Examining Employment Figures in the Handloom Sector

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All India Artisans and Craftworkers Welfare Association

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All India Artisans and Craftworkers Welfare Association (AIACA)

The All India Artisans and Craftworkers Welfare Association (AIACA) aims to serve as an apex body that brings together a wide range of actors in the handicraft and handloom sectors to work together towards ensuring market-led growth of these sectors and to help ensure a better standard of living for artisans and craftworkers. This study is part of a series of research papers and case studies commissioned by AIACA to explore constraints to the growth of the handloom and handicraft-based livelihoods and to suggest policy and programmatic recommendations to tackle them.

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I. Introduction

Handloom weaving is an important industry that plays a vital role in uplifting the economy of a region. Handloom weaving, as an activity is undertaken both by households and by establishments other than households. In each of hundreds of weaving regions in the country, cloth with a specific regional identity is woven. In India, two handloom censuses have been carried out, both by National Council of Applied Economic Research, NCAER. The first census of handloom weavers was carried out in 1987-88 and the second census was conducted as a Joint Census on both Handloom and Powerloom in the year 1995-96. In these censuses, the qualifying criterion for the inclusion of a household was that any member of the concerned household has worked on handloom weaving for at least seven days during the past one-year. If that person possessed a loom then he/she had been included in handloom household unit and if he/she didn't possess, then that person had been included in handloom non-household unit. Similarly, co-operative societies or other weaving establishments were included in the non-household sector on the basis of the society's or establishment's ownership and operation of looms for at least seven days. Thus, the two sectors, i.e., handloom household and handloom non-household, together form the handloom sector in the country.

The handloom sector forms an important part of the Indian economy. According to the second handloom census, this is one of the largest employing sector after agriculture, with almost 6.5 million persons engaged in it and contributing over 22 per cent of total cloth production. There have been important changes in the mill sector with a decline in composite mill weaving and the expansion of the powerloom sector.

The first census of handloom weavers conducted in 1987-88 at the national level covered 27 states/Union Territories. The objective of the census was to build a sound database for the handloom sector. It was also decided to repeat the exercise periodically in order to obtain updated information relating to the sector, with a view to serve two purposes (a) provide inputs for planning purposes; and (b) serve to monitor and evaluate the effects of various past and current policy measures related to the sector.

The 1995-96 census, the second of handloom sector and the first of powerloom sector, was launched by the Office of the Development Commissioner (Handlooms) in August/September 1995. On behalf of the central government, the NCAER was appointed as the nodal consultant.

The definition of weavers considered in the census (1995-96) was as follows:

> Weavers include persons who actually operated looms at least for a week during the last one-year. Individuals who operated the looms on a full-time basis have been classified as *full-time weavers*. There were weavers who operated the looms only during their leisure hours or when the regular weavers were out on lunch, tea, such weavers have been classified as *part-time weavers*.

Similarly, certain members of the household, like women and children, engage themselves in preparatory work, like winding of yarn for the purpose of warp, winding of pins (for weft), preparation of warp, sizing, and in other similar jobs. The number of such individuals in supporting roles were collected separately and divided into full-time and part-time workers.

II. CENSUSES: HANDLOOM SECTOR

We discuss the main objectives and findings of the two censuses below.

II.1 Census 1987-88

A national handloom census was carried out in 1987-88 by NCAER.

II.1.1 Objective

The census was conducted so as to strengthen the data base of the handloom sector in order to obtain better planning and execution of Handloom Development Programme as well as the weavers engaged therein. The census

attempted to collect data on the number and type of looms, status of weavers, consumption of yarn, production of cloth, number of working and non-working days, earnings of the weavers, etc. The census was an attempt towards providing a multi-level database for the handloom sector at All India level. The census was carried out in 24 states and two Union Territories.

II.1.2 Census Operation

The census operation mainly involved three broad stages:

(i)   Collection of basic data
(ii)   Compilation of block/town level data, and
(iii)   Tabulation providing state/National level findings.

These stages are described in the following way:

(i)   Collection of Basic Data

Household Level Schedule

As the first step towards data collection, a draft household schedule was prepared by the Office of the DC (Handlooms). NCAER, together with Steering Committee, finalized the schedule after suggesting minor modifications. The schedule was designed to obtain information from household as well as non- household units such as master weavers, cooperative societies, State Handloom Development Corporation, Khadi & Village Industries Corporation, etc that were engaged in handloom weaving.

The enumerators were provided the instructions for filling up the schedule, by specifying the meaning and scope of some important terms/items occurring in the schedule.

Training

Training was provided to the enumerators and supervisors. It was arranged in three stages:

1)   The senior officials of NCAER trained their regional staff in Delhi, Lucknow, Ranchi, Nagpur, and Madras.

2)   Training was provided to trainers deputed by the various state governments.

3) Trainers trained the enumerators selected from different districts in their state.

Field Work

The trained enumerators, with close supervision by the supervisors, started their work in villages and towns assigned to them in early 1987. At least five percent of the filled-in schedules were carefully checked by the supervisors for any discrepancies which were brought to the notice of the enumerators. Such errors or discrepancies were taken care of in the subsequent work.

(ii)   Compilation of Blocks/Town Level Data

After completion of the enumeration work, the data were processed to prepare the state/ national level tables. The processing of household data was not considered feasible, because of the large number of households canvassed. Therefore, an intermediate stage, where household data were compiled into block and town level formats in each state was decided upon.

Compilation Format

Under the intermediate stage of processing, the data of all the rural households covered under one Community Development block were aggregated in a block level format while that of all urban households of a town were aggregated in a town level format.

The drawback in this intermediate stage of block/town level compilation was that the tables involving more than one variable had to be decided and provided for at the stage of compilation itself. No additional tables with two or more variables could be prepared if the compilation was not carried out for such tables at the first stage itself. All the tables have states at one axis and other variables, such as different castes, gender, loom type, types of weavers etc. at the other axis. So, potentially useful cross tabulations for better targeting of interventions such as of gender and weaver types or castes and house types (e.g., mud walled or brick walled etc.) could not be constructed after the initial tabulations.

Training of Compilers

Training of compilers was provided by NCAER. NCAER prepared the detailed instructions for the compilation process.

Processing and Tabulation of Data

After getting filled in compilation formats from different states, the findings were processed and tabulated with the help of computers.

Preliminary Processing

The compilation formats were subjected to manual preliminary processing during which the data verifiers serially numbered all the formats and entered block/town codes, district codes and state codes in them.

Cleaning of Data

The process involved devising suitable consistency checks, which were carried out on the data with the help of computers. In this census itself, nearly 350 checks were performed for cleaning the data.

(iii)   Tabulation of Data

The final tables provide exhaustive information on the handloom sector broken into urban and rural components at the state as well as at the All India level.

II.1.3. Findings

The broad findings from this census were:

1. There were 30.6 lakh weaver households in the country of which 26.3 lakh were inhabited in rural areas. Total population of these households is 156.1 lakh.

2. There were 43.7 lakh handloom weavers out of which 22.4 lakh were full-time weavers and the rest were part-time weavers.

3. 12.1 lakh were working independently while 4.5 lakh weavers were working under co-operative societies and 3.4 lakh under master weavers.

4. There were 21.6 lakh persons engaged in preparatory works of which 10.9 lakh were on full-time basis.

5. There were 38.9 lakh looms of which 36.9 lakh were owned by the households and 2.0 lakh by non- households. Out of the total looms

36.1 lakh looms were in working order while 2.8 lakh were lying idle.

6. Total monthly production of all types of handloom fabrics was nearly 30 crore linear meters.

7. The productivity for about 15 lakh households was only up to 1 meter of cloth.

8. The loom productivity i.e. an average production per loom per day was 5.12 meters. The loom productivity of urban households was very low in Assam where the largest numbers of handlooms were found.

II.2 Census 1995-96

II.2.1. Objective

Since 1987-88, there have been certain changes that have taken place in the economy (e.g., changes in structure of employment, productivity, production processes etc.). In 1991 major economic policy reforms were launched in India, which had laid great emphasis on the opening up of the economy. Such policy changes generally have considerable impact on distributional aspects in the economy and also have impact on various sectors in different manners. During the process of liberalization, understanding the characteristics of any critical sector such as the handloom sector attains much more significance, as the sector and the workers involved need to adjust or cope with the changing environment. A Joint Census for Handloom and Powerloom was launched in 1995-96 in order to view these changes and to formulate more appropriate policies for the future of the sector (which forms an important part of the Indian economy). Thus the second census was conducted so as to update the database obtained from the 1987-88 census.

II.2.2. Census Operation

The census operation mainly involved following main stages:

(i)   Schedule Preparation
(ii)   Training
(iii)   Fieldwork and Supervision
(iv)   Data Entry & Processing
(v)   Tabulation

These stages are described below:

(i)   Schedule Preparation

Two separate schedules were developed for data collection from handloom as opposed to a single schedule used for the first census of handloom. These schedules were:

- Handloom households.
- Non-handloom households.

Schedule for Household Units

The schedule for household units had two parts. The first part, Part I collected the information related to the socio-economic status of the households. This part dealt with the identification of the respondent in terms of state, district (in the form of code numbers that were already available). There was also a box provided for indicating whether the area is rural or urban. The enumerator was supposed to mark 1 for rural area and 2 for an urban area. The second part, Part II of the schedule related to the details of looms, yarn consumption, fabric production etc. This part provided information related to the number of household members engaged in different handloom related activities, status of full time members of the household, number of loom-less weavers in the household, average number of days worked per weaver, number of complete looms, number of idle looms, etc. The schedule also collected information on the average monthly earnings of weaver households from different sources such as handloom, agricultural and non-agricultural activities.

Schedule for Non - household Units

The data for non-household units provided list of employee weavers (hired weavers). The enumerator had to list the names and addresses of all the weavers who could be contacted during morning or evening at their residences. Enumerators visited the households of weavers who were non-household units to avoid double counting. The schedule for non-household units was identical to Part II of the household schedule, except for the field widths, which were larger allowing bigger numbers to be entered.

In addition to these schedules, a separate schedule was prepared for powerloom units (both household and non-household).

(ii)   Training

NCAER provided training to the state-level trainers deputed by the individual state departments of textile/industry. Three-day training sessions for state-level trainers were held at most of the state-capitals and were conducted by the senior officers of NCAER. The set of detailed instructions was prepared on how to fill the schedule so as to maintain uniformity.

(iii)   Fieldwork and Supervision

It was the responsibility of the individual state governments to collect the data, through their own enumerators and supervisors. Enumerators were drawn from different departments/bodies of the state government (BDOs, village school teachers, rural development agencies, gram sevaks etc) unlike as in the first census, when the enumerators were drawn from the department of textiles/ industry. Therefore the enumerators drawn were not fully aware of the terminology or other definitions related to the handloom sector irrespective of the training provided and hence were at a relative disadvantage in comparison to the enumerators used for the first handloom census.

The supervision was undertaken through a three-tier system. Supervisors appointed by the state were responsible for checking 5 per cent of the schedule canvassed by enumerators in their areas of responsibility. Supervisors were also appointed by NCAER (who were responsible for checking 3 per cent of the schedule canvassed at the district level). Certain nodal checking agencies were also appointed at 1 per cent at state level. This census had applications of more rigorous checks to ensure that data were consistent internally. As a result the 1995-96 census is more consistent compared to the 1987-88 census.

(iv)   Data Entry and Processing

Instructions for filling up the census schedules were also provided. Each of the enumerators were assigned to work in a Community Development (CD) block, town. All the interviewers were provided with a complete list of all the villages in that block. Then the villages were serially numbered from one to all. After that the list of all villages were sent to District Rural Development Agency (DRDA) of the concerned district. Then they allocated the villages for canvassing in such a way that no village was to be duplicated or left out. In case of towns, a list of all localities was made in terms of ward or blocks or colonies etc. The localities were then distributed among the team members with the same criterion so that no colony was left out or was

given to more than one interviewer. After this allocation was made, each team member visited the village/ locality assigned to him and canvassed the census schedules by door-to-door enquiry.

It was assured that every household had a unique identification. The questions in the schedules were of two types:

a) Where the answers are quantitative, like the income, number of looms, quantity of cloth produced etc.

b) Where the answers are qualitative, like whether the households belong to SC/ST; whether the household is rented/ owned etc.

In case the respondent gave the answers with decimals, the answers were rounded off to the nearest integer.

The errors in the data received could be traced to three main sources:

● Respondent providing inconsistent information.

> *Example:* Consumption reported higher than income minus savings.

● Enumerator errors- omission, arithmetic, logical, column shifting.

● Data entry- omission, column shifting.

> *Example:* Both for the enumerator and data entry error, a number such as 1000 can have omission of the last digit or shifting of the last digit. So, the recorded number would become 100 instead of 1000.

Some of the common errors that were observed in the data received were:

● Incomplete identification particulars in successive records of a schedule.

> *Example:* If, say, a block number is missing, the data cannot be used.

● Duplicate or blank schedules.

> *Example:* If with different identities – responses are the same, or if there is no recorded entry.

● Incomplete summation of rows and/ or columns.

> *Example:* Totals are incorrect, so that one is not sure if a number forming part of the total is incorrect or the total itself.

● Column shifting.

> *Example:* Data for wrong variable entered.

There were two kinds of errors that occurred in the filled up questionnaires collected from the same village or district or state:

- Investigator specific
- State specific

In order to rectify these errors, NCAER subjected the data available to various consistency and logical or validity checks. Nevertheless, there were cases where despite these checks devised by NCAER, the data correction or validation was not possible. For example, in a few states the formats of the schedules used were different from the ones approved. Moreover, the schedules used for non-household units did not include the break up of workers or weavers engaged.

An attempt was made to ascertain the veracity of the results. However, there are no sources that provide directly comparable data or estimates of these parameters. Nevertheless, data on yarn consumption and the number of persons engaged in handloom related activities were cross-checked against the data from the Office of the Textile Commissioner, for civil deliveries of hank yarn, and also with the 1991 Population census. These cross-checks were carried out for broad dimensional consistencies.

(v)   Tabulation

In consultation with the Office of the Development Commissioner (Handlooms), NCAER identified 43 tables to present state/national level findings of the census. The final tables provide exhaustive information on the handloom sector in rural and urban areas at the state as well as all India level.

II.2.3. Findings

The main findings from this 1995-96 census were:

1. A total of 25.2 lakh households were engaged in handloom related activities of which 21.9 lakh households were in rural areas, while 3.3 lakh were in urban areas. The total population of all these households was 128.0 lakh.

2. There were 34.7 lakh handloom weavers in the country out of which 16.5 lakh were full-time weavers and the rest were part-time weavers.

3. The majority of full time weavers, i.e., 9.9 lakh worked independently while 2.4 lakh weavers worked under cooperative societies and 2.9 lakh under master weavers.

4. There were 17.3 lakh persons engaged in preparatory works of which 5.4 lakh worked on full-time basis.

5. Household units owned a total of 32.9 lakh looms. Of these, 29.9 lakh were in working order, while 3.0 lakh were idle looms. Commercial looms formed 38.56% of the total looms owned, while 61.44% of the total looms were domestic looms. Non-household units owned a total of 2.0 lakh looms, of which 1.5 lakh were working looms while rest were lying idle.

6. The average monthly production of all types of handloom fabrics by weaver households was 21.16 crore linear meters. The average monthly production of all types of handloom fabrics by non-household units was 4.88 crore linear meters.

7. The average monthly consumption of yarn by household units stood at 2.42 crore kgs. while non-household units consumed an average of 0.51 crore kgs of yarn per month.

II.3   *Comparative Statement of the First and Second Handloom Censuses*

In the 1987-88 census, the household and non-household units were not distinguished as separate units in the handloom sector whereas in the 1995-96 census, there were separate schedules for household and non-household units. However, the schedule of the non-household unit was same as in part 2 of the schedule of the household unit.

The latter census indicates the same conclusion as of the earlier census, which is a decline in the trend in the handloom weaving activity.

●   At the All India level there has been a decline in 1995-96 compared to 1987-88 in the number of household and non- household units engaged in handloom related activities of over 15 per cent.

●   Changes in the number of workers are minor (from 6.74 million in 1987-88 to 6.55 million in 1995-96 i.e. a decline of 2.81 per cent).

● Number of looms has declined by nearly 8 per cent in 1995-96 over 1987-88.

The above findings imply that there is a higher concentration of both workers and looms in the units in 1995-96 as compared to 1987-88. In 1987-88 there were an average of 2.25 workers and 1.26 looms per unit, in 1995-96 the corresponding figure were 2.58 and 1.37 respectively.

The 1995-96 census also provides state wise comparative statement of the following five major ratios:
The ratios are-

● Production per day per loom
● Production per day per worker
● Yarn consumption per day per loom
● Yarn consumption per day per worker
● Production per kg of yarn consumed.

The results show that for the country as a whole, productivity per loom and per worker have declined (as also the absolute number of looms and workers). This is reflected in an overall decline in the production of fabric in the sector over the period 1987-88 to 1995-96. However at the individual state level, most of the states have registered growth in productivity. The decline in overall productivity is on account of decline in production in certain states that account for the bulk of the fabric produced (i.e, 57 per cent of the fabric produced). Production per day per worker declined from 1.48 in 1987-88 to 1.33 meters in 1995-96. Production per day per loom was 2.63 in 1987-88 and it declined to 1.33 meters in 1995-96. Production per day per loom declined from 2.63 in 1987-88 to 2.49 meters in 1995-96.

III. Sample Survey of Handloom Household

Apart from the two censuses, a sample survey of handloom households was carried out by NCAER in the year 1999 in six states in order to test the basic validity/ accuracy of data collected, processed and reported in the draft report of the Joint Census of the Handloom and the Powerloom.

The six states that were selected for the sample survey were Andhra Pradesh, Assam, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal. The states were selected on the basis of the number of looms in the rural areas.

In each of the six states selected, 20 per cent of the districts in the state were picked for the sample survey. Concerned officials in each of the state were asked to have all the household schedules for the districts, which were sorted by villages. Field staff of NCAER selected 5 villages at random from each of these districts and within each village 10 households were selected. For the 10 households selected in the villages, their 17-digit identification was copied from the original schedule. Moreover, data relating to the number of household members engaged in handloom related activities, the number of weavers, the number of complete weavers, the number of complete looms, idle looms, average monthly yarn consumption and fabric production were also collected and made available in the survey report. However, unlike the handloom censuses, different types of yarn consumed or fabrics produced were not collected.

The information collected during the current survey included: -

- Number of household members engaged in the handloom related activities
- Number of weavers
- Total number of looms owned
- Number of idle looms
- Average monthly yarn consumption in kilograms
- Average monthly fabric production in linear meters.

III.1 Objective

The purpose for conducting the sample survey was to determine the correctness of the data used for the draft report of the Joint Census. In view of the size and nature of a census operation it is a general practice to conduct sample verification.

III.2 Methodology

The two data sets i.e. the latest census (August/September 1995-96) and the sample survey (1999) were separated by almost three years and therefore there were certain differences. The differences between the data obtained from 1995-96 census and from the sample survey could be on account of:

- Natural changes over a period of time (in this case three years) especially for a single household.

- Statistical variations - there could be differences on account of various errors in reporting and/or recording.

Since the magnitude of the variables are different, a sample comparison of the numbers obtained from the two data sets may lead to erroneous conclusions i.e. data obtained from six states cannot represent All India data collection. What may be more meaningful is to look at different ratios that can be computed. Moreover in order for the comparisons to be objective it would be appropriate to analyze the two data sets through statistical tests for any significant differences.

For the handloom sector there are five major ratios at the initial stage of the Joint Census of Handloom and Powerloom. These were extensively used in relation to the selected indicators and with some modification to study the two data sets (mentioned above) for the purpose at hand.
These ratios are: -

- Production per working loom per day
- Production per weaver per day
- Yarn consumption per working loom per day
- Yarn consumption per weaver per day
- Production per kg of yarn consumed

III.3 Findings

A comparison of the aggregates and the ratios obtained from the two data sets for each of the six states is presented below:

1. For the state of Andhra Pradesh, at the aggregate level, there is a marginal increase in both the number of workers engaged in handloom related activities as well as in number of weavers. However, the average yarn consumption and fabric production per unit declined slightly. Generally, the ratios obtained from the two data sets are consistent and stable.

2. Handloom weaving in the household sector is more prevalent in Assam than in any other state, with the exception of Manipur. The two data sets for these states do not show much variation. Even for individual districts, the variations are almost insignificant in these two states.

3. In Orissa, there is a marginal increase in the number of weavers, complete looms and yarn consumption while there is a decline in the number of workers in handloom related activities and fabric production.

4. The two data sets for Tamil Nadu suggest a declining trend in handloom activity. There is a moderate decline in the number of handloom workers and weavers, but there is a substantial decline in the number of working looms, quantity of yarn consumed and fabric produced. Hence, a greater degree of variation is observed in this state.

5. For Uttar Pradesh, the variation between the two data sets is less than 5 percent. The number of workers and weavers both show a decline, whereas number of looms, yarn consumption and production show an increase. The ratios computed were broadly compatible and comparable.

6. In West Bengal, with the exception of the number of workers in West Bengal, the number of looms, yarn consumption and fabric production show marginal reductions. The ratios obtained are by and large stable over the period.

III.4   Statistical Testing of Data

The two data sets (handloom census and handloom survey) pertain to the same population set of households but at two different time points. There may be a variation at the individual household level or others that may have occurred over a wider area. For example, changes in production. Moreover there are different factors those could also be the result of changes in demand or ability to sell the products. This in turn would affect yarn consumption, as also the productivity of weavers and looms.

In order to test whether the variations are significant or not, a statistical test i.e., paired t-test, was applied at the state level. The paired t-test verifies the hypothesis whether the differences observed between two data sets were significant or not, given the sample sizes.

On the basis of the mean of two data sets, the paired t-test has been conducted and it has been found that except the looms in Andhra Pradesh and workers in Orissa, the calculated absolute *t*-values for other variables of six states under consideration are insignificant at 95% confidence level. On the basis of the findings of the sample survey of the handloom households and the results of the statistical test performed, it is concluded that the results and the findings presented in the draft report of the Joint Census of Handlooms and Powerlooms are reliable.

Since the results obtained from the survey were reliable, we recommend a convenient method of reducing costs and complications that are encountered

in conducting a census. This method could be a combination of a census and a sample survey, where the census could be used for enumerating the number of workers by major types and gender and the sample survey could account for all other important aspects required to be examined in connection to handloom workers required for the purposes in view.

IV. The National Sample Survey Organization (NSSO) Surveys

In addition to the handloom censuses and the handloom survey, all conducted by NCAER, we have processed the National Sample Survey Organisation (NSSO) surveys in order to cull out the data on employment in weaving industries to compare these with the NCAER findings.

The various NSSO surveys utilised are:

❖ The 55th Round Household Survey - "Employment Unemployment", 1999-00

❖ The 55th Round Enterprise Survey - "Informal Non-Agricultural Enterprises", 1999-00

❖ The 56th Round Enterprise Survey - "Unorganised Manufacturing Enterprises", 2000-01.

The unit level data for these surveys are processed at NCAER. In the Enterprise surveys, each enterprise is identified using the National Industrial Classification – 1998 (NIC-98) code. These codes provided at 5-digit level. To cull out the information for handloom sector, those 5-digit codes are identified which relate to handloom industry. These codes, along with their description are as in Table 4.1:

Table 4.1. List of NIC codes identified as 'handloom sector'

NIC-98 code	Description
17115	Weaving, manufacture of cotton and cotton mixture fabrics
17116	Weaving, manufacture of silk and silk mixture fabrics.
17117	Weaving, manufacture of wool and wool mixture fabrics.
17118	Weaving, manufacturing of man made fiber and man made mixture fabrics

Henceforth in this study, these codes will be mentioned as I-1, I-2, I-3, I-4, I-5, all together forming 'handloom sector'. The workers employed in these enterprises provide an estimate of the employment in 'handloom sector'. These workers could be both weavers and those involved in other handloom-related activities.

In the household survey under consideration, i.e., the 55th Round 'Employment Unemployment' survey, each working member of a household reports the NIC code of the industry he/she is employed in. Using the NIC codes, as mentioned above, 'handloom sector' can be identified for each worker in a household. So employment can be estimated therein for the handloom sector. Besides this, the occupation codes of each working member is also reported and recorded. These codes are provided using the National Classification of Occupation-1968 (NCO-68). The NCO codes for weavers are identified which are listed below:

Table 4.2. List of NCO codes identified for 'weavers'

NCO-68 codes	Description
750	Supervisors and Foremen, Spinning, Weaving, Knitting, Dyeing and related processes
751	Fibre Preparers
753	Warpers and Sizers
754	Weaving and Knitting Machine Setters and Pattern Card Preparers
755	Weavers and related workers
756	Carpet Makers and Finishers
759	Spinners, Weavers, Knitters, Dyers and related workers n.e.c

Henceforth, these codes will be mentioned as O-1, O-2, O-3, O-4, O-5, O-6 and O-7, all together forming 'weavers'. Total number of workers with these NCO codes provides the estimated number of 'weavers'. It should be noted that these weavers may or may not be the employees of 'handloom sector', defined above. These could be the employees of industries with NIC codes other than those belonging to 'handloom sector', but are with occupation O-1 to O-7

We briefly describe the NSSO surveys and their findings in the following sub-sections. These surveys also provide data for gender wise analysis of handloom-workers.

IV.1   NSSO 55th Round, Household Survey, 1999-00

An all-India survey on the situation of employment and unemployment in India during the period July-1999-June-2000 was carried out as part of the 55th Round of the NSSO. This survey collects the employment information of all the working members of the households. A total number of 10,384 First Stage Units (6,208 villages and 4,176 urban blocks) were selected for this survey in the central sample at the all-India level. Total number of persons who were canvassed to questionnaire was 8,19,013.

The activity status of each worker was identified as usual status or current daily status. These activity status are defined as:

Usual activity status: The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey.

Current weekly activity status: The current weekly activity status of a person is the activity status obtaining for a person during a reference period of 7 days preceding the date of survey. It is decided on the basis of a certain priority cum major time criterion.

As mentioned in section IV above, these provide information that are distinguished as three sets of analysis:

- Estimated employment in 'handloom sector' on the basis of NIC codes alone

- Estimated number of 'weavers' on the basis of NCO codes alone

- A cross tabulation of the two information, i.e., estimated number of 'weavers' employed exclusively in 'handloom sector'.

The first of the three above is important when comparing the estimated employment in 'handloom sector' across the two NSSO enterprise surveys, i.e., 55th Round "Informal Non Agricultural Enterprises" and the 56th Round "Unorganised Manufacturing Sector"). We carry out gender analysis with the information collected in the three NSSO surveys.

The second part of analysis gives the estimated number of 'weavers', i.e, estimated number of workers with occupation codes defined in Table 4.2. The gender identification is also carried out. The following figures (Figures 4.1, 4.2., 4.3.) provides the participation rates of males, females and total 'weavers' across different weaving occupation codes.

Figure 4.1. Participation Rates of Female weavers in different types of occupations
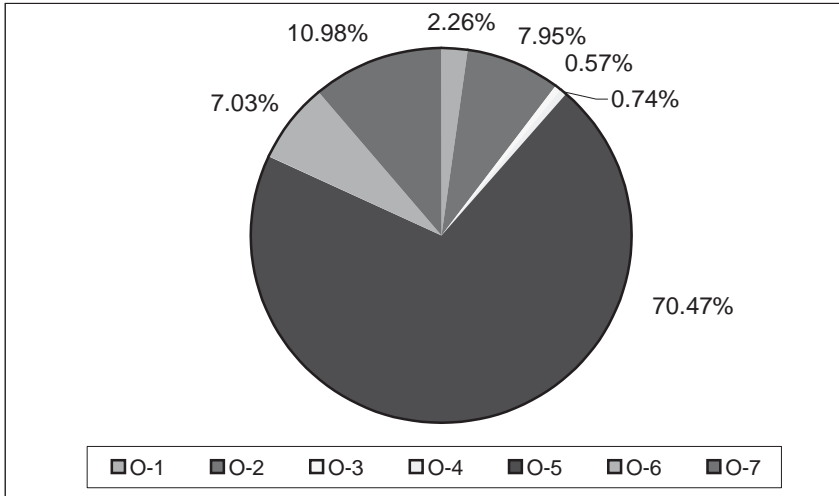

Figure 4.2. Participation Rates of Male weavers in different types of occupations
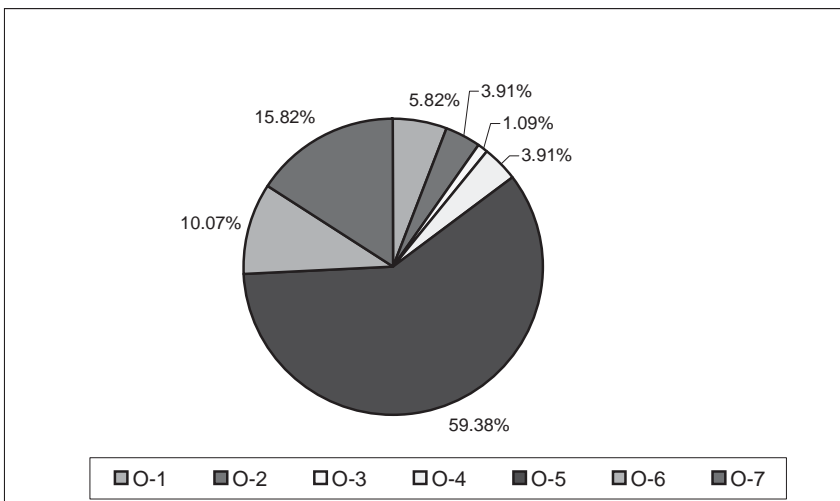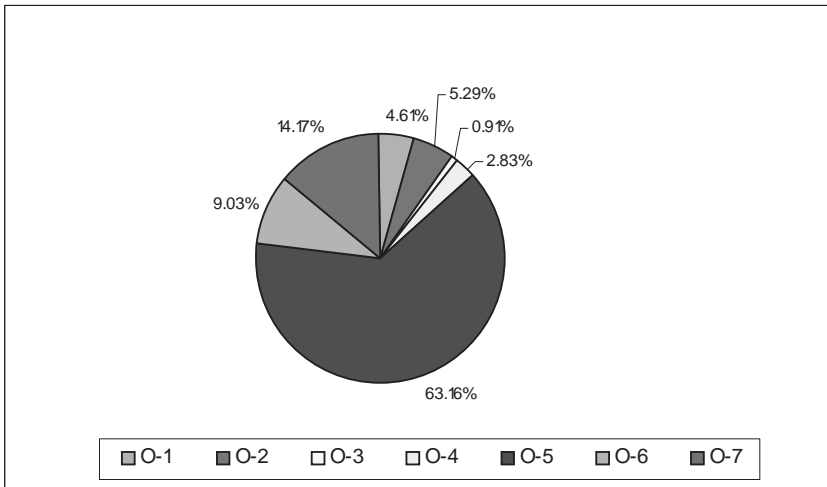
**Figure 4.3. Participation Rates of Total weavers
in different types of occupations**

Glossary:

O-1: Supervisors and Foremen, Spinning, Weaving, Knitting, Dyeing and related processes
O-2: Fibre Preparers
O-3: Warpers and Sizers
O-4: Weaving and Knitting Machine Setters and Pattern Card Preparers
O-5: Weavers and related workers
O-6: Carpet Makers and Finishers
O-7: Spinners, Weavers, Knitters, Dyers and related workers n.e.c

The above figures show that of all the workers with occupations related to weaving, 'weavers and related workers' carry the highest share and the least number of workers are employed as 'warpers and sizers'. This observation is true for both male and female workers. Further, the figures show that women workers have higher participation rate only as 'fibre preparers' and 'weavers and related workers' compared to male workers.

The third and final part of the analysis of this household survey provides the estimated number of 'weavers' employed exclusively in 'handloom sector'. This means that only those workers are considered whose occupation code is one of the seven listed in Table 4.2. and who are employed in one of the five industries listed in Table 4.1 , both conditions should hold. The

following figures (Figure 4.4 to 4.8.) present the percentage shares of male and female 'weavers' in total number of weavers employed in each type of industry belonging to 'handloom sector'.

Figure 4.4. Percentage distribution of types of weavers employed in cotton weaving industry (I-1) by gender

Figure 4.5. Percentage distribution of types of weavers employed in silk weaving industry (I-2) by gender
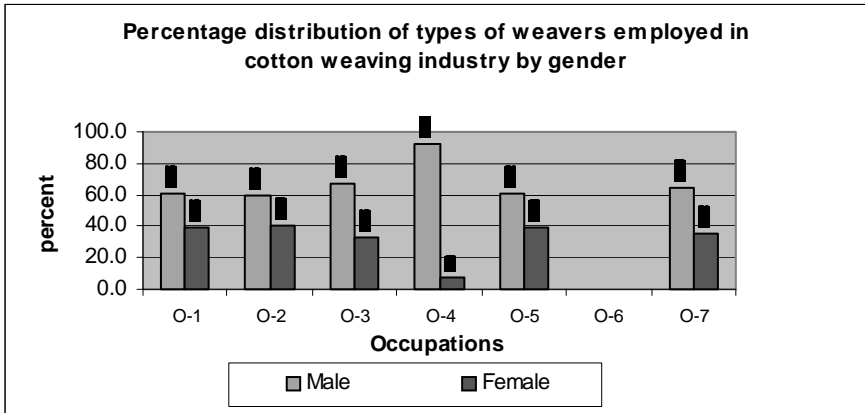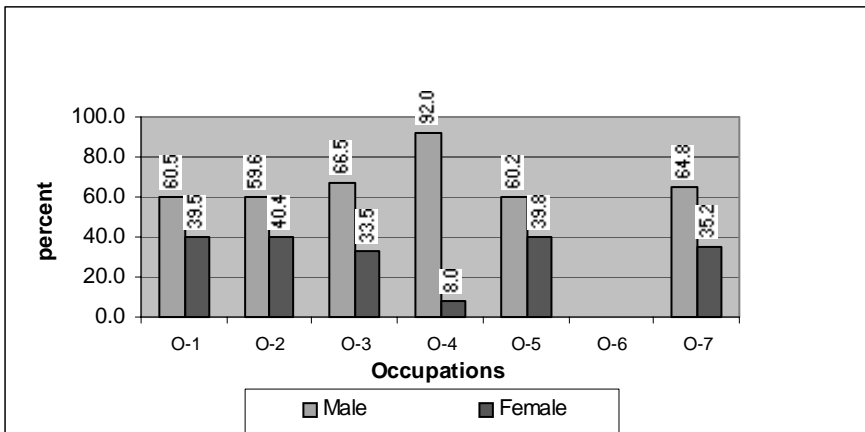
Figure 4.6. Percentage distribution of types of weavers employed in woollen weaving industry (I-3) by gender

Figure 4.7. Percentage distribution of types of weavers employed in man-made fibre weaving industry (I-4) by gender
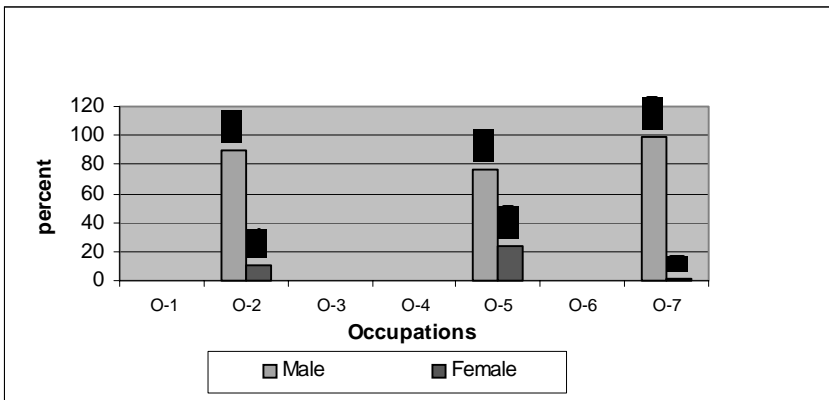

Figure 4.8. Percentage distribution of types of weavers employed in natural fibre weaving industry (I-5) by gender

These figures show that in all types of weaving industries, number of male weavers is higher than the number of female weavers. Moreover, amongst all occupation codes, number of male weavers are higher than that of the female ones with an exception of wool weaving industry in which case the proportion of female 'weavers and related workers' is as high as 95 percent of the total in this category of weavers. Only the female workers of this category are employed in all types of weaving industries. Silk weaving industry employs males and females of occupation type 'weaving and knitting machine setters' in almost equal proportion. Cotton weaving industries employ all types of female weavers except, 'carpet makers and finishers'. Taking all the occupation codes together, more than 85 percent of the weavers in man-made fibre weaving industry and in natural fibre weaving industry are males. In these industries, the 'warpers and sizers' and those involved in weaving, knitting, dyeing and related processes, are all males.

IV.2   NSSO 55th Round, Enterprise Survey, 1999-00

An enterprise is an undertaking, which is engaged in either production or distribution of certain goods and services or in both, mainly for the purpose of sales. An enterprise may be owned and operated by a single household or by several households jointly, or by an institutional body.

The enterprises covered in this survey were i) Manufacturing, ii) Construction, iii) Wholesale and Retail Trade; Repair of Motor Vehicles; Motorcycles and Personal and Household Goods, iv) Hotels and restaurants, v) Transport, Storage and Communications, vi) Financial Intermediation vii) Real Estate, Renting and Business Activities, viii) Education ix) Health and Social Work x) Other Community, Social and Personal Services.

A total number of 10,384 FSU's were selected for the survey in the central sample at the All India level, out of which 10170 were actually surveyed. This comprised 6046 villages and 4124 urban blocks. A total of 1,97,649 enterprises were canvassed all over India. Of these, 58 percent were from rural areas and remaining from urban areas.

Workers covered under this survey have been categorized in the following categories on the basis of a reference period of the last one month.

● **Self-employed**: Persons who are engaged in their own farm or non-farm enterprises.

- **Worker**: A person who participates either full time or part time in the activity of the enterprise.

- **Hired Worker**: A person who is employed directly or through any agency on payment of regular wage or salary who participates either full time or part time in the activity of the enterprise salary in cash or kind.

- **Other workers**: This includes all the persons belonging to the household of the proprietor or households of the partners who are working for the enterprise without regular salary or wages.

As mentioned in section IV above, in the enterprise survey, each enterprise is identified using the National Industrial Classification – 1998 (NIC-98) code. As prepared in the first part of analysis of the 'Employment Unemployment' survey, described in sub-section IV.1., this enterprise survey is also analysed to cull out the estimated number of workers in 'handloom sector', i.e. in industries with NIC codes listed in Table 4.1. The result of this analysis is presented in the comparison Table 4.3.

IV.3   NSSO 56ᵗʰ Round, Enterprise Survey, 2000-01

NSSO conducted the survey of enterprises as the 56th Round during July 2000 to June 2001 which had the main focus of the survey to study the manufacturing enterprises in the unorganised sector. Information on characteristics of the enterprises, fixed assets, employment, operating expenses and receipts, value added, etc. were collected. The coverage of the survey was the following:

- Manufacturing enterprises, which are not registered under Sections 2m(i) and 2m(ii) of the Factories Act, 1948
- Enterprises engaged in cotton ginning, cleaning and baling but not covered under Annual Survey of Industries (ASI).
- Manufacturing enterprises registered under Section 85 of Factories Act, 1948.
- Enterprises manufacturing bidi and cigar that are not covered under ASI (irrespective of registration under Bidi and Cigar Workers (condition of employment) Act, 1966).

A total of 14788 First Stage Units (5696 villages and 9092 urban blocks) were selected for this survey. It canvassed a total of 1,52,494 enterprises, 60770 from the rural sector and 91724 from the urban sector.

Workers are categorised in the same way as in the 55th round of the enterprise survey. The employment in 'handloom sector' is estimated using the NIC codes listed in 4.1. We present below the table that compares the estimated employment in industries belonging to 'handloom sector', obtained from all the three NSSO surveys described above:

Table 4.3. Estimated employment in Weaving Industries by Gender - obtained from different NSSO surveys

	55th Round Household Survey – usual status			55th Round Enterprise Survey			56th Round Enterprise Survey		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
I-1	1243287	779540	2022826	799197	519154	1318350	1058840	733204	1792044
I-2	600558	271237	871795	611365	230197	841562	408968	205124	614092
I-3	44890	27479	72370	19607	15200	34807	15942	43635	59577
I-4	112727	32346	145073	50158	35339	85496	205691	65692	271383
I-5	133642	21520	155162	5538	9766	15303	93545	177720	271266
Total	2135104	1132123	3267227	1485864	809655	2295519	1782986	1225375	3008361

Glossary:

I-1: Weaving, manufacture of cotton and cotton mixture fabrics
I-2: Weaving, manufacture of silk and silk mixture fabrics.
I-3: Weaving, manufacture of wool and wool mixture fabrics.
I-4: Weaving, manufacturing of man-made fiber and man-made mixture fabrics.
I-5: Preparation, spinning and weaving of jute, mesta and other natural fibers including blended in Natural fibers.

V.   A Comparison of the Various Surveys

In the tables given below we compare the employment numbers by gender computed from the two NCAER handloom censuses together with numbers computed from the 55th and the 56th Rounds of the NSSO surveys. Table 5.1 depicts the numbers of workers employed in 'handloom sector', whereas, Table 5.2 provides the percentage distribution of workers by gender.

Table 5.1: Employment in the handloom sector

(number)

Source	Year	Female Workers			Male Workers			
		Full Time	Part Time	Total	Full Time	Part Time	Total	Grand Total
Handloom census	1987-88	779038	1859459	2638497	1410117	145153	1555270	4193767
Handloom census	1995-96	603247	1500640	2103887	998286	223915	1222201	3326088
NSSO 55th round Household Survey-weekly status	1999-00	N.A	N.A	992938	N.A	N.A	2043100	3036038
NSSO 55th round Household Survey-usual status	1999-00	N.A	N.A	1132123	N.A	N.A	2135104	3267227
NSSO 55th round Enterprise Survey	1999-00	554714	254941	809655	1394747	91117	1485864	2295519
NSSO 56th round Enterprise Survey	2000-01	959658	265718	1225376	1717868	65118	1782986	3008362

Table 5.2: Percentage distribution of workers by gender

(percent)

Source	Year	Female Workers			Male Workers			
		Full Time	Part Time	Total	Full Time	Part Time	Total	Grand Total
Handloom census	1987-88	18.58	44.34	*62.91*	33.62	3.46	*37.09*	100.00
Handloom census	1995-96	18.14	45.12	*63.25*	30.01	6.73	*36.75*	100.00
NSSO 55th round Household Survey-weekly status	1999-00	N.A	N.A	*32.71*	N.A	N.A	*67.29*	100.00
NSSO 55th round Household Survey-usual status	1999-00	N.A	N.A	*34.65*	N.A	N.A	*65.35*	100.00
NSSO 55th round Enterprise Survey	1999-00	24.17	11.11	*35.27*	60.76	3.97	*64.73*	100.00
NSSO 56th round Enterprise Survey	2000-01	31.90	8.83	*40.73*	57.10	2.16	*59.27*	100.00

Table 5.3 provides information on the annual growth rate of the numbers of handloom weavers from the various surveys as noted above.

Table 5.3: Employment in the handloom sector (growth rate per annum)
(percent)

| Source | Year | Female Workers | | | Male Workers | | | Grand Total |
		Full Time	Part Time	Total	Full Time	Part Time	Total	
Handloom census	1987-88	-	-	**-**	-	-	**-**	-
Handloom census	1995-96	-3.15	-2.64	**-2.79**	-4.23	5.57	**-2.97**	-2.86
NSSO 55th round Household Survey-weekly status	1999-00	N.A	N.A	*-17.12*	N.A	N.A	*13.71*	-2.26
NSSO 55th round Household Survey-usual status	1999-00	N.A	N.A	*-14.35*	N.A	N.A	*14.97*	-0.45
NSSO 55th round Enterprise Survey	1999-00	-2.08	-35.80	*-21.24*	8.72	-20.13	*5.00*	-8.85
NSSO 56th round Enterprise Survey	2000-01	73.00	4.23	*51.35*	23.17	-28.53	*20.00*	31.05

According to the above tables, over the years there has been a decline in the weavers' population in the handloom sector. However, during the year 2000-01 there has been a marked increase in the weaver population. The population as well as percentage share of full-time female weavers is greater than part-time female weavers.

Looking at the male workers employed in 'handloom sector' we see that in 1995-96 (handloom census) there has been a fall in the number of male full-time workers and subsequently in the total male workers, with per annum growth rates at –4.2 percent and –2.9 percent respectively. But the NSSO surveys of later years observed a positive growth rate in the number of total male workers. Although the part-time male workers have shown a declining rate of –20.1 percent in 1999-00 and –28.5 percent in 2000-01, growth in full-time workers had been fair and provided a positive growth rates in total male workers. The trend is in reverse order in the case of females. Full-time workers as well as the total number of female workers have shown a negative growth rate in 1999-00 of –2.1 percent and –35.8 percent respectively. However, in 2000-01, the full-time female workers showed a substantial growth rate of 73.0 percent as compared to part-time female workers, which is marginal at 4.2 percent. Overall, the year 2000-01 observed a marked increase in all the categories except female part-time workers in handloom sector.

Interestingly, the information culled from the handloom censuses and the NSSO surveys (1999-2000, 2000-2001) show major differences (increase) in the share of female to male workers.

VI. Recommendation on a Handloom Census and a Handloom Survey

We have examined the questionnaires of the two censuses carried out by NCAER. We find that certain questions that are asked in these questionnaires are very important and hence are required for a census. These questions are fairly simple questions and do not require much time of the respondent. Hence the advantage is that the information is obtained from the entire target population. But there are certain other questions in these NCAER census questionnaires that are rather complicated, though very critical to understand the situation of handloom sector and workers. Such questions are complicated to answer for the respondents. To obtain such information from each and every respondent of the entire target population would, naturally, demand more time and money. Moreover, the census is such a huge undertaking that it is difficult to keep every single operation under the same level of scrutiny and control. In contrast, a sample survey, being on a smaller scale of operation, allows for better monitoring and quality control.

Here we compare the Questionnaires from the two censuses. As noted earlier, we suggest that a census cannot address all the issues that need to be captured for examining the profile of handloom sector and workers. Hence, we recommend that a census and a survey should be carried out separately for the handloom sector.

Complete enumeration and sample surveys presupposes the existence of a certain minimum of facilities, such as funds, professional personnel for planning the survey methodology and supervision of field operation, sufficiently qualified enumerators or investigators, machine tabulation equipment, transport and communication facilities. These facilities or combinations thereof do not always exist to the extent needed for a complete enumeration survey and hence in such cases it is impossible to have a complete enumeration survey. Recent experiences have shown that these problems arise very frequently and sample surveys have been found to be particularly helpful in such situations.

The quality of data in a census depends on a large number of enumerators or investigators, who cannot be given an intensive training because of cost and organisational difficulties involved. Further, careful scrutiny and inspection

at all stages of work will be more manageable and less expensive in a sample survey than in a census.

In census, data can be tabulated for any administrative unit, irrespective of how small it may be. A Sample survey may be found out to be unable to provide precise information or estimates but in many cases statistical information is needed mainly by provinces, groups of districts or states and by broad classificatory characters, and in such cases the sampling method is invariably more efficient. In handloom survey, the main areas to be concerned are income, level of skill, growth potential of skill, degree of interdependence on the other industries on the basis of the information on inputs requirement. Therefore our in-depth studies to understand the socio-economic characteristics, a sample survey is recommended.

VI.1 Census: Definition, Merits and Demerits

Census

Complete enumeration of data. It covers the whole population.

Merits

It provides the true picture of the population, provided the data collected is authentic in all respect.

Demerits

- If the population is large, then it is very difficult to cover the entire population.
- It is time consuming and it incurs a huge cost.

VI.2 Survey: Definition, Merits and Demerits

Survey

A sample is considered which is meant to represent the whole population and appropriate statistical methods are applied on the sample to obtain the estimates of population parameters.

Merits

It is easier to conduct and requires a much lower cost than a census.

Demerits

If the sample were not taken properly, then results would be incorrect.

Appendix A : Questions Recommended for both Census and Survey

Sl. No.	Question
1	Name of the state
2	Name of the block
3	Description of the household: (a) i) Name of the Head of the Household ii) Name of the father of the Head of the Household iii) Age iv) Sex b) Name of the Factory/Workshed c) Total Household size
4	Full address
5	Location: i) Rural ii) Urban
6	Type of unit: i) Weaver Household with Loom ii) Weaver Household without Loom iii) Non-Household Unit
7	Classification of the household: i) SC ii) ST iii) OBC iv) Others
8	Average number of days worked per weaver during the last past one year
9	Average production per weaver per day (meters)
10	Number of hired weavers

Appendix B: Questions Recommended for Census

Sl. No.	Question
1.	Number of household member engaged in weaving activities
2.	Normal non-weaving days in each quarter of the year: *Quarter Number of non-weaving days* i) January-March ii) April-June iii) July-September iv) October-December
3.	Average monthly earning of the family **(Total)**
4.	Total number of complete looms
5.	Number of looms by economic features: *Working Idle* a) Commercial b) Domestic
6.	Number of looms producing different types of fabrics
7.	Average monthly marketing of finished goods (Total)

Note: Total Census questions are 17 including Appendix A.

Appendix C: Questions Recommended for survey.

Sl. no.	Question
1	a) Type of the House: i) Thatched hut with mud walls ii) Thatched hut with brick/stone walls iii) Tiled house with mud walls iv) House with country roof v) House with pucca (RCC) roofvi) Others(Specify) b) i) Without State/Central assistance in construction ii) With State/Central assistance in part or full in Construction
2	Number of household members engaged in: i) Dyeing of Yarn ii) Preparatory iii) Postloom iv) Made ups v) Marketing
3	Status of full time weaver members of the household: i) Independent (family owned unit) ii) Independent (family owned unit) iii) Under co-operative society iv) Under State Handloom Development Corporation v) Under KVIB/KVIC vi) Under Private Owner
4	Number of weaver- members (full time) using hand spun yarn : i) Independent ii) KVIB/KVIC
5	Average monthly earnings of the family : i) From handloom weaving ii) From agriculture iii) From non agriculture

6	Number of complete looms in the household /non-household unit:
7	Number of working looms by type of yarn used: i) Mill spun yarn ii) Hand spun yarn
8	Type of loom: i) Throw shuttle pit loom ii) Fly shuttle pit loom ordinary iii) Fly shuttle pit loom with Dobby/Jacquard iv) Improved pit loom v) Frame loom ordinary vi) Frame loom with Dobby/Jacquard vii) Pedal loom/Semi-automatic loom viii) Loin Loomix)Others(Specify)
9	Average consumption of yarn per month in kilograms : a) cotton i) 1-40 ii) 41-60 iii) 61-80 iv) Above 80
10	Average consumption of dyes and chemicals i) Vat Dyes ii) Naphthol iii) Reactive iv) Acid v) Natural Extract Base vi) Others
11	Sources of inputs: *Hank yarn Dyes and Chemicals* i) From open market ii) From Co-operative society iii) From State Hand. Dev. Corporation iv) From Master Weavers v) From others

12	Sources of finance: i) From own resources ii) From Cooperatives iii) From Commercial Banks iv) From others
13	Number of looms engaged and type of fabrics produced per month
14	Awareness of Central Government Scheme: i) HDCS ii) Workshed-cum-housing iii) Thrift Fund iv) Group Insurance v) Health Package vi) Margin money for destitute weavers vii) National Award for Primary Cooperative Societies Weavers viii) Marketing of handloom products through District level fairs/ Festivals/Sacred baths or thorough Surajkand/ Taj/Hyderabad Shipgram etc. ix) Reservation of Articles for production by handlooms x) Hank yarn price subsidy scheme

Note:

Average production of weaver is a critical question and for that we need more accuracy. An owner can provide a general idea but to probe the authenticity of the information a survey should be conducted for that question.

VII. References

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