as, 442 or 20.02 per cent of total population or 43.76 per cent of total workers of the village are engaged in Household Industry in which the handloom weaving (Kosa Silk) plays an important role giving employment to 190 persons (96 males and 94 females).

The cloth that is produced at Ganeshpur is a silk cloth manufactured by the interweaving of silk filaments which are obtained from cocoons. This cloth is locally called as "Kosa Silk" cloth, probably because the word Kosa (कोष) means 'Cocoon' in local language. Silk weaving is not new to the people of Bhandara District. It was thriving in the district as far back as in 19th century. In the

*Distribution of Population of Ganeshpur, by Sex and by nine Broad Industrial Categories of Workers and Non-Workers.*

Category of Workers (1)	Population			Column 2 expressed as percentage of total Population (5)	Percentage of workers in each category to total Workers (6)
	Persons (2)	Males (3)	Females (4)		
I As Cultivator ..	140	86	54	6.34	13.86
II As Agricultural Labourer	98	21	77	4.44	9.70
III In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting, etc.	19	16	3	0.86	1.88
IV At Household Industry	442	199	243	20.02	43.76
V In Manufacturing other than Household Industry.	57	56	1	2.58	5.65
VI In Construction ..	22	22	..	1.00	2.18
VII In Trade and Commerce	23	20	3	1.04	2.28
VIII In Transport, Storage and Communications	8	8	..	0.36	0.79
IX In Other Services ..	201	144	57	9.10	19.90
Total Workers ..	1,010	572	438	45.74	100.00
Non-Workers ..	1,198	534	664	54.26	
Total ..	2,208	1,106	1,102	100.00	

\* Encyclopaedia Britannica, London, Vol. 22, page 11 (1959). † Encyclopaedia Britannica, London, Vol. 20, page 663 (1959)

*Imperial Gazetteer of India* (1886), it is stated that "in the town of Pauni a considerable trade still takes place, however, in cotton cloth and silk pieces; and the finer fabrics manufactured at Pauni are exported to great distances." \*

"In 1871 it had a silk population of some 1,500, and very much the same number in 1881. These figures include tasar workers, of whom until recently there were many in Bhandara. But in the present year (1901) it is reported that there are 950 houses, or at least 4,000 people engaged in the industry. The towns of Pauni and Andhargaoon have long been homes of mulberry silk weaving, and at the present day there are silk-workers in the towns of Bhandara and Mohali also." †

Though Bhandara is so close and Pauni is not very far off (28 miles) yet the craft was introduced in this village for the first time some time in 1935, as per local enquiry. Before 1935, the Kosa yarn was used in the borders of 'sarīs' which were woven in the village. However, this was discontinued in 1930-32 and the weavers of the village took up the weaving of pure Kosa cloth. The pioneers in this respect were two persons, viz., Shrawan Nandanwar and Marotrao Sonkusre. They imported this skill from village Mauda in Nagpur District, at a distance of 16 miles from here. The craft gradually expanded and reached its peak some time in the year 1958-59. According to local enquiry the number of looms engaged in the manufacture of silk weaving in different years was as under :—

Year	Number of looms		
1935	..	..	2
1938	..	..	6
1942	..	..	15
1947	..	..	20
1948	..	..	30
1952	..	..	40
1956	..	..	50
1958	..	..	60
1963	..	..	56

Source : Local enquiry

Ganeshpur is connected to Bhandara by a road and was electrified on 26th January 1955. It has a

primary school and a village Gram Panchayat. The village population comprises Hindus, Buddhists and Muslims. The percentage of Hindus is very considerable. Among the Hindus the members of Koshti, Teli, Maratha, etc. castes are prominent. The craft of Kosa Silk Weaving at Ganeshpur is, however, entirely monopolised by Koshtis of the village whose traditional occupation is that of spinning yarn and weaving cotton cloth. The following extract taken from a book by Mr. Russell and Mr. Rai Bahadur Hira Lal gives a vivid account of the origin, customs, manners, etc. of this caste :—

"The Maratha and Telugu caste of weavers of silk and fine cotton cloth. They belong principally to the Nagpur and Chhattisgarh Divisions of the Central Provinces . . . . . Koshti is the Marathi and Salewar the Telugu name. Koshti may perhaps have something to do with *Kosa* or *tasar* silk; Salewar is said to be from the Sanskrit *Salika*, a weaver, and to be connected with the common word *sari*, the name for a woman's cloth; while the English 'shawl' may be a derivative from the same root. The caste suppose themselves to be descended from the famous Saint Markandi Rishi, who, they say, first wove cloth from the fibres of the lotus flower to clothe the nakedness of the gods. In reward for this he was married to the daughter of Surya, the Sun, and received with her as dowry a giant named Bhavani and a tiger. But the giant was disobedient, and so Markandi killed him, and from his bones fashioned the first weaver's loom. The tiger remained obedient to Markandi, and the Koshtis think that he still respects them as his descendants; so that if a Koshti should meet a tiger in the forest and say the name of Markandi, the tiger will pass by and not molest him; and they say that no Koshti has ever been killed by a tiger. On their side they will not kill or injure a tiger, and at their weddings the Bhat or genealogist brings a picture of a tiger attached to his sacred scroll, known as *Padgia*, and the Koshtis worship the picture. A Koshti will not join in a beat for tiger for the same reason; and other Hindus say that if he

\* The Imperial Gazetteer of India, Vol. XI p. 120, 1886.

† Silk Fabrics of the Central Provinces by F. Dewar, Esq., M.A. (Edin.), I.C.S. *Journal of Indian Art, and Industry*, Vol. X, October, 1904, London, p. 9.

did the tiger would single him out and kill him, presumably in revenge for his breaking the pact of peace between them. They also worship the Singhwahini Devi, or Devi riding on a tiger, from which it may probably be deduced that the tiger itself was formerly the deity, and has now developed into an anthropomorphic goddess.”\*

The caste have several sub-divisions of different types. The Koshtis of Ganeshpur belong to Gadeval sub-division.

This survey of “Kosa Silk Weaving” was undertaken in the month of February, 1963, to assess the present position of the craft. The study was

confined to village Ganeshpur only and to all the establishments engaged in the production of Kosa Silk cloth in that village. An effort is made to give a detailed account of the craft since its inception, raw material used, manufacturing process, cost of production, marketing of the product etc. However, on account of paucity of any published literature we had to restrict the scope of the survey and at many places had to depend fully on oral information that was tendered by the entrepreneurs and individual craftsmen. Further, certain conclusions drawn after the study are based mainly on the interviews of the households engaged in the craft. The data contained in the report refer to the year 1961-62.

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\* “The Tribes and Castes of the Central Provinces of India” by R. V. Russell and Rai Bahadur Hira Lal, Part II, Vol. III, pp. 581-82 (1916).

## CHAPTER II

### TECHNIQUE OF PRODUCTION

#### Tools and Implements.

Most of the tools and implements used in the weaving of Kosa Silk cloth are the same as those in use in the weaving of cotton cloth on Handloom. The loom, the shuttle, winding wheel, bobbins, etc., are used in this craft also. Besides these, there are few tools which are exclusively used in this craft, viz., (i) Natwe, (ii) Pahate and (iii) Kathani.

A few tools like Natwe, Pahate, Kathani and also the loom are locally manufactured while others such as shuttle and bobbins are purchased at Nagpur or Bhandara.

The description of the important tools and implements in use in the Kosa Craft is given below :—

(1) *LOOM*.—The loom that is used in the weaving of Kosa Silk cloth at Ganeshpur is the “fly-shuttle loom”. In the beginning of the weaving industry “throw-shuttle loom” was in vogue. The “fly-shuttle loom” is an improvement over the “throw-shuttle loom”. In case of Kosa Silk weaving at Ganeshpur two types of “fly-shuttle looms” are used, viz., (i) for weaving plain cloth, i.e., where there is no design to be woven and the warp and the weft are of Kosa yarn only and (ii) for weaving cloth with design where the weft consists partly of Kosa and partly of artificial silk or rayon yarn. The only difference between the two types of looms is the arrangement (which is operated by the weaver with the help of his left hand thumb) by which two shuttles carrying different weft yarns can be thrown across the shed of the warp sheet one after the other, in order to get the design. Both the types of looms, however, are pit-looms. The loom consists of the following main parts :—

- (a) Sley and Reed ;
- (b) Heddles or ‘Bais’
- (c) Warp beam ;
- (d) Cloth beam ; and
- (e) Lease rods.

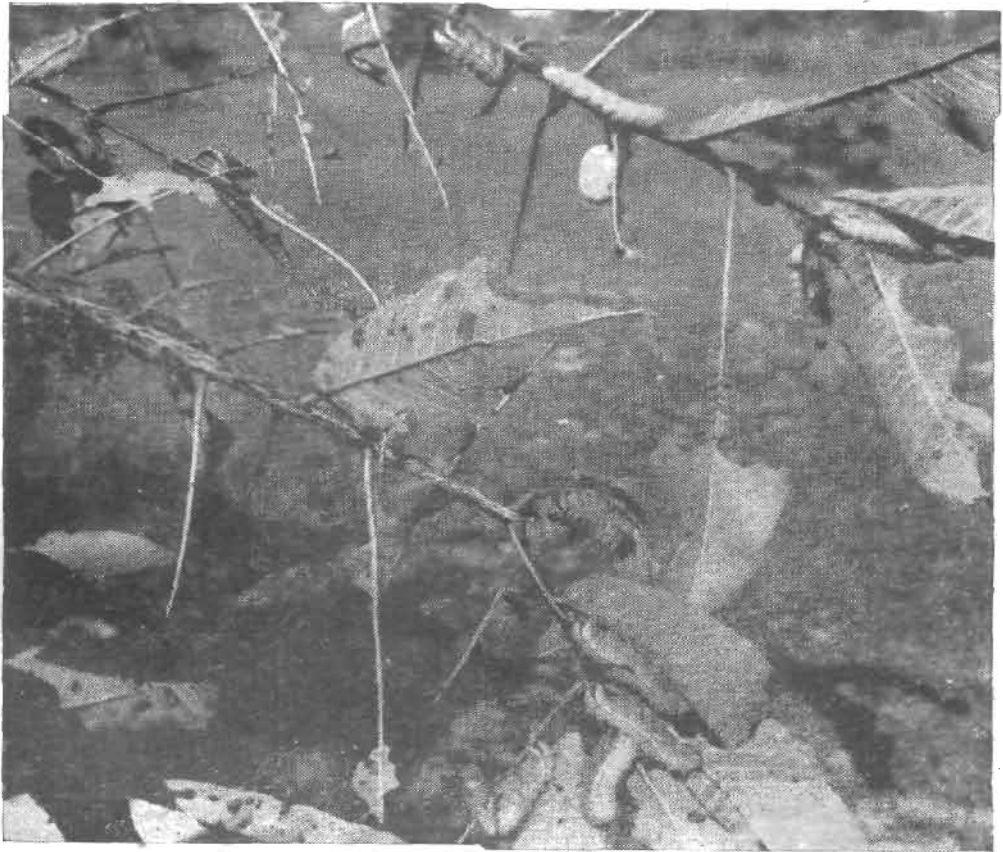
(a) *Sley and Reed*.—The function of sley is to bring the weft thread, what is technically called,

to the “fell” of the cloth after it has been passed through the shed of the warp threads along with the shuttle. The sley is a frame of teak wood holding the bamboo reed and is operated by the weaver generally by his left hand.

Reed is locally called “*Phani*” as it is comb-like and is adjusted over the loom in a vertical position. It is comprised of small Bamboo sticks about 4” to 4½” in length fixed vertically at regular intervals in two wooden ribs measuring about 36” in length. The interval between the two sticks depends upon the count of yarn used in weaving the cloth. According to local measurements, a reed of 30” width has 22 ‘Punjas’ and the number of ‘Punjas’ determines the cost of the reed. In Ganeshpur the rate at which reed is sold to weavers is Re. 1 per ‘Punja’. Thus a reed of 22 Punjas will cost Rs. 22. The manufacture of reed is not done by the weavers of Ganeshpur but they purchase it from Nagpur or Bhandara.

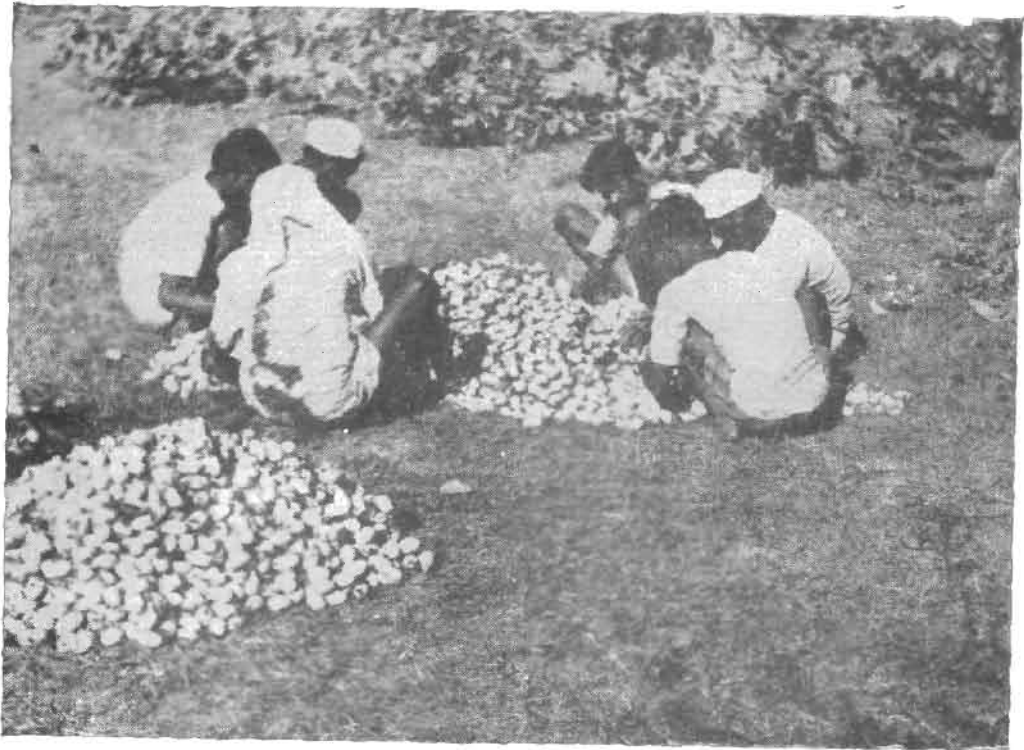
(b) *Heddles or ‘Bais’*.—The heddle consists of separate loops of thread passed through two Bamboo sticks which are held horizontally one over the other at a distance of 5” apart in such a way that the loop from one stick passes through that in the other. The heddles are adjusted on the loom just after the reed and the warp threads, before they pass through the reed, pass through the heddles. The heddles move up and down by means of pedals at the foot of the weaver and are operated by the weaver with his feet. The pedals are connected to the Bamboo sticks overhead which hold the heddles by means of strings.

In Ganeshpur the weavers use 2 heddles only. The weaver has to give 1000 yds. of thread (Horse Brand Reel No. 30) costing about Rs. 1.75 for 2 heddles as can be used in weaving cloth of 30” width. The person preparing the heddles has also to be paid 2 annas per Punja by way of labour charges. Thus for a heddle of 22 Punjas the labour cost would be Rs. 2.75 The total cost of 2 heddles would



*A twig of 'Ain' tree showing full grown larvae and leaves eaten by them. A cocoon formed by a larva is also seen*





*Seed Cocoons sorted from the harvested lot*



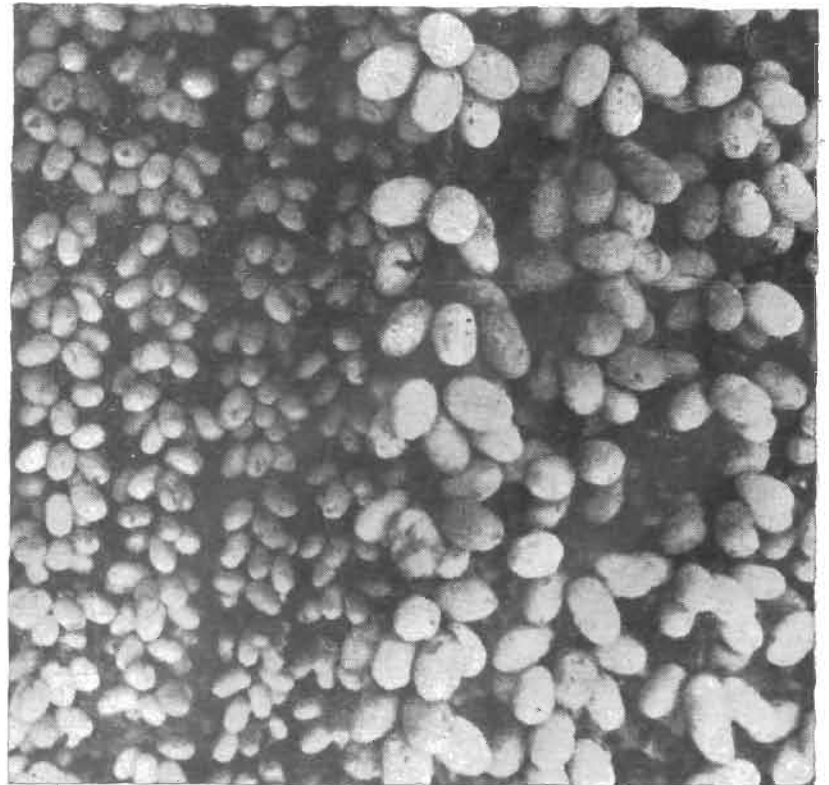
*Stifled Cocoons spread for sun drying.*



*Stifled Cocoons by vapour application spread for sun drying.*



*Dried reeling Cocoons, ready for sale, formed into heaps.*



*Selected seed Cocoons in the form of garlands.*



*Extracting of yarn from boiled Cocoons.*



*Winding the Kosa yarn on bobbins.*



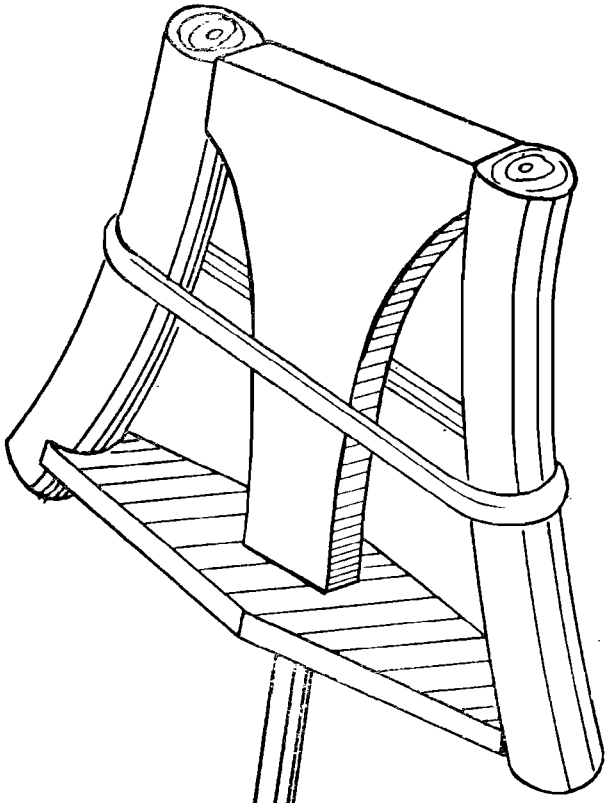
*Twisting of the Kosa yarn.*



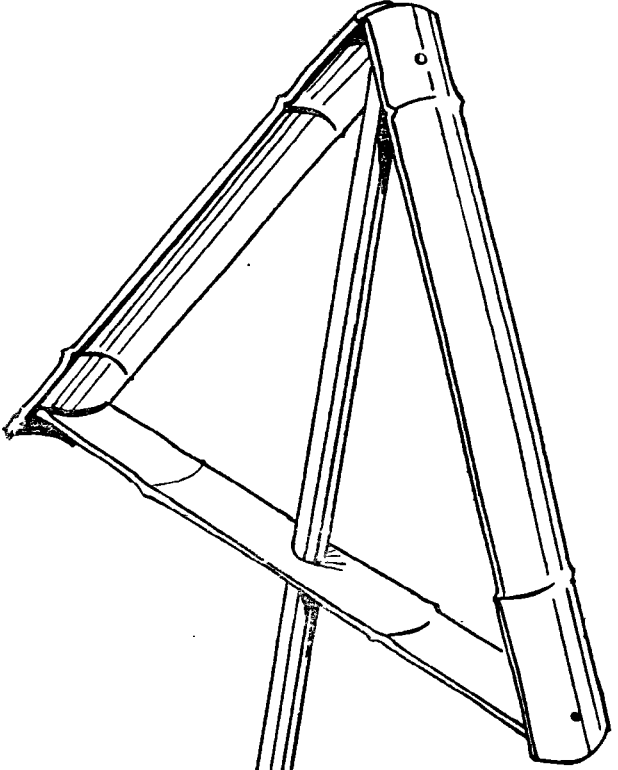
*Cleaning of stretched warp.*



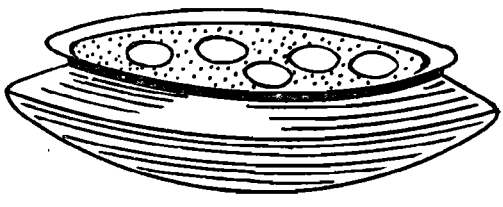
*The weaver at his pit-loom.*



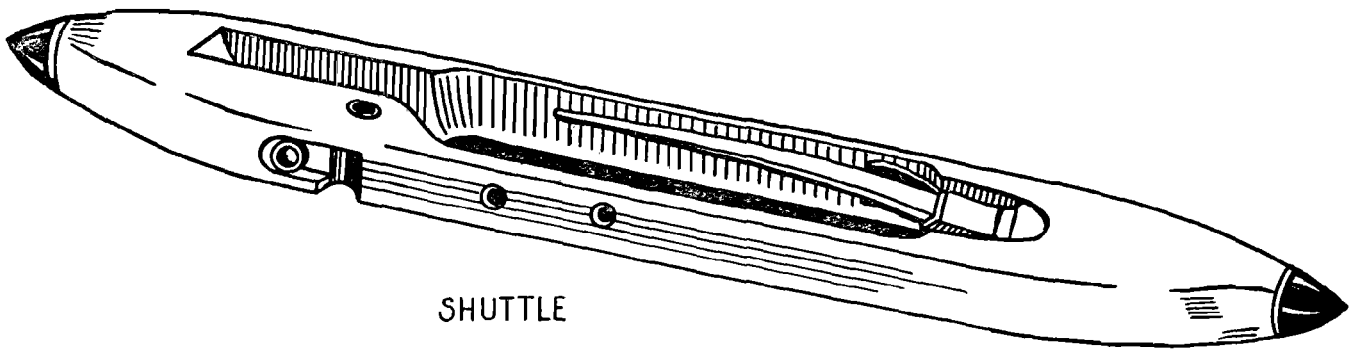
NATWE



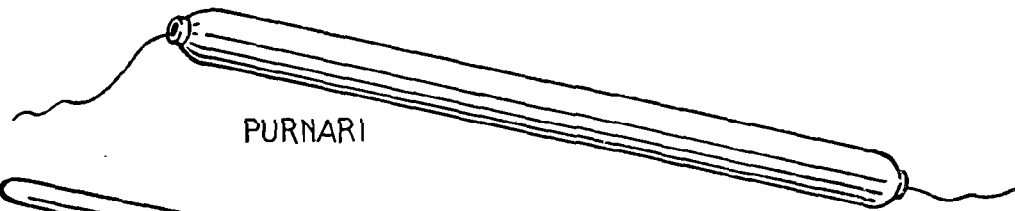
PAHATE



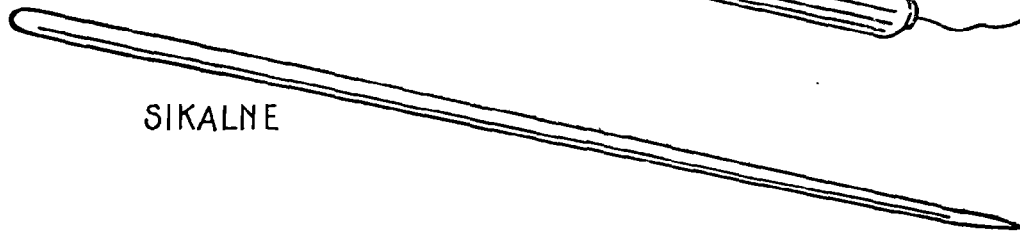
KATHANI



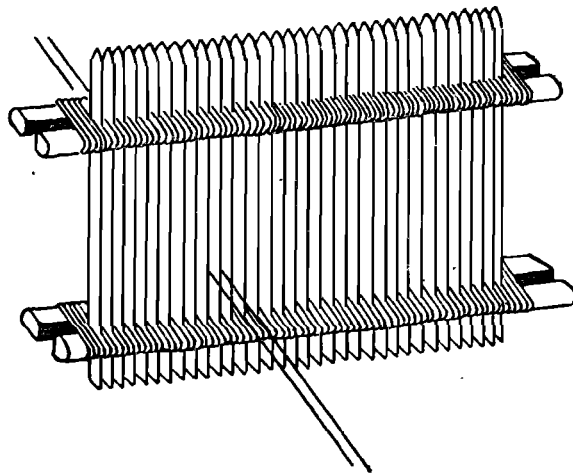
SHUTTLE



PURNARI



SIKALNE



REED  
(A PORTION)



thus come to Rs. 7.25. The two heddles are placed one after the other and the warp threads are passed through the upper half of the heddles in such a way that at a time only one thread is passed through the upper half of only one of the two heddles, the next thread being passed through the upper half of another heddle and the process continues alternately till all the warp threads are passed through either of the two heddles.

(c) & (d) *Warp and Cloth Beams*.—Of the two beams, warp and cloth, the former is away from the weaver in the front and the latter is just near the weaver's seat and is used for winding the woven cloth.

(e) *Lease Rods*.—Lease rods are pieces of wooden stick inserted through the warp at regular intervals primarily to maintain the tension of the threads and prevent them getting inter-mixed.

Besides the loom and its parts, other implements required in the craft are : Pahate, Kathani, Natwe, winding wheel, big winding wheel and shuttle.

(2) *PAHATE*.—A wooden rod about 12" to 14" in length is passed through the centre of a Bamboo chip about 6" in length and two Bamboo chips are fixed at its ends and joined at the top of the wooden rod by a nail. The tool is used for receiving superficial fibres on the cocoons which do not give a continuous thread. It is locally manufactured and costs Re. 0.50.

(3) *KATHANI*.—It is an earthen pot (rather flat) of average size, the diameter of the mouth being about 12". The pot is filled either with cowdung ash or ash of firewood and the ash is firmly pressed by occasionally splashing water over it. The pot is filled with the ash up to its neck and the top portion is made smooth and evenly flat by smearing it with a thin layer of cowdung and water. Once the top portion is smooth it is allowed to dry. The 'boiled' cocoons are placed on this hardened top of the pot while extracting yarn from them. The dry ash absorbs the water contents, if any, in the cocoons. It costs about Re. 0.25.

(4) *NATWE*.—A wooden rib about 6" in length is fixed vertically at the centre of another wooden rib of about same length. Two wooden rods of about same length are fixed at the two ends of the second rib and they are joined to the first rib at the top. At the bottom of the second rib a hole is made to pass an iron rod which serves as a handle. The Natwe is used for winding the Kosa yarn drawn from the cocoons before its transfer to the bobbins with the help of the winding wheel.

(5) *WINDING WHEEL*.—The winding wheel has a wooden wheel fixed on a wooden stand with a handle attached to it. As the handle is rotated the wheel attached to it also rotates. At the other end of the stand, opposite to the wheel, a small wheel with a pin at its centre is mounted and a cord is passed over the two wheels. The pin is meant to receive bobbins on which the yarn from the Natwe is transferred. As the handle of the big wheel is moved the wheel rotates and along with it the small wheel holding the bobbin, and the Kosa yarn from the Natwe at the left of the worker, gets wound on the bobbin.

The winding wheel is locally manufactured and costs about Rs. 10.

(6) *THE BIG WINDING WHEEL*.—This is locally known as 'Charkha' and consists of three parts :—

- (i) A big wheel,
- (ii) A bobbin frame, and
- (iii) A drum (Dhol).

There is a big wheel and in its centre a handle is fixed which can be rotated by hand. A number of thread belts connect the axle of the wheel to the spindles on the bobbin frame in front of the wheel. One more thread connects the axle of the wheel to the drum or *dhol* beyond the bobbin frame. As the handle of the wheel is rotated, the big wheel rotates thereby rotating the spindles and the drum attached to it by thread belts.

The bobbin frame consists of two wooden bars to which 14 spindles are attached. Filled-in bobbins of Kosa Silk are mounted on these spindles for



the purpose of giving the yarn a twist before use as warp. The frame holds 14 steel spindles and they are connected to the wheel by thread belts.

The drum or *dhol* is mounted on two upright posts beyond the bobbin frame. It is made of Bamboo strips tapering at the end. It is about 6 feet in length and 2 feet in diameter. It is made to revolve with the help of the cord

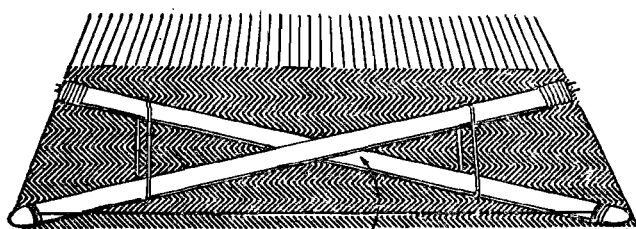
The big winding wheel with drum attached is used for twisting the warp thread.

(7) *SHUTTLE*.—It is called “Nari” in local language and is made of teak wood. Its ends are covered by means of brass plates. A hollow is carved in the middle of the shuttle and a steel rod is fixed at one end of it to hold the brass weft bobbin. The weft yarn passes through the eye of the shuttle to the other side of the hollow. The shuttle is very smooth and passes through the shed of the warp when it is pushed by pulling a string. The shuttle costs about Rs. 1.50 to 2.00 per piece.

Besides the above tools there are also other minor tools which are described below:—

(a) *Kansari (Temple)*.— It consists of two Bamboo sticks about 40” in length. At one end of each stick pointed pins are attached and the other ends in both are connected by a string. The Kansari is adjusted on the woven cloth by piercing the pointed ends at the two extremities of the woven cloth. The implement is used for keeping the woven cloth stretched on the loom. It is taken out when the woven cloth is wound on the beam and is again fixed immediately after the fell of the cloth.

The following Figure shows the Kansari fixed to the woven cloth:—



KANSARI

(b) *Sikalne*.— It is a pointed round stick-like a thick steel needle used for cleaning the warp before the weaving is started.

(c) *Natai*.—It is a Bamboo swift on which the hanks are deposited to facilitate preparation of the warp.

#### Raw Material

The main raw material in the manufacture of Kosa yarn is cocoons which are purchased from the producers at Nisti, Tadgaon, Pauni in Bhandara District or from the cocoon rearing areas of Chanda District like Armori in Gadchiroli taluka. The weavers either visit these places personally and purchase the cocoons or the merchants purchase them in the forest and after an initial first processing bring them to Ganeshpur and sell ‘dry’ cocoons to weavers. count.

The other materials which are used in the craft are mercerised yarn and cotton yarn of different

The monthly requirements of raw materials and other accessories for one establishment with two looms working for 25–26 days in a month are given below:—

Raw material, auxiliary material, fuel etc.	Quantity		
	Unit	No. of units	Cost Rs.
(1) Cocoons	Thousand	4	130.00
(2) Art Silk yarn	Lb.	2	42.00
(3) Mercerised yarn	Lb.	0.20	27.00
(4) Cotton yarn	Lb.	0.25	24.00
(5) Washing Soda	Kg.	5.50	0.37
(6) Washing Soap	Cake	2	0.50
(7) Firewood	Maund	2.50	5.00
(8) Rice (as a starch)*	..	..	..
		Total..	228.87

The yearly requirement of the raw material and other accessories of the craft in Ganeshpur thus, comes to Rs. 80,000 to Rs. 85,000. The monthly requirement is almost constant except in the rainy season when the production of cloth is less. This is partly due to the fact that the stretching of the warp etc., which is done in the open space is not possible in the rainy season, and partly due to the fact that the workers are busy with transplanting and other agricultural operations.

\* Rice required for the starch is not purchased. The water of the boiled rice, used in daily consumption of the household, is used as a starch and hence no cost is mentioned.

### Manufacturing Process

The most important element in textiles is yarn which is made from fibres, slender thread-like filaments. These materials have diversified properties and characteristics. They differ not only in appearance but also in strength, durability, lightness, warmth, coolness, etc. These factors are important to a handweaver since these properties have a bearing on the use of the yarn and its suitability for certain fabrics.

These fibres can be procured from some of the following sources :—

(1) *Natural*.—The natural fibres can be divided into two groups :—

(a) *Vegetable origin*: It includes cotton, linen, hemp, jute, coir, etc.

(b) *Animal origin*: This group is the origin of wool, silk and hair fibres.

(2) *Synthetic*.—Such as rayon, nylon, etc.

In this report we are mainly concerned with silk weaving. This silk fibre is procured from cocoons, the rearing of which takes place at Pauni, Nisti, Tadgaon of Bhandara District, and also in the adjoining Chanda District. Before we take up the different stages involved in the weaving of Kosa cloth, it will be interesting to describe the rearing of cocoons which is primarily done in Armori village of Chanda District. The process is described below :—

Tasar silk worm is a wild variety of silk producing insects and feeds mainly on the leaves of Ain (*Terminalia tomentosa*) and Arjun (*Terminalia arjuna*) which are found in abundance in the forests of Bhandara and Chanda districts. Besides the abovenamed food plants, the worm is also known to feed on the leaves of Ber (*Ziziphus jujuba*), Jambhul (*Eugenia Jambolana*), Sal (*Shorea robusta*) and a few other plants. However, they thrive best on the leaves of Ain tree (*Terminalia tomentosa*).

The rearing of worms is the most important, delicate and difficult phase of the Kosa craft. This phase of the craft has to handle millions and millions of worms easily susceptible to changes in environmental conditions and certain diseases. Moreover it is very essential to use examined disease-free eggs for rearing.

Rearing is mostly done by Dhimars (a caste) and other aboriginals such as Nayaks. The Tasar (another name for Kosa) rearing season commences in the month of June every year when, after one or two showers, the moths begin to emerge out of the seed cocoons. Pairing or coupling of male and female moths is done thereafter and then the females are allowed to lay eggs in a small bamboo basket. Each female is capable of laying about 200 to 250 eggs. The eggs are usually kept in a cup prepared out of the leaves of Char tree. On the ninth day tiny larvae come out of the eggs in the morning. Immediately thereafter the leaf cup containing the larvae is tied to a branch of an Ain tree and the larvae crawl upon the leaves and begin eating them. After 4–5 days the larvae grow in size and change in colour and settle for moulting i.e., casting off their old skin. During moulting, the larvae stop taking their food for 24 hours and when the old skin is cast off they begin eating the leaves again. The larvae period lasts for 30 to 40 days depending upon the season and during this period the larvae moult or cast off their skin four times.

After each moult the larvae grow bigger and bigger in size and after the fourth i.e., the last moult they take food for about 10 to 12 days and when the silk glands mature, they stop taking food and finding a suitable place on the tree begin to eject silk filament through their spinneret and encase themselves into a silk covering which we call cocoons, which are then harvested.

Usually three crops are taken annually. The first in July–August; the second in September–October and the third, i.e., the commercial crop,

is reared in November–December, every year. The cocoons from the first crop serve as seed cocoons for the second crop and the cocoons from the second crop serve as seed cocoons for the third or industrial crop. The cocoons harvested from the 3rd crop are stifled by applying vapour to them and after drying they are sold as reeling cocoons to the Kosa reelers and weavers.

Once the entire year's quota of cocoons is purchased by the weavers they are subjected to undergo further processing before extracting the yarn. The weaver determines the quantity of cocoons required for a given amount of cloth to be woven. He then picks up the required number of cocoons for a day's work, say 100 or 125 from his godown or store-room where hard cocoons, are kept in jute gunny bags. The cocoons, as the weaver receives them, are gritty. The weaver's first job is therefore to soften them and make them suitable for spinning. They are first dried in the Sun and then "steamed" or boiled. An earthen pot of medium size (say 2' high and with a diameter of 1' at the base) is taken and inside it 3 to 4 sticks are placed across each other. Sufficient water is poured in the pot so that the sticks get merged. A layer of "linseed sticks" is then arranged on the sticks placed at the bottom and dry cocoons are placed on them. A little quantity of washing soda and soap is added to the water in the pot which is then covered with an earthen lid and kept on a hearth for heating. The pot is turned every 15 minutes or so, so that the cocoons should receive uniform heat. It is ascertained at regular intervals that the water at the bottom of the pot is not completely exhausted. After about 2 hours or so the pot is removed from the hearth and the steamed cocoons are deposited in another vessel and covered with a lid. The yarn is then extracted from these cocoons with the help of a 'Natwe'.

The manufacture of 'Kosa cloth' comprises the following stages:—

- (i) Extracting of yarn from the cocoons ;
- (ii) Winding ;
- (iii) Twisling of warp yarn ;
- (iv) Peg warping and warp preparation ;
- (v) Weft preparation ; and
- (vi) Weaving and sleying.

Each stage is described below:—

(i) *Extracting of yarn from the cocoons.*—The extracting of yarn from the steamed cocoons is generally done by women. The yarn is used both for the warp and the weft. The upper layer of the steamed cocoons, which is very soft and does not give continuous thread is first removed and deposited on the 'Pahate'. Once the thread starts coming out of the cocoon, the "Peeling" process is discontinued. Six to seven such cocoons whose upper layer have been peeled off are placed on the *Kathani* and one thread from each of them is drawn by the left hand, a twist is given to them so that they form into one thread which is then wound on the 'Natwe' which is kept rotating in the right hand by the worker with the help of the iron rod fixed at its bottom. The twist is given by the worker to the threads emerging from cocoons by rolling them on the left thigh. Normally 200 yards of yarn, twisted as above, is obtained from six to seven cocoons and it generally takes about 8 hours to extract yarn from 100–125 cocoons, i.e., about 3,000 to 4,000 yards of yarn is spun in a day. The process requires some skill since the filaments are delicate.

The photograph on page 9 shows the above process in working.

(ii) *Winding.*—In this stage the yarn from the 'Natwe' is transferred to the bobbins. The iron handle of the Natwe with the yarn on, is tied to the seat of the weaver's small cot in such a way that the upper portion of the Natwe where the yarn is deposited is well outside the 'cot'. The worker then takes the winding wheel and fixes bobbins or Kandis to the iron rod fixed at the centre of the smaller wheel and with the help of the handle of the bigger wheel rotates the two wheels and along with them the bobbins (or Kandis). The yarn from the Natwe is thus transferred on to the bobbins and the required number of bobbins are "filled".

The photograph on page 9 shows the above process clearly.

(iii) *Twisting of warp yarn.*—The yarn spun out of the cocoons which is ultimately used as warp undergoes a further process of "twisting" in which the yarn from two bobbins is "twisted" together so as to form a single thread. The process of

“twisting” the warp yarn is done with the help of a big winding wheel and after twisting, the twisted yarn is transferred to the “Dhol” which is placed horizontally in the front of the winding wheel and connected to it by means of a cord.

The filled-in bobbins are first fixed on the spindles, generally 14, in the bobbin frame and the ends of the yarn from each bobbin are passed through eyelets which are fixed to a wooden plate which is held by the worker in his hand. The eyelets are made of glass. In fact they are bracelet which are 7 in number. The yarn from the bobbins is passed through the eyelets in such a way that the yarn from bobbins Nos. 1 and 2 passes through the first eyelet, that on 3rd and 4th through the second, that on the 5th and 6th through the 3rd and so on. Thus the yarn from the 14 bobbins is ultimately passed through 7 eyelets. When the big wheel is rotated, the smaller ones rotate too and the ‘Dhol’ also rotates along with them. The two threads passed through each eyelet get a twist and forming a single thread get deposited on the ‘Dhol’. Thus the yarn gets wound at seven different places on the ‘Dhol’ in the shape of hanks. The yarn which is deposited on the ‘Dhol’ is then removed and bobbins are again filled with it. These filled-in bobbins are then fixed in the bobbin frame and the yarn from them is re-transferred to the ‘Dhol’. But this time no eyelets are used. The yarn is then starched in water of boiled rice cooked for daily consumption and kept in the sun for drying.

(iv) *Peg warping and warp preparation.*—The preparation of the warp is an intricate process and it is difficult to describe it. It is a work of a master-craftsman and hence many weavers of the village purchase the warp from others.

An attempt is made here to describe the process in the following paragraphs :—

The hanks of starched yarn are transferred to the *Natai*, a bamboo swift mounted on a vertical peg, which is free to rotate as the yarn is unwound in the course of preparing the warp. The warp is

prepared by “peg warping” method. Peg warp comprises a wooden frame with six pegs on one side and five on the other fixed vertically, and a wooden hollow rod, called *Purnari*, of the size of a fountain pen is used to carry the yarn round the pegs.

The yarn from the *Natai* is first passed through the hollow rod, *Purnari*, and wound round the pegs in a definite order, i.e., from 1st peg on one side to the 1st peg on the opposite side and from there back to the 2nd peg of the first side and then to the 2nd peg on the other side and so on till the sixth peg on 1st side is reached. At this stage the yarn is wound in the reverse direction and the process is continued till the desired length of yarn is wound round the pegs. When this process is completed, the yarn on the pegs is wound round the thumb and the little finger of the right hand and after an intricate process of stretching the warp is prepared.

Before the warp is put on the loom, it has to be stretched and threads of the warp are to be passed through two heddles and the reed. Since the number of heddles used in the craft of Kosa Weaving at Ganeshpur is only two and no intricate designs are woven in the cloth the passing of the threads of the warp through the heddles and the reed is not so difficult a task as in cases where intricate designs are introduced. The warp threads are first passed through the upper loops of the two heddles alternately, i.e., if the 1st thread is passed through the 1st heddle the 2nd is passed through the 2nd and the 3rd again through the 1st heddle and 4th through the 2nd heddle and so on till all the threads are exhausted as stated earlier. By this arrangement when the weaver presses the pedal at his feet one heddle goes up, the other remaining stationary and thus a shed is created through which the shuttle plies. When all the warp threads are passed through heddles and the reed, as above, the warp is stretched outside the workshop<sup>6</sup> and it is thoroughly examined and cleaned. In this process two persons work simultaneously and they see that no thread is intermingled with another thread, that there are no broken threads, and if there be any, they are joined together by twisting.

A tool, called *Sikalne*, is used for this purpose. As a portion of the warp is examined the heddles and the reed are moved forward and then the further portion of the warp is examined and so on till the end. In this manner the reed and the heddles are moved, slowly from one end of the warp to another and the warp is once again rolled on bamboo sticks and finally fixed on the loom. Loose threads are inserted horizontally in between the warp to determine the length of the cloth to be woven.

(v) *Weft preparation*.—The weft is also known as “the woof” and is a continuous thread and interlaces the warp at right angles to produce the fabric. It is usually softer than the warp and to keep it soft less twist is given as we have already seen. The weft which is used in the village is of three types :—

- (a) *Kosa yarn*.—It is obtained from the cocoons as described earlier.
- (b) *Cotton yarn*.—The cotton yarn of 80s counts is used as weft to weave mixed fabrics. At times, to produce thicker cloth double yarn is used as weft. It is purchased from Nagpur.
- (c) *Mercerised yarn*.—This yarn too is not purchased locally but from Nagpur or Bhandara.

The bobbins of yarn to be used as weft bobbins are filled in with the help of the winding wheel as seen earlier.

(vi) *Weaving and Sleying*.—When the warp is fixed on the loom, i.e., when the reed and heddles are adjusted the weaver commences his work of weaving the cloth. The weaver puts the shuttle containing weft bobbin in the shuttle box at his right and presses the right pedal with his right foot. When this is done the heddle attached to it goes up along with the warp threads passed through it. This separates the warp yarns into two “layers” and the opening so formed is called a ‘shed’. This shed ought to be large enough to enable the shuttle to pass through it smoothly. When the shed is formed the weaver pulls the string of the loom which connects the shuttle pusher with force in such a way that the shuttle passes swiftly from one end

to the other carrying with it the weft thread. When the shuttle reaches the other end the weaver brings back the sley so that the weft yarn is brought to the “fell” of the cloth. He then releases the pressure on the right pedal and presses the left one and once again the predetermined warp threads go up and a shed is formed. The shuttle which was resting at the other end of the loom is once again pushed by means of the string which is pulled by the weaver. The shuttle comes to its original position carrying with it the weft thread which is once again brought to the ‘fell’ of the cloth with the help of the sley. This process is continued till a sufficient length of cloth is woven when the weaver gives a turn to the cloth beam over which the woven cloth is wound. The weaver has constantly to watch the movement of the shuttle to see that the weft thread is passed through the shed correctly. Sometimes the thread breaks in the middle when the weaver stops the operation, joins the thread of the weft and again commences the work. The filled-in weft bobbins are always kept in water so that the thread gets an extra strength and does not break easily.

If the weaver is weaving plain cloth, i.e., when there is neither any design on the cloth nor is the weft other than Kosa yarn, the weaving is a simple one and the rate of weaving is fast. In such a case a weaver normally weaves 4 to 5 yards of cloth in a day. If, on the other hand, he is weaving a cloth with some design then the rate of weaving is slowed down. In fact the weaver has to use a different loom when he is weaving a cloth with design. In case of such looms, there are two shuttles which are kept in a box and by means of a device, which the weaver operates by the thumb of his left hand, he changes the shuttle without stopping the process of weaving. Thus if he wants to use weft of Kosa yarn and mercerised yarn, he takes 2 shuttles one of Kosa and the other of mercerised yarn and places them in a box-like apparatus which is so designed that at a time only one shuttle leaves the box while the other stays there. When one shuttle is passed through the shed and returns back to its original place, the weaver pulls the knob of the apparatus by means of his left thumb so that the shuttle which has just been plied is moved from its place and replaced by the other shuttle carrying a different yarn which plies through the shed. This process is repeated at prescribed intervals and the necessary design appears on the cloth.

**Articles and Designs**

The silk cloth produced at Ganeshpur is of two varieties, viz., plain Kosa Silk cloth where the warp and the weft yarn is of Kosa silk and another with some design wherein the warp is of Kosa yarn but the weft are not all of Kosa yarn but a mixture of Kosa yarn, mercerised yarn or cotton yarn. As the first variety of cloth is a costlier one the weavers at Ganeshpur have introduced artificial silk and mercerised yarn which are mixed with Kosa yarn in weaving.

The varieties of cloth commonly produced at Ganeshpur are :—

- (i) *Plain cloth*.— This variety has no design. The warp and the weft are of Kosa silk only.
- (ii) *Motha Choukada*.—This cloth is produced from a mixture of Kosa yarn and mercerised cotton yarn. There are bigger squares in this kind of cloth.
- (iii) *Lahan Choukada*.—This is same as (ii) above but the squares are smaller.

(iv) *Gunja Salai in colour*.—In this case, diagonal designs appear on the cloth along with coloured lines at regular intervals. The coloured lines are either green, blue or orange.

In addition to these designs the following designs also are produced which are however not so popular :—

- (a) Teen-dhari Choukada,
- (b) Popti,
- (c) Popti Teen Kadi,
- (d) Rasta Choukada.

The Wholesale Price of one yard of Kosa cloth is given below :—

Serial No.	Name of Design	Price per yard Rs.
1	Plain cloth (Pure Kosa)	.. 5.00
2	Motha Gunja	.. 2.59
3	Motha Gunja in colour	.. 2.59
4	Bareek or small Choukada	.. 2.50
5	Bareek or small Choukada in colour	.. 2.70
6	Teen-dhari Choukada	.. 2.69
7	Popti Choukada	.. 3.00

## CHAPTER III

### CRAFTSMEN FAMILIES

The craft provides gainful employment to 190 workers from 53 households at Ganeshpur. The population engaged in the craft can be divided into the following groups according to their status :—

(1) *Employer*.—An “employer” is a person who employs other persons in order to perform economic activity in which he is engaged. There are only 2 persons from 2 households falling in this category.

(2) *Employee*.—An “employee” is a person who usually works under some other person for salary or wages in cash or kind. There are 8 persons only (3 males and 5 females) from 5 households in this category.

(3) *Own account worker and Family worker*.—An “Own account worker” is a person who works for himself. He is neither employed by others nor does he employ others. Family workers are those who work, without receiving wages, in cash or in kind, in any industry conducted by the members of the family. The “Kosa Silk Weaving Craft” is mostly a household craft since 180 family workers (91 males and 89 females) are engaged in it.

It is interesting to note the high rate of female participation in this craft which is labour intensive.

Every establishment has its own workshop where all the processes involved in the manufacture of silk cloth are carried out. There are 46 households who fall under the last category, 38 of these have looms of their own and the rest, i.e., 8 do not possess any looms. These eight households are engaged only in extracting yarn from the cocoons and twisting it. They do not weave cloth.

The following table gives a picture of employment in the craft :—

No. of Looms	: 56		
No. of establishments	: 48		
No. of households engaged	: 53		
	Males	Females	
Persons engaged	: 96	94	
Employer	: 2	..	
Employee	: 3	5	
Family workers and own account workers.	: 91	89	

Age-wise composition of the total number of persons engaged in the craft is given below :—

(i) Adult males	... ..	46.32	per cent
(ii) Adult females	... ..	45.79	„ „
(iii) Children (0—14 years)	... ..	7.90	„ „

According to the number of working hours all the workers engaged in the craft can be divided into (i) Full time workers and (ii) Part time workers.

Adult males are generally full time workers and the type of work done by them includes weaving of cloth, preparation of the loom and many a time twisting of yarn.

The females generally do not work for full time as they have to attend to their normal domestic duties also. However their contribution to the craft cannot be under-estimated as will be seen from the number of females employed in this craft.

The same is the case with child labour. These workers do not take any direct part in weaving but attend to other preliminary work like filling the bobbins with weft yarn, etc., connected with the process of weaving.

As the craft is a hereditary one, attainment of any educational standard is not demanded or necessary for entry into the craft. The children, while they are still young, learn the various operations involved in the weaving of Kosa Silk cloth by observation and training. The percentage of literacy of the persons working in this craft is 50 per cent for males and *nil* for females as against the corresponding percentages for the village as a whole, viz., 58.6 per cent for males and 15.4 per cent for females.

Age.—The table below shows the distribution of the 190 persons in the craft, by broad age-groups. It will be seen therefrom that 86.84 per cent of the total persons are in age-group 15—59, 7.90 per cent are children below the age of 15 while the percentage of ‘old’ persons is 5.26 only :—

Age-group	Number of Workers			Percentage to the total
	Males	Females	Total	
0—14 ..	8	7	15	7.90
15—34 ..	43	54	97	51.05
35—59 ..	39	29	68	35.79
60 and above ..	6	4	10	5.26
Total ..	96	94	190	100.00

**Economic Conditions**

The economic condition of the workers engaged in a craft and of the households concerned depends on various factors like wages received, number of members in a household, number of earners and dependants, continuity of work, consumption pattern, indebtedness, etc.

The findings of the survey are summarised below :—

On the day of survey there were 53 households which were engaged in the craft and in them there were 201 earners and 132 non-earners. By simple calculation it can be said that each earner has got about 0.7 non-earning dependents to support. This low percentage of dependency is mostly due to a greater female participation in the work. Out of the total of 53 households engaged in the craft, 42 were exclusively engaged in silk weaving and this was the only source of their income.

The cost of production of a piece of pure Kosa Silk, 50 yds. × 30" comes to Rs. 226.37 as detailed below :—

Particulars	Man-days required	Rate of wages per day Rs.	Value Rs.
(1) Value of raw material, fuel, etc.	..	..	155.12
(2) Wages—	..	..	71.25
(i) Steaming of cocoons and reeling of yarn.	22	0.50	11.00
(ii) Winding the warp	4	0.50	2.00
(iii) Twisting the yarn	5	1.25	6.25
(iv) Peg warping ..	6	1.25	7.50
(v) Weft preparation ..	26	0.50	13.00
(vi) Preparing the loom and weaving.	21	1.50	31.50
	Total ..		226.37
	Sale Value ..		285.00

The sale value of cloth and silk waste at site is about Rs. 285 which gives Rs. 58.63 as the profits of the weaver including the sale proceeds of silk waste deposited on the Pahate, amounting to Rs. 15.00. Kosa Silk weaving is a family craft and so the return by way of imputed wages and the profits go to the family.

In the following table distribution of households by number of earners therein is given :—

	No. of Households	Percentage
TOTAL Households	.. 53	100.00
Households with—		
One earner	.. 2	3.77
Two earners	.. 9	16.98
Three earners	.. 18	33.96
Four earners	.. 8	15.10
Five earners	.. 7	13.21
Six earners	.. 9	16.98

Number of dependants per earner are given in the following table :—

No. of dependants per earner	No. of households	Percentage
Total	.. 53	100.00
Nil	.. 11	20.75
0-1	.. 26	49.06
1-2	.. 11	20.75
2-3	.. 3	5.66
3-4	.. 1	1.89
5-6	.. ..	..
6-7	.. 1	1.89

Thus a little more than 20 per cent households have no dependants and about 50 per cent households have less than one dependant per earner. Though this is an encouraging picture yet it does not mean that the weaver households are better off than other households in the village as the wages earned by workers in this craft are low. There is no large scale practice of employing hired labour as we have already seen. The imputed earnings of males, females and children working in the craft are as under :—

- (a) Adult male—Re. 1.00 to Rs. 1.50 a day.
- (b) Adult female—Re. 0.31 to Re. 0.50 a day.
- (c) Children—Re. 0.25 a day.

The low rates of wages result from the fact that the labour required for the craft is abundant because of non-technical character of many operations and is not to be recruited from the organised labour market but is generally drawn from the members of the family who would otherwise remain idle or will have to seek employment elsewhere.

The following table shows number of households :  
(i) who are engaged in the production of Kosa Silk



cloth only and have no other subsidiary occupation, (ii) whose main occupation is Kosa Silk weaving but have also another occupation as a subsidiary one and (iii) whose subsidiary occupation is weaving of Kosa Silk cloth while the main occupation is something else :—

Households engaged in	No. of households	Percentage
(i) Kosa Silk weaving only	42	79.25
(ii) Kosa Silk weaving as main and other occupation as subsidiary.	6	11.32
(iii) Kosa Silk weaving as subsidiary and other occupation as a main one	5	9.43
Total	53	100.00

79.25 per cent of households have no occupation other than Kosa Silk weaving. The subsidiary occupations followed by households of the abovementioned (ii) category are cultivation of land, retail trade in grocery articles, running of a hotel, etc. As regards (iii) category of households, one is having one of its members employed in a Government office, one household is an agricultural labourer and three households are engaged in retail trade in grocery.

#### Migration

There is no large scale in-migration of workers engaged in this craft. The in-migration of females

is more due to "marriage migration" and not because of "economic causes". The persons engaged in this craft are born in Bhandara District only and whatever migration there is, it is all inter taluka migration only. Since the craft is such that it cannot be followed by others without being in touch with it since early childhood, there is no possibility of other "communities" adopting the craft. The skill should be in "one's own blood", to quote the local saying.

#### Master Craftsmen

In every craft there are a few persons who have acquired a particular skill in the craft so well that their actions at work are worth watching. They execute their job very neatly and are, therefore, called "master craftsmen". In case of Kosa Silk weaving we find that the spinning of yarn from the cocoons and its weaving are two most important processes. The following persons can be considered as "Master Craftsmen" in weaving :—

- (1) Shri Maroti Nandanwar.
- (2) Shri Nandlal Sonkusre.
- (3) Shri Hari Nandanwar.
- (4) Shri Chotelal Parsharam Hedau.
- (5) Shri Paiku Gokhale.

## CHAPTER IV

### STRUCTURE OF THE CRAFT

The weaving of Kosa Silk cloth happens to be an important craft in the village inasmuch as 12.02 per cent households are engaged in it either as a principal occupation or as a subsidiary one. There are in all 48 establishments engaging 190 workers from 53 households. Of these 48 establishments, 40 are engaged both in spinning Kosa yarn and weaving cloth, 8 are engaged only in extracting yarn from cocoons and 5 are solely engaged in weaving.

The distribution of the above 53 households by the type of work done and number of persons engaged in it is given in the following statement :—

Type of Work done	No. of Households engaged	Persons			
		Total	Adult Males	Adult Females	Children (0—14)
Spinning of yarn and weaving of cloth.	40	166	76	77	13
Extracting yarn only from cocoons.	8	16	9	5	2
Weaving of cloth as employees.	5	8	3	5	..
Total ..	53	190	88	87	15

It is seen that 40 or 75.47 per cent of the households are engaged in all activities connected with spinning and weaving of Kosa Silk cloth and their establishments are, so to speak, "complete units" in all respects.

Eight households (or 15.09 per cent) extract yarn from cocoons and twist it only. They are "own account workers" who purchase the cocoons from the market and sell the yarn to the weaver households in the form of "Dongri" i.e. warp.

The remaining 5 households only weave cloth working as employees in other establishments.

The following table shows the distribution of the above 48 establishments by the different range of workers engaged in them :—

No. of workers engaged	Number of Establishments	Percentage
2 or less than 2 ..	8	16.67
More than 2 but less than 7	37	77.08
7 and above ..	3	6.25
Total ..	48	100.00

It will thus be seen that the establishments engaging workers between 3 to 6 predominate and form 77.08 per cent of the total establishments. The establishments engaging more than 3 workers are those which are weaving the Kosa Silk cloth. The 8 establishments that engage 2 or less than 2 workers in each are those that extract yarn from cocoons and sell the yarn to the weaver households.

The distribution of households according to size is as under :—

Size of the household	Number of households	Total No. of members
1	1	1
2	2	4
3	7	21
4	5	20
5	10	50
6	6	36
7	6	42
8	6	48
9	5	45
11	2	22
12	1	12
16	2	32
Total ..	53	333

The average size of the household as will be seen from the above table works out at 6.28 which is apparently large, the average size of the household for rural areas of Bhandara District being 4.9 only.

The above table further reveals that the majority of the households are of the size ranging from 5 to 9.

It is, however, to be reckoned that the women of Koshti community, which is the only community engaged in Kosa Silk weaving, are not confined to their household duties only. A large family is thus an asset and not a liability on the head of the household. As a result of this the practice of polygamy is said to have been evident in the community though it is not common in this village as in only 4 households out of the 53 engaged in the craft, a person had more than one wife.

In this connection it will be very interesting to quote from the District Gazetteer of Nagpur District (1908), viz., "They often marry several wives and their houses swarm with a proportionate number of children... they marry a number of wives to obtain their assistance in spinning work, and in the preparation of the frame of the warp. Without several assistants a weaver's business does not pay at present, and a wife is really a factory hand. Well-to-do Koshtis buy or occasionally steal as many women as they can, and cases in which wives are sold or mortgaged are by no means unknown". Though the household size is large most of the members are engaged in the household craft, viz. weaving of silk cloth.

#### Finance

The problem of finance to meet the expenses of raw materials, especially cocoons, and wages of workers is an important one. This is particularly so in case of this craft since the year's quota of cocoons required by the household has to be purchased during the period December-January. The fixed capital comprise land and buildings (i.e. the workshop), tools, implements, etc. So far as land and buildings are concerned, the households have not to incur any additional expenditure since a part of the dwelling is used as a workshop where the various stages involved in the weaving of Kosa Silk cloth are carried out. The tools and implements, however, need some investment. The present tools and implements are the same as were purchased by the earlier generation of weavers. However, it is estimated that the amount of fixed capital in tools and implements per loom is about Rs. 125. Thus the total investment of the craft in tools and implements works out to about Rs.7,000.

The working capital required for the operation of one loom per year is Rs. 1,350 and that of the craft as a whole in the village is round about Rs. 70,000 to Rs. 75,000. The entrepreneurs have to raise this capital themselves since there is no outside source to get it.

A list of tools, implements and other accessories required for one loom is given below together with the cost of each item :—

Sr. No.	Name	Number required	Total Cost Rs.
(1)	Loom ..	1	30.00
(2)	Pahate ..	2	1.00
(3)	Natwe ..	3	4.50
(4)	Brass Bobbins ..	15	3.75
(5)	Shuttle ..	5	10.00
(6)	Kathani ..	3	0.75
(7)	Winding wheel ..	1	10.00
(8)	Stalk of Teak wood	30	7.50
(9)	Bamboo sticks ..	3	1.50
(10)	Supporting Poles ..	4	8.00
(11)	Reed ..	1	22.00
(12)	Heddles ..	2	8.00
(13)	Wooden Plates ..	2	2.00
(14)	Bench ..	2	4.00
(15)	Baskets ..	2	0.62

Some tools like the loom, reed, Pahate, Natwe etc. last for a considerable period of time whereas others like shuttle, Kathani, etc. need replacement after a period of six months or so.

Though the craft was introduced in this village round about 1935, yet there was no Co-operative Society of the persons engaged in this craft. All the weavers engaged in this craft worked independently and there was no co-ordination amongst them. They faced the various problems especially of obtaining raw materials like cocoons, etc. To overcome this difficulty, on the initiative of the Government, a Co-operative Society of the weavers

\*The Central Provinces District Gazetteers, Nagpur District, Vol. A, 1908, Edited by R. V. Russel, I.C.S., pages 83-84

was formed on 21st March 1956 and it was named as "Shuddha Kosa Khadi Weavers" Co-operative Society Ltd., Ganeshpur".

It had 89 shareholders and the Government had sanctioned the following loans to it for its proper functioning :—

Type of Loan	Amount Rs.
(i) For Purchase of shares .. ..	1,575.00
(ii) As working Capital .. ..	35,000.00
Total ..	<u>36,575.00</u>

The Society had a Chairman who was elected by the shareholders and a full time secretary supervised the work and maintained accounts.

The purpose of the Society was to promote the production of Kosa Silk cloth by supplying the weavers with the main raw material, viz., cocoons and undertaking to sell the finished product at remunerative prices. The Society worked for some

time but soon there were troubles and it practically ceased to function after 1961 and was finally liquidated on 7th October 1964.

The wages paid by the Society to the weavers were based on piece rates. The procedure followed by the Society was as follows :—

It used to give warp of 10, 20, or 50 yds. to the weaver along with a definite number of cocoons to be boiled by the weaver who used to extract yarn (for weft) from it with the help of female members of the household. Thus besides weaving the cloth, the weft yarn of Kosa, too, had to be prepared by the weaver and for all these he used to get Rs. 6.50 to Rs. 7.00 for weaving a piece of cloth of 10 yards. The weaver usually takes 3 days to weave the cloth with the help of 2-3 female members of the household who extract yarn from boiled cocoons. The wages of the weaver were thus not at all attractive and remunerative.

## CHAPTER V

### ECONOMIC ASPECT

The cost of production of an article not only includes cost of raw materials required to produce it and the labour charges in the form of wages but also depreciation charges of tools and implements, rent of land and buildings, interest on loans etc. An attempt is made here to find out the cost of production of 50 yards of plain cloth (pure Kosa Silk Cloth) and the results are as shown in the next column.

The cloth is sold at Rs 5.40 per yard.

The Sale of Silk waste collected on Pahate would yield about Rs. 15.00 in this case.

The estimates about man-days required and the labour charges for each process are made on the basis of output of each worker and the wages that the owner would have paid for the work done. This is so because there is no large scale practice of employing hired labour in this craft in the village.

#### Annual Production and Marketing

It is difficult to assess the annual production of Kosa Silk cloth which is produced at Ganeshpur since no accounts are kept by the weavers. They sell the cloth to the merchants from Madras, Andhra Pradesh, etc., who visit the village once a month. The cloth is very popular in Southern India and it is estimated that about 75 per cent of the cloth produced at Ganeshpur is sold to these merchants and the rest is sold in the markets of Nagpur, Bhandara and locally. The sale price of each type of cloth is given elsewhere in this report. The craft is a perennial one though in the rainy season, i.e. July-August, the production is generally below normal. Taking all these factors into account it is seen that about 75 yards of cloth valued at Rs. 200 is produced on one loom. On this basis, the gross annual production of the 56 looms working in the village may amount to about Rs. 1,35,000.

CATEGORY OF CLOTH : Pure Kosa Silk Cloth.  
SIZE : 50 yds. × 30"

#### I Raw and Accessory Materials and Fuel :

Name of Raw Material, Fuel, etc.	Quantity		Value Rs.
	Unit	Number of Units	
(1) Cocoons ..	No.	4,500	146.25
(2) Washing Soda ..	Kg.	0.50	0.37
(3) Washing Soap ..	Cake Small Size	2	0.50
(4) Firewood ..	Maund	4	8.00
	Total ..		155.12

#### II Wages :

Item of work	Man-days required	Rate of wages per day Rs.	Wages Rs.
<b>(A) For Warp Preparation—</b>			
(1) Steaming of cocoons and reeling of yarn.	22	0.50	11.00
(2) Winding the warp ..	4	0.50	2.00
(3) Twisting the yarn ..	5	1.25	6.25
(4) Peg warping ..	6	1.25	7.50
Total ..	37		26.75
<b>(B) For Weft Preparation—</b>			
(1) Steaming of cocoons and reeling of yarn.	22	0.50	11.00
(2) Winding the weft yarn on brass bobbins.	4	0.50	2.00
Total ..	26		13.00
<b>(C) Preparing the Loom—</b>			
(1) Winding the warp on warp beam.	1	1.50	1.50
(2) Passing the warp threads through the heddles and the reed.	4	1.50	6.00
(3) Adjusting the warp on the loom	1	1.50	1.50
Total ..	6		9.00
<b>(D) Weaving—</b>			
Weaving of cloth	15	..	22.50
<b>III Miscellaneous—</b>			
Manufacturer's profit, depreciation charges, interest on loans, etc.	..	..	43.63
Total ..			270.00

## CONCLUSION

The Industry appears to be confronted by two major problems, viz., (a) rising cost of production and (b) fall in demand for Kosa Silk cloth.

The cost of production of Kosa Silk cloth is rising mainly due to the higher cost of the main raw material, viz., cocoons. In 1961-62 the cocoons were sold at about Rs. 32-34 per Khandi, i.e. 2,000. The rate has since increased to Rs. 64 per Khandi in 1964 and in 1965 the prevailing rate was Rs. 80 per Khandi at "site" from where they have to be transported to the weaver's house, the cost of transportation being around Rs. 4 per Khandi. The weavers are, therefore, lately substituting the Kosa yarn by mercerised or cotton yarn in the weft in order to keep down the cost of production. This has however resulted in the deterioration of the quality. There is practically no increase in the wages of weavers during the period 1956 to 1964 as seen from the following records of the "Shuddha Kosa Khadi Weavers' Co-operative Society Ltd., Ganeshpur" (which is under liquidation since 1964):—

- (i) On 26-8-56 : Rs. 6.50 were paid to Shri A. M. Sonkusre for weaving 10 yards of cloth.
- (ii) On 25-8-57 : Rs. 13.00 were paid to Shri H. A. Gokhale for weaving 20 yards of cloth.
- (iii) On 18-4-58 : Rs. 6.50 were paid to Shri Yeshwant Sonkusre for weaving 10 yards of cloth.
- (iv) On 21-8-61 : Rs. 7.00 were paid to Shri S. A. Gokhale for weaving 10 yards of cloth.
- (v) On 21-7-62 : Rs. 7.00 were paid to Shri H. A. Gokhale for weaving 10 yards of cloth.

The present position also does not show any change since in one instance Rs. 35 were paid for weaving 50 yards of cloth.

Incidentally it may be pointed out again that the wages include the wages of the women-folk of the weavers' household who extract yarn from the cocoons.

As there is no marked improvement in the wages of workers a tendency to leave the craft and seek employment elsewhere is apparent. During the period 1958-63 four establishments have closed down their activities.

The demand for the Kosa Silk cloth is also declining slowly partly due to the competition of synthetic fibres and partly due to its unattractive designs. No doubt some Kosa cloth is exported to U. S. A. and elsewhere but it is of a very thick and heavy variety and is manufactured at Champa and elsewhere, in Bilaspur District of Madhya Pradesh and not at Ganeshpur. In fact the weavers of Ganeshpur, though they know that such cloth can be exported to U. S. A. and it would fetch a good price, have not made any attempt to produce it, nor have they cared to learn the technique of its production.

The village is, of late, electrified and there is easy availability of power. Yet no attempt has been made to utilise it. It would however involve heavy capital investment which is beyond the reach of common weavers.

