



WORKING PAPER

Working Paper No. 34

The Cotton Handloom Industry
in Tamil Nadu : Some Characteristics
and Aspects of Change from the
Post Independence Census data
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June, 1983

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The Cotton Handloom Industry in Tamil Nadu :
Some Characteristics and Aspects of Change from the
Post-Independence Census Data*

K. Bharathan

Introduction

The scope of the present paper is to present some of the important characteristics of the cotton handloom industry in Tamil Nadu and changes in these as discernible from the economic data of the Post-Independence Population Censuses.

As with all other unregistered industries in India, the material from official sources on the cotton handloom industry is not very exhaustive, particularly when it comes to understanding the strength and characteristics of the industry in terms of the number of persons employed, and their distribution among rural and urban areas, by districts, and by different types of production units. Being unregistered, typically carried on in fairly small production units scattered throughout the State, it is difficult to regularly monitor the numbers in the industry. In Tamil Nadu, it was only from the early 1960s that any regular monitoring of the industry has been carried on; however, this exercise, conducted on a six-monthly basis by the Department of Statistics in the State, concentrates on specific aspects of production of sampled looms in a selected set of urban and semi-urban areas, and does not attempt to estimate

*Comments from colleagues on an earlier draft of this paper, presented at a seminar at MIDS, were very useful. I wish to thank, in particular, Dr.K. Nagaraj, for the time he spent in discussion and for his detailed criticism of the earlier draft. I also thank Mr.J. Robinson for his typing of the final version of this paper, and Mr.K.C. Devassy and Ms.L.Celine for the cyclostyling.

changes, say, in the number of looms and the numbers of weavers over time. Some estimates of these have been carried on periodically, of which all but one have been based on a sample survey of the looms in the State. These studies, though valuable, have been few and far apart. The most reliable of these studies were conducted for the reference years of 1954, 1955-56, and 1973. In each of these studies, various important aspects of the handloom industry in the State have been covered; in terms of estimating numbers, however, they largely concentrated on the issue of the number of looms in the State, and did not provide much of information on the number of weavers and their distribution.

(DOS)

The Director of Statistics, Madras, carried out a sample survey of the handloom industries in the State in 1954^{1/}, from which it was estimated that the total number of looms in the State was of the order of 4.62 lakhs, of which 3.79 lakh were in the cotton handloom industry.^{2/} A study conducted by the University of Madras for the All India Handloom Board, also based on a sample survey, estimated that in the year 1955-56 there were a total of 4.19 lakh handlooms in the State, of which the cotton handloom industry accounted for 3.46 lakh looms.^{3/} The next reliable survey of the handloom industry had to wait until 1973, when a census of handlooms was taken in the

1/Report on the Survey of the Handloom Industry in Madras State, 1954. Issued by the Director of Statistics, Madras. Government of Madras, 1959.

2/ibid., p.12.

3/ Survey of the Handloom Industry in Madras State, 1955-56. Conducted by the Research Unit for the Survey of Handlooms Industry in Madras State, University of Madras. All India Handloom Board, Bombay, 1959, p.19 and inferred from Table IV-5, p.39.

State by the Director of Census Operations on behalf of the Directorate of Handlooms and Textiles.^{4/} According to this Census, there were 5.56 lakh handlooms in the State, of which number 4.15 lakh looms were in cotton handloom weaving.

The DOS study for 1954 had estimated that there were 4.41 lakh handloom weavers in the State, but did not attempt to break down this total by the type of yarn woven.^{5/} The Madras University study made no attempt to estimate the numbers of weavers in the State. The 1973 census of handlooms also did not make any such attempt.

This leaves the decennial Population Censuses as an important source of information on the workforce in the cotton handloom industry and its major characteristics. The Economic Tables in the Censuses contain a certain amount of information of this nature, which, as shall be seen, can be used to draw certain tentative conclusions about the workforce in the cotton handloom industry, albeit with certain limitations.

By their very nature, the Census data deal entirely with the numbers of persons active in each industry, and the distribution of this workforce over different areas, districts, and different types of establishments. Taking the post-Independence Censuses, the present paper seeks to raise certain specific issues with relation to the cotton handloom industry in the State.

^{4/} The final results of this census have not been published, but have been referred to in various places. See, for example, Director of Statistics, Tamil Nadu, Handloom Industry in Tamil Nadu; Madras, 1978 (mimeo). The 1973 figures are the ones still in official use.

^{5/} Report on the Survey of the Handloom Industry in Madras State, 1954, cited above. p.20.

The specific questions can be detailed as follows, keeping in mind that each aspect will involve an analysis at specific points of time as well as over time:-

1. The strength of the industry:

- What has been the share of the cotton handloom industry in the total workforce and total industrial workforce, at household and non-household levels, in rural and in urban areas, and in each district?
- What has been the share of the industry in total households engaged in household industry in the State, in rural and in urban areas, and in the districts?

2. Some important characteristics of the industry and its workforce:

- What is the distribution of the industry between household and non-household sectors?
- What has been the rural and urban distribution of the workforce in the industry? Can the cotton handloom industry, for instance, be characterised as an urban or as a rural industry?
- Can any conclusions be drawn on the size-structure of the industry?
- How seasonal is the industry?
- What is the division of male and female employment in the industry?
- What, if any, are the links between agriculture and the workforce in the industry?
- Can any conclusions be drawn about the status of the workers in the industry in terms of family and hired workers?

3. Each of the above issues carries not only an aspect of inter-temporal change, but also aspects of inter-spatial variation. There is thus the specific issue of analysing the regional profile of the industry, which, given the nature of Census data, can be treated only at the level of a district-wise profile.

As shall be seen below, the Economic Tables of the various Censuses do carry information on some or all of the aspects raised above. However, changes in coverage and scope, as well as in presentation of the data, imply that not all of the aspects have been covered in each Census. For the purpose of the present paper we are generally excluding any data contained in the Censuses on the cotton handloom industry outside of the Economic and Establishment Tables.

Interpretation of the data contained in the Census volumes requires a prior assessment of the Censuses as data sources for the analysis of the cotton handloom industry. Since the reliability of the conclusions drawn from the data depend fundamentally on the nature of the information and the manner of its collection and presentation in the Censuses, it becomes necessary to first examine these aspects of the data source before going on to the analysis of the data.

This paper is accordingly divided into three major sections. In the first section, we examine the Economic Tables of the 1951, 1961, and 1971 Censuses, the concepts and definitions underlying these, the manner of collection and presentation of the data, the nature of the data, and the limitation imposed on the analysis by these. In the second section of the paper, the specific questions regarding the workforce in the industry that have been indicated in preceding paragraphs are taken up, keeping in mind the limitations on the conclusions that are thrown up in Section I

of the paper. In the third and concluding section, the major conclusions of the analysis are presented and some areas that require further research pointed out.

Since the Economic Tables of the Censuses carry information on other industries along lines similar to that on the cotton handloom industry, it is hoped that this paper, especially the first section, will be of interest to anyone making use of the Census data to analyse individual industries.

Section I : The Data Sources

The Census of 1951

The Economic Tables of the 1951 Census are inadequate for the purposes of the present paper. This is so for two reasons, the one specific to the cotton handloom industry, the other a more general reason that makes the data in the 1951 Census infructuous for analysing the workforce in any given industry.

Classification of the industrial population in the 1951 Census was based on a mixture of industrial and occupational categories. In the case of the textile industry and its sub-divisions, the occupational aspect remained important, resulting in weavers of all types, whether in handloom, powerloom, or mill industries being clubbed together into the same category, so that information on the number of persons associated with the cotton handloom industry alone is not available.

At a more general level, the problem with the Economic Tables of the 1951 Census was that it divided the population between different categories of earners rather than of workers.^{6/}

6/ For definitions of the terms "earner" and each of its categories, see Census of India, 1951, Vol.III, Madras and Coorg, Report, Part I, pp.3-4.

Thus, a self-supporting earner was one who earned sufficient income over the reference period to support himself fully; such a person would be classified as working in the particular industry from which he or she earned the largest part of his or her income. An earning dependant was one who worked, but did not earn enough to support himself or herself, and had to depend on another person for at least a part of his or her subsistence; dependant earners were classified as belonging to the industry from which the person on whom they were dependant earned the major part of his or her income. The third category of non-earning dependants consisted of those "who made no contribution to the family income"^{7/}; non-earning dependants were not classified by industry, since they had no earnings.

This three-fold categorisation on the basis of earning carried two implications. First, one section of the actual working population which did not receive any payment for work done -- as in the case of family workers in household industry -- were clubbed together with the non-working population. Second, the sum of self-supporting earners and earning dependants in any particular industry did not represent even the set of paid workers in that given industry, since the earning dependants were classified, not according to the industry in which they earned their income, but in that of the person on whom they were dependant. The problem is further compounded by the fact that the basis for dividing earners between these two categories, namely the adequacy of the income earned, was itself left to the subjectivity of the respondent and the opinion of the investigator, with the latter not being based on any standard definition. In the words of the Census report, "It will be seen that we have, frankly, not gone into the difficult question of

^{7/} *ibid.*, p.4.

standard of living, and that the enumerators were only expected to explain the questions clearly and fully and record the answers, as to whether the persons enumerated were self-supporting persons or earning dependants or non-earning dependants."^{8/}

Data from the Censuses can be useful for the purpose of the present paper -- as indicated in the introductory section -- only inasmuch as they provide information on the number of persons actually working in the specified industry, along with some detail on the characteristics of this section of the workforce. Since the data in the Economic Tables of the 1951 Census do not provide these, they are completely inadequate for the task, and have to be dropped from the analysis.

The Censuses of 1961 and 1971

The concepts and definitions used as well as the manner of presentation of the economic data in the Censuses of 1961 and 1971 are broadly comparable, and so are capable of being treated together. The Economic Tables in the 1961 Census are divided into three parts, namely,

- Part II : General Economic Tables
- Part III: Household Economic Tables
- Part IV : Housing and Establishment Tables.

The Household Economic Tables of the 1961 Census are based on a Household Schedule, canvassed for the first time in the 1961 Census. This Schedule was not repeated in the 1971 Census enumeration, so that the 1971 Economic Tables do not have a part relating to Household Economic Tables.

^{8/} ibid., p.4.

In the Census of 1971, therefore, the main parts relating to economic data are:

- Part II: General Economic Tables, and
- Part III: Establishment Tables.

To be sure, references to the cotton handloom industry is to be found in the case of the 1961 Census, in places apart from the Economic Tables. First, each District Census Handbook carries a separate chapter on the handloom industry in the report part. Second, several of the 40 villages covered by the Village Survey Monographs of 1961 were predominantly, if not entirely, weaving villages, and each of these studies provides valuable insights into the state of the industry in 1961. Third, the Madras Volume of the 1961 Census carried a special report (Part XI-A) on handlooms in Madras State. The material contained in these three parts of the Census of 1961 relates not only to aspects of the workforce, but also to other aspects of the industry in the State, and as such will be taken up for analysis in a later paper. They are therefore left out of the present paper. In the paragraphs below are taken up each of the parts of the Economic Tables of 1961 and 1971.

General Economic Tables

In both Censuses, the General Economic Tables were based on information collected in the Individual Slips canvassed at the time of Census enumeration. The main concepts involved in these tables are those of 'worker', 'household industry', and 'non-household industry'.

Unlike the 1951 Census, in both 1961 and 1971, the division of the population for the purpose of economic activity was not based on an earnings criterion but on the basis of time spent at work. For 1961, extracting

the relevant parts of the definition as given by the Registrar General provides the following picture:

"For persons working: the basis of work will be satisfied in the case of seasonal work... if the person has had some regular work of more than one hour a day throughout the greater part of the working season. In the case of regular employment in any trade, profession, service, business or commerce, the basis of work will be satisfied if the person was employed during any of the fifteen days preceding the day on which the enumerator visited the household... Work includes not only actual work but effective supervision and direction of work... Persons under training as apprentices with or without stipend or wages will be regarded as working.

"An adult woman who...in addition to her household work...engages herself in work such as rice pounding for sale or wages, or in domestic services for wages for others or minding cattle or selling firewood or making and selling cow dung cakes or grass, etc..... should be treated as a worker.

"Persons...who may be earning an income but who are not participating in any productive work should not be treated as working unless they also work in cultivation, industry, profession, business or commerce."^{2/}

Thus, in 1961, as long as a person had had some regular work in the reference fortnight or the greater part of the working season, he or she was classified as a worker and placed under one or the other industry group regardless of whether or not he or she had been unemployed during the greater part of the year as a whole.

The Census of 1961 also differentiated between Principal Work and Secondary Work of workers. Although this differentiation was not conceived of initially, it was decided to introduce the two concepts some time late in the process of preparing for the Census, and some doubts have been expressed

^{2/} Census of India, 1961, Vol. IX, Part I-A(ii),
General Report, p.275.

about the reliability of the information collected on secondary work.^{10/} The two concepts of principal and secondary work were based on the amount of time spent in the particular economic activity.

The Economic Tables of the 1961 Census have very little detailed information on secondary work, and what there is of a relatively general nature, except in one Table, viz., Table B-VII.

The concept in 1971 was defined somewhat differently, by the introduction of the idea of 'main activity'. In 1971, the population was first divided as between workers and non-workers depending on whether or not their main activity over the previous year was at work or not. Those who were classed as 'workers' on this basis were then further classified among the different occupations and industrial groups in accordance with the time spent in work, the reference periods here being a reference week in the case of regular work, and at least an hour of regular work throughout the greater part of the working season in the case of seasonal employment.^{11/}

The main effect of the change in the definition of a "worker" between 1961 and 1971 was to effectively keep out of the workforce in 1971 a section of the population which would have been counted in it in 1961. As has been pointed out in the literature, the change in the definition of the term "worker" has had the most effect on the count of female workers in 1971 relative to 1961.^{12/} It may be added that this

^{10/} See Census of India, 1971, Series 1, Paper 1 of 1971, - supplement, Provisional Population Totals, p.27.

^{11/} Census of India, 1971, Series 19, Part II-B(i), General Economic Tables, p.xi.

^{12/} See V.K.Ramachandran, "Agricultural labourers in the working population of Tamil Nadu" in Bulletin, Madras Development Seminar, Vol.X, No.3, March 1980, pp. 146-7. Also see S.Subramanian and V.K.Ramachandran, "Agricultural labourers in the working population of rural Tamil Nadu: preliminary results from the Censuses of 1961, 1971, and 1981" in Bulletin, Madras Development Seminar, Vol. XII, No. 5&6, May & June 1982, p.304.

change also affected household workers in general and female household workers in particular, who may participate in the household cultivation or industry for only a part of the year, but remain economically inactive for the main part of the year.

One important implication of the change in the definition of the term 'worker' is that the data on the number of workers in the industry for the two years are not directly comparable. One way of minimising the problem, but certainly not of eliminating it, is to consider only the male workforce when making intertemporal comparisons. However, for reasons that will be explained shortly, the change in the definition has also had an impact on the division between household and non-household industry that is more difficult to adjust for.

In both 1961 and 1971, the workforce was also subdivided by 'class of workers'. The various classes made use of are the same in the two Censuses, and consisted of the following:

- 'employers': an employer was defined as one "who employs other persons for wages or salary to get any work done, who thus, will not only be responsible for his own work but also for work done by others. However, a person who employs domestic servants for household duties or employs subordinate under him in an office where he himself is employed by others, do not come under the category of employer, even when the power of appointment is delegated to him."^{13/}
- 'employees': an employee was defined as "a person who usually works under any person for a salary or

^{13/} Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables, p.371.

wages, irrespective of the powers. Even the unpaid worker in a household industry, if he is not a member of that household will be only an employee. Apprentices who do not form part of the household will also be an employee, whether he gets stipend or not."^{14/}

- a 'single worker' is "a person who works by himself, neither employing persons under him for the work, nor being an employee under any other person, except casually... The head of the household in a household industry will not be classified as a single worker. But the definition of a single worker includes a person who works in joint partnership with one or several persons, hiring no employees. Each member of a Producers Co-operative Society will also come under the category of 'single worker'".^{15/}
- a 'family worker' "works in any business or trade conducted mainly by the members of the family, ordinarily at least for one hour every day during the working season, without receiving wages in cash or kind..."^{16/} To avoid confusion, it is worth noting at this stage that the term 'family' used in the definition of 'family worker' is synonymous with the term 'household' as defined by the Census.

In both the Censuses, a 'household' has been defined essentially as consisting of a group of persons who share a common mess, "unless the exigencies of work prevent their doing so".^{17/} The concept of household underlies the defi-

^{14/} ibid., p.371.

^{15/} ibid., p.371.

^{16/} ibid., p.372.

^{17/} Census of India, 1971, Series 19, Part IV, Housing Report and Tables, p.9.

nitions of household and non-household industries, which remained the same in both the Censuses. A 'household industry' was defined in the Census of 1961 (and also in the Census of 1971) as:

"industry conducted by the head of the household and/or by the members of the household at home or within the village in rural areas and at home in urban areas. It should not be run on the lines of a factory, viz., the establishment not using power should not employ 20 persons or more and should not employ 10 persons or more if some kind of power is used. It should be confined to the household scale where the workers will be composed of the head of the household and the members of the household, the role of hired workers from outside being of minor importance. But a household industry can use machinery and employ power like steam, electricity, oil, etc., to drive the machinery. Household industry should relate to the production, processing, servicing, repairing, or making and selling of goods and should not be confined to the process of buying and selling only. Persons working unpaid or working as apprentices in other industries carried on by a household in which they are not members are also classified only under the household industry."^{18/}

The Census of 1971 also adopted the same definition of the term 'household industry' and emphasised that the definition implied four criteria to determine whether a given unit of production was a household industry or not, namely "(i) Nature of activity (ii) Participation (iii) Location and (iv) Size."^{19/}

In both the Censuses, given the definition of 'household industry', any production unit not falling under the category was classified as 'non-household industry'. The term 'non-household industry' is obviously not synonymous with the

^{18/} Census of India, 1961, Vol.IX, Part III, Household Economic Tables, p.5 (emphasis added).

^{19/} Census of India, 1971, Series 19, Part IIIa, Report on Establishments, p.594.

registered sector of the Factory Act of 1948; it includes all units, regardless of size, where the location of the unit is outside of the premises or the village in which the household operating it (if such exists) is located, and where wage workers are not relatively insignificant, and includes small units below the minimum registrable size. On the other hand, the definition of 'household industry' explicitly rules out units of a registrable size.

It has already been noted above that the definition of the terms 'household industry' and 'non-household industry' make specific use of the significance of wage workers relative to household or family workers. Such being the case, it is conceivable that the change in definition of the term 'worker' between 1961 and 1971 which affected household workers more than it did wage workers, could well have resulted in production units, which would have been classified as household industry in 1961, being classified as non-household units in 1971, due to the 'dropping out', from the count of workers, of some of the household workers actually working in the unit concerned.

Apart from the division of workers by the type of unit -- household and non-household -- in which they were working, the Censuses of 1961 and 1971 also used two other systems to classify the workforce, the one classifying the working population of occupations, and the other classifying the non-agricultural working population by the nature of industry in which its members were engaged.

The occupational classifications adopted in both Censuses have been based on the National Classification of Occupations, a system which is based "on the basic tasks involved in each occupation"^{20/}, and is a version of the International Standard

^{20/} Census of India, 1961, Vol. IX, Part II-B(II),
General Economic Tables, Flyleaf to Table B-V,
 p.2.

Classification of Occupations modified to suit Indian conditions. The National Classification of Occupations consists essentially of a three digit coding structure classifying the occupations into Divisions, Groups, and Families. The system has been subject to periodic revisions, and there are some marked differences between the system used in the 1961 Census and that used in the 1971 Census. The problem with the Occupational Classification is that it does not differentiate between different industries in which the same occupational activity is being carried on. Thus, in both 1961 and 1971, weavers and those involved in related activities have been clubbed together regardless of whether they were in the handloom, powerloom, or mill industries, and regardless of whether they were in cotton textile or other textile industries.^{21/}

Although the Occupational Tables have not been made use of in the present paper, it is worth mentioning that a further problem with this set of Tables at the Tamil Nadu level is that with the Part II B(iii) of the Tamil Nadu Series of the 1971 Census not having been published, the data is available only at the State level in the all-India Series, i.e., Series 1 of 1971; district level data are not available in published form. A listing of the Occupational Tables that are available for Tamil Nadu in the Censuses of 1961 and 1971 is included in Appendix 1 of this paper.

Classification of the workers in non-agricultural activities was based, in 1961, on the Standard Industrial Classification, and in 1971, on the National Industrial

^{21/} The list of classified occupations in each Census may be seen in (i) Census of India, 1961, Vol. IX, Part II-B(II), General Economic Tables, pp.6-14, and (ii) Census of India, 1971, Series 1, Part II-B(iv), Vol.1, General Economic Tables, Appendix to Table B-V, pp.(i) to (xvi).

Classification. In their basic principles, the two systems are similar, using a three digit classification system under which related industrial groups were classified by Divisions, Major Groups, and Minor Groups. The actual classifications in the two systems, however, do show differences in some cases and similarities in others. For example, the silk handloom weaving industry in 1961 constituted a Minor Group on its own, but was clubbed together with silk spinning, weaving and finishing of textiles, including silk factories in 1971. The cotton handloom industry, on the other hand, did not change at all, being assigned the Minor Group code number of 235, and forming part of Major Group 23, Cotton Textiles, in Division 2, Manufacturing.^{22/} Industries coming under Major Group 23 in 1961 and 1971 are listed in Appendix 2 to this paper.

It must, of course, be noted that the SIC and NIC systems referred to are quite different from the broad ten-fold occupational division of the population (ranging from Group I, 'cultivators' to Group X, 'Non-workers') that was used in the Censuses; indeed, the SIC and NIC systems reclassify the entire population except those falling under the broad categories of 'cultivator', 'agricultural labourer' and 'non-worker', with Divisions 2 and 3 of both the SIC and NIC accounting for the population classified in the broad categories under Class IV, 'household industry' and Class V, 'manufacturing other than household industry'.

Among the set of Tables that constitute the General Economic Tables in each of the Censuses, the only ones of

^{22/} The Standard Industrial Classification is listed in Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables, Appendix C, pp. 374-390; the National Industrial Classification is reproduced in Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, pp. 102-112.

interest for the purposes of the present paper are those where the working population has been divided by industrial categories. A list of these Tables, with their titles, level of disaggregation, and nature of data contained, is given in Appendix 1 of this paper. It will be noted that while some of the Tables listed in Appendix 1 disaggregate the data down to the three digit, or Minor Group level, and thus provide information on the cotton handloom industry, others only give the data at the two digit, or Major Group level, so that information on the cotton textile industry as a whole, of which cotton handlooms form only a part, is available. The question of how useful the data at Major Group level are for making inferences about the cotton handloom industry, is taken up toward the end of this section, since it is a question that is relevant to the Household Economic Tables as well.

One limitation of the data presented in the General Economic Tables, which also applies to the other Tables containing economic data by industries, is that the Tables refer, by and large, to principal work in the case of 1961 data and to main activity in the case of 1971 data. Thus, the information on number of workers in the cotton handloom industry in both 1961 and 1971 relate only to those workers whose principal work or main activity was in the cotton handloom industry. Data in both the Censuses on the number of workers having secondary work in the industry concerned is scarce, and insufficiently detailed. As such, it is impossible to work out, at either Census year, the total numbers of persons and of establishments that were associated with the handloom industry, whether as principal work or as secondary work, and whether as main activity or secondary activity. This is a general problem that cannot be corrected in the Census data, and so it must be explicitly noted that figures on the number of workers and of establishments in any given industry is likely to be an undercount, without there being any possibility of working out the extent of this undercount, especially at the Minor Group level.

In one respect, the General Economic Tables differ in their presentation between the two Censuses. While the tables in the 1961 Census are based on a full-count computation from the Individual Slips, those in the 1971 Census are based on a sample of the Slips, the sample itself being a stratified sample covering 20 per cent of the urban population and 10 per cent of the rural population. The stratification has been done on a three tier basis: (a) area-wise, (b) according to the broad ten-fold occupational classification, and (c) according to the 9 age-wise categories, including 'age not stated'. The sample results have been used to make population estimates, with the estimates being adjusted to tally with the working population count and the Primary Census Abstract, both of which are based on full-count computation.^{23/}

Household Economic Tables

The Household Economic Tables, presented in Part III of the Census of 1961, were unique to the Census, introduced for the first time in 1961 and not being repeated since. These Tables are based on information collected in the Household Schedules, also an innovation of 1961.

The Household Schedule was canvassed along with the Individual Slip, at the time of Census enumeration. While details pertaining to each member of the household were covered in the Individual Slip, information on the household as a whole was collected in the Household Schedule. The salient features of the Household Schedule are that it asked for details on household industry and household cultivation, in the case of the former covering principal and secondary

^{23/} See Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Appendix, pp. 333-4 for details.

household industry (classified by time spent in the particular industry), the number of persons engaged in each industry and in household cultivation, and the duration of each such activity of the household over the previous one year.^{24/}

All of the Household Economic Tables are based on a 20 per cent systematic random sample of the Household Schedules. No estimate of population parameters have been made, and the Tables give only sample results. As such, the data are not directly comparable with similar data in the General Economic Tables and the Establishment Tables, but are simply and easily corrected by multiplying the sample data by a factor of 5.

The Tables in this set that are of relevance to the purposes of the present paper are listed, with details regarding title, level of disaggregation, etc., in Appendix 1. It will be noted that only one of the Tables, namely B-XIV, Part B, provides data disaggregated to the Minor Industry level, so that analysing the rest of the Tables in this part requires assuming that what is true for households in the cotton textile industry is also more or less true for households in cotton handloom weaving. Whether this assumption is tenable or not is taken up later in this paper.

As already noted, the Household Schedule made a differentiation between principal and secondary household industry. The Tables in Part III of the 1961 Census deal entirely with only principal household industry, and do not give any information on secondary household industry. Thus, while it is possible to get some idea of the number of households involved in the cotton handloom industry at a principal industry level,

^{24/} See Census of India, 1961, Vol. IX, Part III, Household Economic Tables, Preliminary Note and Appendix 1, pp.8-9 for details.

it is not possible, from the data, to ascertain the total number of households with any interest in the industry, a point that does impose some limitation on the conclusions that the data point to.

Housing and Establishment Tables

The Housing and Establishment Tables of 1961 and the Establishment Tables of 1971 are each based on the house-listing exercise conducted a year prior to the actual enumeration. The houselisting operation in connection with the 1961 Census was not coordinated for a specific reference time at the all-India level, and in Tamil Nadu was completed in October 1960. The houselisting operation in connection with the 1971 Census was more rigorously coordinated, and was conducted in 1970.

At the time of the 1960 houselisting operation, a Housing Census was carried out with the objective of conveying a full picture of the Census Houses in the country and the uses to which these were being put.^{25/} The Housing Census made use of two concepts, which were subsequently adopted in the houselisting operation of 1970 as well. These were the terms 'Census Building' and 'Census House'.

A 'Census building' was defined in accordance with the Madras House Numbering System, under which "every building with a separate main entrance is treated as an entity".^{26/}

A 'Census house' was defined as "a unit which is viable and can be distinguished. It is used as a shop-cum-dwelling or a place of business, school, or workshop. It can be a

^{25/} Census of India, 1961, Vol.IX, Part IV-A, Report on Housing and Establishments, p.717.

^{26/} ibid., p.717.

structure or part of a structure. AS long as it is a unit for the purpose of common living or work, it is to be treated as a Census house".^{27/}

Quite clearly, as the Instructions on houselisting in 1960 made explicit, the Census house as a concept is very different from the 'household' as defined in the Census: while the former refers to a physical structure, the latter term refers to a group of people. Moreover, there was no necessity that the number of households and Census houses should match; on the contrary, "In our country, as the standard of living is low, it is likely that a good proportion of Census houses will be occupied by more than one household and as such, a clear distinction has been made between these concepts."^{28/}

The uses to which a Census house was being put was noted in the Housing Census, and the concepts and definitions in use here, with relation to units of production were the following:

- a factory, i.e. "any premises where 10 or more workers are employed, or have worked on any day of the preceding 12 months and in which the manufacturing process is conducted with the aid of power or where 20 or more persons are so employed and the manufacturing etc., is conducted without the aid of power. It will not include a mine coming under the Indian Mines Act...of 1952. All units, whether they are covered by the Factories Act or not, are listed in this category."^{29/}

^{27/} ibid., p.717. Some problems in the application of the definition were sorted out in 1971. See Census of India, 1971, Series 19, Part IV, Housing Report and Tables, p.8.

^{28/} Census of India, 1961, Vol.IX, Part IV-A, Report on Housing and Establishments, p.717.

^{29/} ibid., p.51.

- a workshop or workshed, which were similar in character to the factory, but organised on a smaller scale,^{30/} and
- a workshop-cum-dwelling: "If a portion of a residence is utilised by the owner or any other person as a workshop, it becomes a workshop-cum-dwelling. It should be distinctly understood that the nature of activity in that Census house should refer to manufacturing, processing, repairing or servicing of an article."^{31/}

No Housing Census was carried out in 1970. For the purpose of houselisting, however, the concepts of Census building and Census house was adopted. In 1970, however, a new concept, namely that of 'Establishment' was introduced. An Establishment was defined as:

"a place where goods are produced or manufactured not solely for domestic consumption or where servicing and/or repair workshop or a place where retail or wholesale business is carried on or commercial services are rendered or an office, public or private, or a place of entertainment or where educational, religious, social or entertainment services are rendered. It is necessary that in all these places one or more persons should be actually working. Thus, an Establishment will cover manufacturing, trade and other establishments where people work".^{32/}

The Establishment Tables in 1971 cover only Establishments as defined above. The leaving out of other types of Census houses from the 1971 Tables makes little difference for the present purpose, since it is clear that all production units,

^{30/} ibid., p.51.

^{31/} ibid., p.51.

^{32/} Census of India, 1971, Series 19, Part III-B, Establishment Tables, Flyleaf to Table E-I, p.1.

i.e., the factories, workshops, and workshop-cum-dwellings of the 1961 Census are covered in the term 'Establishments'.

In the Establishment Tables of 1971, unlike in 1961, production establishments were divided as between registered factories, unregistered workshops,^{33/} and household industries, with information on each being given separately, but data are available only at the Major Group level. The Tables relevant from the 1961 and 1971 Censuses are listed in detail in Appendix 1. It is clear that two of the Tables of 1971, namely Tables E-II Part B and E-II Part C together correspond to Table E III of 1961. Moreover, if the fact that the method of collection of the data differed between the two can be overlooked, Table E-II Part C of 1971 is comparable to Table B-XVI of the Household Economic Tables of 1961, at the Major Group level, and with reference to only size class and total number of establishments.

Since the size-wise distribution of the establishments is given, it is possible, from the Housing and Establishment Tables of 1961, to estimate the total number of persons working in any given industry; the corresponding Tables of 1971 carry a column giving the total number of persons, excluding the cases of persons working in establishments of unspecified size. These figures for Divisions 2 and 3, and Major Group 23, have been given in Table 1 below, and compared with the numbers against each group as shown in the General Economic Tables. It is clear that the two figures do not match at all, in every case the numbers as computed from the Establishment Tables being consistently and markedly lower. One reason for this discrepancy could lie in the fact that the data in the Establishment Tables, collected at the time of houselisting, were based on information given by only one respondent in each household or establishment; the data given in the General Economic Tables is based on Individual Slips, and is likely to be more accurate. The implication is that the size-wise distribution of production units in any specified

^{33/} The term 'registered' and 'unregistered' were used

industry as given in the Establishment Tables cannot be relied upon, since there is no reason to suppose that the error in reporting the number of workers is spread evenly across the size classes. On the other hand, there is no reason to doubt the data in the Establishment Tables on the total number of establishments as such, and these can be made use of.

This brings us to the last major point of this section, one that has to be tackled with relation to the General Economic Tables, the Household Economic Tables, as well as the Establishment Tables, namely, to what extent is it possible to use the data on Major Group 23 as a proxy for the cotton handloom industry, i.e., Minor Group 235. In the following paragraphs, the problem with relation to each set of Tables is taken up for analysis.

Table 1: Tamil Nadu, 1961 and 1971. Workers in the cotton handloom industry (minor group 235) as estimated from Establishment Tables of the Censuses and as given in the General Economic Tables

(Figures in Columns 2 and 3 are in numbers of workers)

Year	Number as in General Economic Tables	Numbers as estimated from Establishment Tables	Col. (3) as per cent of col. (2)
(1)	(2)	(3)	(4)
1961	465961	289886*	62.21
1971	571027	367764	64.40

*computed on the assumptions that (1) average employment in the 'greater than 100' category is 200, and (2) average employment in the 'unspecified' category is the same as that for all the other groups combined.

(Sources overleaf)

- Sources: 1) Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV, Part C.
- 2) Census of India, 1961, Volume IX, Part IV-B, Housing and Establishment Tables, Table E-III.
- 3) Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A.
- 4) Census of India, 1971, Series 19, Part IIIB, Establishments Tables, Table E-II, Parts B and C.

Tables 2 and 3 present, for 1961 and 1971, respectively, a comparison of the distribution of workers in the cotton textiles and the cotton handlooms industries cross-tabulated by sex and by area, and by total, household and non-household industry. These tables seem to indicate the following:

- In both 1961 and 1971, there are considerable differences between Major Group and Minor Group data in the distribution of workers, whether considered by sex or by area;
- these differences seem to be the sharpest in the case of household industry in both the years, and the least at the level of non-household industry;
- while on the whole, the 1961 figures show a greater degree of divergence than do the 1971 figures, at the level of total and household industry, in the non-household industry the differences are greater in 1971 than in 1961;
- On the whole, the sex-wise difference appears to be sharper than the area-wise difference in distribution.

The fact that at the non-household level, the distributions at major and minor industry levels seem to show the least difference is in itself a matter of interest; this is because the non-household sector includes the cotton mill industry as well, an industry where the distribution of the workforce is (a) more urban based and (b) more given to male

Table 2: Tamil Nadu, 1961. Distribution of 1,000 persons
at work separately in major group 23, cotton tex-
tiles, and minor group 235, cotton handloom, separa-
tely for total workers, workers in household industry,
and workers in non-household industry

(Figures are in numbers of workers)

Sex	Industry Group Number	Distribution of workers by area		
		Total	Rural	Urban
1. Total workers in industry groups:				
Persons	Group 23	1000	515	485
	Group 235	1000	526	474
Males	Group 23	586	276	310
	Group 235	639	337	302
Females	Group 23	414	239	175
	Group 235	361	190	172
2. Workers in household industry only:				
Persons	Group 23	1000	581	419
	Group 235	1000	541	459
Males	Group 23	513	284	229
	Group 235	627	343	284
Females	Group 23	487	227	190
	Group 235	373	190	175
3. Workers in non-household industry only:				
Persons	Group 23	1000	302	698
	Group 235	1000	320	680
Males	Group 23	821	251	570
	Group 235	802	251	550
Females	Group 23	179	51	128
	Group 235	198	69	130

Source: Derived from Census of India, 1961,
 Volume IX, Part B-II(I), General
Economic Tables, Table B-IV, Part C,

Table 3: Tamil Nadu, 1971. Distribution of 1,000 persons at work separately in major group 23, cotton textiles, and minor group 235, cotton handlooms, separately for total workers, workers in household industry, and workers in non-household industry.

(Figures are in numbers of workers)

Sex	Industry Group Number	Distribution of workers by area		
		Total	Rural	Urban
1. Total workers in industry groups:				
Persons	Group 23	1000	397	603
	Group 235	1000	413	587
Males	Group 23	770	311	459
	Group 235	757	339	418
Females	Group 23	230	86	144
	Group 235	243	73	169
2. Workers in household industry only:				
Persons	Group 23	1000	471	529
	Group 235	1000	444	556
Males	Group 23	710	348	362
	Group 235	748	361	387
Females	Group 23	290	123	167
	Group 235	252	83	168
3. Workers in non-household industry only:				
Persons	Group 23	1000	314	686
	Group 235	1000	312	688
Males	Group 23	836	270	566
	Group 235	787	270	517
Females	Group 23	164	45	119
	Group 235	213	42	171

Source: Derived from Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A, Appendix.

employment than female. To provide an answer to this question would require a deeper analysis of each component industry in Major Group 23, something outside the scope of the present paper. For the present it will be reasonable to draw the conclusion that the use of Major Group 23 as a proxy for minor group 235 when it comes to the distribution of workers is something that has to be done with considerable caution, and any conclusions drawn from the use of such a proxy in analysis will have to be hedged in by assumptions of a limiting nature. For example, it will be recalled, from Appendix 1, that Table B-IV Part B of 1961 and B-IV Part D of 1971 give the distribution of workers in Major Group 23 by the class of worker; in these tables, apart from the already noted fact of differences in the distribution of workers in groups 23 and 235, however small these may be, there is also the problem that the very presence of the mill sector in the count will result in a larger share of employees in the workforce than is likely to be the case in the cotton handloom industry alone, so that the conclusions drawn for Major Group 23 as a whole are not very likely to be valid for Minor Group 235. This would then imply that the use of data on Major Group 23 as proxy for Minor Group 235 in the General Economic Tables must, if used at all, be used with a great deal of caution.

Where the Household Economic Tables are concerned, it must first be noted that data on a comparable basis for Major Group and Minor Group are given in only one Table, and the information provided by this Table -- B-XIV Part B of 1961 -- is itself not very much, since the Table deals with only those households having a principal household industry and not undertaking household cultivation. The area-wise distribution of such households at major and minor industry group levels are presented in Table 4.

Table 4: Tamil Nadu, 1961. Area-wise distribution of 1,000 households with principal household industry but with no household cultivation, separately for major group 23, cotton textiles, and minor group 235, cotton handlooms.

(Figures are in numbers of households)

Industry Group	Distribution of households		
	Total	Rural	Urban
group 23	1000	536	464
group 235	1000	518	482

Source: Derived from Census of India, 1961, Volume IX, Part III, Household Economic Tables, Table B-XIV Part B.

It is clear from Table 4 that although there are differences in the distribution of the households at the two levels of industry, this difference is itself not as large as, say in the household industry workforce data shown in Table 2 above. The cotton handloom industry accounts for about 79 per cent of the total households in the cotton textiles industry, again taking only households without any household cultivation.^{34/} Thus, at least for this group of households, it may not be far wrong to treat the Major Group data as being representative of the Minor Group 235 as well. The use of the assumption of representativeness for households having both household industry and household cultivation cannot be checked independently, and must lie in the assumption that the distribution of these households at the Major Group level and the Minor Group level are as similar as for the other

^{34/} Calculated from Census of India, 1961, Volume IX, Part III, Household Economic Tables, Table B-XIV, p.275.

group of households already considered. This is again a strong assumption to make, and the results of analysis based on it must be treated with caution.

The Housing and Establishment Tables of 1961 do not pose any such problem; the only Table in this Part, Table E-III, which gives information on establishments by type of industrial activity, gives the data at the Minor Group level of disaggregation. On the other hand, in the Establishment Tables of 1971, there is no information whatever that is available at the Minor Group level, and any use of the data has to rest on the assumption that the distribution of establishments in any industry by area is proportional to the distribution of the workforce. This is not a very good assumption to make, since establishments in Major Group 23 will include cotton mills, which have an average employment greater than handloom units, and will thus affect the distribution of the workforce more than that of the establishments, but there is little alternative if these Tables are to be used at all. We have already seen that they are not to be relied upon to give a picture of the size-wise distribution of units.

In closing this section of the paper, we note that the major limitations in the Census data are generated by the changes in the definition of the term "worker" in 1971 relative to 1961. To the extent that this limits the inter-temporal analysis, it may then be noted that the issue of developing a profile of the handloom industry in 1961 and 1971 from the Census data is easier done than that of comparing the performance of the industry over the decade. Further, the material on the industry in the Census of 1971 is far less than that available in that of 1961, making it possible to produce a more detailed profile of the industry in 1961 than in 1971. It may therefore be noted that the level of tentativeness of the conclusions become greater as the analysis in the next section moves from a profile of the industry in 1961 to that in 1971 and finally to the issue of inter-censal change.

Section II

The Cotton Handloom Industry in Tamil Nadu, 1961 and 1971

The purpose of the present section is to analyse the data on the cotton handloom industry contained in the Tables of the Censuses of 1961 and 1971 discussed in the preceding section, and to draw conclusions from these data tempered by their inherent limitations, which have also been discussed in the preceding section.

This section is itself divided into three sub-sections. In the first and second sub-sections, the data relating to 1961 and 1971 are respectively taken up to provide profiles of the industry, in terms of the issues raised in the introductory section of the paper. The third sub-section takes up the question of changes in the strength and characteristics of the industry over the decade 1961 to 1971 as brought out by the Census data.

It must be noted that in a sense, this paper does not deal with the cotton handloom industry as a whole. The Census data differentiate -- at the Minor Group level -- between cotton handloom weaving in general and cotton handloom weaving in khadi units, giving data for both. As it happens, the number of workers coming under khadi weaving in India, and more so for Tamil Nadu, is insignificant compared to the number of weavers in cotton handlooms other than khadi. In 1961 and in 1971, khadi workers constituted less than 1 per cent of the total workers in cotton handlooms as a whole in Tamil Nadu and less than 3 per cent and 4 per cent in each of the two years in India.^{35/} Khadi weaving has therefore been dropped from the present analysis.

^{35/} Calculated from Census of India, Volume I, Part II-B(I), General Economic Tables, Table B-IV, Part C, and from Census of India, 1971, Series 1, Part II-B(iii), General Economic Tables, Table B-IV, Part A.

A. Profile of the cotton Handloom Industry in 1961

The first issue that needs to be taken up is that of the physical magnitudes involved in the cotton handloom industry in 1961. Tables 5 and 6 give an idea of the most important of these, viz., the number of workers in the industry and the number of establishments in the industry in 1961, the distribution of the workforce being disaggregated by type of industry and cross-tabulated by sex and area, the distribution of the establishments being given disaggregated by area. It must be remembered that in both these tables, the numbers being dealt with are only of workers with, and establishments where, the main activity comes under Minor Group 235, cotton handloom weaving.

Strength of the Industry in Tamil Nadu

Table 5 gives Tamil Nadu's rank in 1961 among the States and Union Territories of India with relation to each group of workers. It is clear that in general, the State ranked first in handloom industry employment, at total, household, and non-household industry levels. In female employment in general, Tamil Nadu came second, following Assam, where, although the total number of workers was less than in Tamil Nadu, the industry was almost entirely composed of female workers. Andhra Pradesh outranked Tamil Nadu when it came to rural employment in the industry, so that Tamil Nadu came out third in the employment of rural female workers. That the State was one of the most important, if not the most important, in the country for the handloom industry is thus amply demonstrated.

Table 5: Tamil Nadu, 1961. Workers in the cotton handloom industry (minor group 235) and their distribution by area, sex, and types of industry

(Figures are in numbers of workers)

Sex	Total	Rural	Urban
1. Total workers in industry group:			
Persons	465961 (1)	245293 (2)	220668 (1)
Male	297674 (1)	156982 (2)	140692 (1)
Female	168287 (2)	88311 (3)	79976 (1)
2. Workers in household industry only:			
Persons	434960 (1)	235375 (2)	199585 (1)
Male	272815 (1)	149189 (2)	123626 (1)
Female	162145 (2)	86186 (3)	75959 (1)
3. Workers in non-household industry only:			
Persons	31001 (1)	9918 (2)	21083 (1)
Male	24859 (1)	7793 (2)	17066 (1)
Female	6142 (1)	2125 (1)	4017 (2)

Note: Figures in parentheses indicate Tamil Nadu's rank among the States and Union Territories for each group of workers.

Source: 1) Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV Part C.

2) Census of India, 1961, Volume I, Part II-B(I), General Economic Tables, Table B-IV Part C.

Table 6: Tamil Nadu, 1961. Establishments, i.e., Census Houses used as factories, workshops, and workshop-cum-dwellings, in the cotton handloom industry (minor group 235) by area

(Figures are in numbers of establishments)

Total	Rural	Urban
85085	41857	43228

Source: Census of India, 1961, Volume IX, Part IV-B, Housing and Establishment Tables, Table E-III.

If the State was an important one for the industry, just now important was the industry in the State in 1961? Tables 7 and 8 below take up this question; Table 7 indicates that the cotton handloom industry accounted for close to a fifth of the total workers in the manufacturing sector in the State in 1961, a much larger part of employment in household industry as a whole, and was not of any significance in the non-household sector. In the country as a whole, by contrast, the industry accounted for only about 14 per cent of workers in the manufacturing sector.

Table 8 similarly demonstrates the importance of the cotton handloom industry at the level of establishments, and also shows that the industry was relatively more important among rural industries than among urban. The higher share of the industry in terms of establishments than in terms of employment indicates that the average level of employment per production unit in the cotton handloom industry was lower than the corresponding average for all industries taken together for 1961, an implication that is not surprising.

Table 7: Tamil Nadu, 1961. Relative shares of the cotton handloom industry (minor group 235) in total workers in manufacturing (Divisions 2 & 3), disaggregated by area, sex and type of industry
(Figures are in percentages)

Sex	Total	Rural	Urban
1. All Workers:			
Persons	23.43	23.63	23.20
Males	21.54	23.88	19.41
Females	27.74	23.21	35.34
2. Workers in household industry only:			
Persons	38.13	30.76	53.17
Males	43.20	35.06	60.01
Females	31.85	25.37	44.86
3. Workers in non-household industry only:			
Persons	3.65	3.64	3.66
Males	3.31	3.36	3.29
Females	6.29	5.21	7.05

Source: Derived from Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV Part C.

Table 8: Tamil Nadu, 1961. Relative shares of the cotton handloom industry (minor group 235) in total establishments engaged in manufacturing (Divisions 2 and 3), disaggregated by area

(Figures are in percentages)

Total	Rural	Urban

44.28	48.91	40.56

Source: Derived from Census of India, 1961, Volume IX, Part IV-B, Housing and Establishment Tables, Table E-III.

It can thus be concluded that in 1961 the State of Tamil Nadu was among the most important in the country where the cotton handloom industry was concerned, and the industry itself formed an important part of the industrial profile of the State, in overall terms as well as at the level of household industries.

Strength of the Industry in the Districts

Tables 9 and 10 below give the district-wise distribution of workers and establishments in the cotton handloom industry in the State. From both tables, it is clear that Salem district in 1961 was far and away the most important district in the State for the industry, with Coimbatore forming a not-very-close second. Secondly, the three districts of Salem, Coimbatore, and Tirunelveli together accounted for over half the workers and establishments in the industry. Combining the results of the two tables shows that the most important districts in the State where close to 90 per cent of the industry was concentrated in 1961 were the first seven districts listed in each table. While Tiruchirapalli, South

Arcot, and Kanyakumari, which each accounted for over 1 lakh workers in the industry in 1961 cannot be ignored, it is clear that Thanjavur, Madras district, and Nilgiris were insignificant where the cotton handloom industry is concerned.

Given the spread of the cotton handloom industry among the districts, Table 11 takes up the question of the significance of the industry within each district. Once again, Salem emerges as the most important district, in the sense that close to a half of all the workers in the manufacturing sector and almost 70 per cent of the establishments in the district were to be found in cotton handlooms in 1961. In terms of the share of the industry in the industrial workforce, the industry was important in Chengalpattu, Ramanathapuram, South Arcot, North Arcot, Coimbatore and Madurai, where it accounted for between a fifth and a third of the total industrial workforce. In terms of establishments, while the industry was very important -- accounting for more than half the total industrial establishments -- in Chengalpattu, Tirunelveli, and Coimbatore, it appeared to be less important in the establishment-based industrial profiles in Ramanathapuram and North Arcot, where the industry accounted for less than half, but above the State average, of total establishments. In South Arcot the ratio was below the State average. Madurai is one district where, by either measure, the significance of the industry within the district was lower than that within the State as a whole, but in this district, as well as in South Arcot and Tiruchirapalli, the industry can be regarded as being significant insofar as it accounted for more than a fifth of the total industrial workforce, and more than a third of total establishments.

The strength of the industry in each district in rural and urban areas, and in household and non-household industry, is taken up later in this paper. One more issue which is raised by Tables 9 and 10 when taken together, namely the differences across districts in the average size of establishments in the industry, is also taken up in a later part of this sub-section.

Table 9: Tamil Nadu, 1961. District-wise distribution of workers in cotton handloom industry (minor group 235)

(Figures in column 2 are in numbers of workers, and in columns 3 and 4 in percentages)

District	Total workers in group 235	Share of districts in total District's share	Cumulative share
(1)	(2)	(3)	(4)
1. Salem	119186	25.58	25.58
2. Coimbatore	76383	16.39	41.97
3. Tirunelveli	48322	10.37	52.34
4. Chengalpattu	47203	10.13	62.47
5. Ramanathapuram	40765	8.75	71.22
6. North Arcot	39863	8.56	79.78
7. Madurai	30732	6.60	86.37
8. Tiruchirappalli	21645	4.65	91.02
9. South Arcot	18632	4.00	95.01
10. Kanyakumari	10801	2.32	97.33
11. Thanjavur	6421	1.38	98.71
12. Madras	5990	1.29	100.00
13. Nilgiri	18	neg.	100.00
Tamil Nadu	465961	100.00	100.00

Notes: 1. Districts have been arranged in descending order of numbers of workers in minor group 235.

2. neg. denotes negligible.

Source: Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV, Part C.

Table 10: Tamil Nadu, 1961. District-wise distribution of establishments, i.e. factories, workshops, and workshop-cum-dwellings, in the cotton handloom industry (minor group 235)

(Figures in column 2 are in number of establishments, and in columns 3 and 4 in percentages)

District	Total Estbts. in group 235	Share of districts	
		District's share	Cumulative shares
(1)	(2)	(3)	(4)
1. Salem	22869	26.88	26.88
2. Coimbatore	13360	15.70	42.58
3. Tirunelveli	11812	13.88	56.46
4. North Arcot	8240	9.68	66.15
5. Chengalpattu	6060	7.12	73.27
6. Ramanathapuram	5590	6.57	79.84
7. Madurai	5587	6.57	86.41
8. Tiruchirapalli	4792	5.63	92.04
9. South Arcot	3052	3.59	95.62
10. Thanjavur	1915	2.25	97.88
11. Kanyakumari	1259	1.48	99.35
12. Madras	549	0.65	100.00
13. Nilgiri	0	0.00	100.00
Tamil Nadu	85085	100.00	100.00

Note: Districts have been arranged in descending order of numbers of establishments in minor group 235.

Source: Census of India, 1961, Volume IX, Part IV-B, Housing and Establishment Tables, Table E-III.

Table 11: Tamil Nadu, 1961. Relative importance of the cotton handloom industry (minor group 235) in each district as measured by the share of the industry in total workers and total establishments in manufacturing (Divisions 2 and 3)

(Figures are in percentages)

District	Relative share of group 235 in:	
	Total workers in Divisions 2 and 3	Total establishments in Divisions 2 and 3
1. Salem	45.15	67.31
2. Coimbatore	23.74	50.20
3. Tirunelveli	18.91	53.60
4. Chengalpattu	34.07	58.34
5. Ramanathapuram	29.47	46.97
6. North Arcot	25.28	43.89
7. Madurai	20.21	39.53
8. Tiruchirapalli	14.79	33.53
9. South Arcot	26.04	38.98
10. Kanyakumari	11.94	28.84
11. Thanjavur	6.35	12.12
12. Madras	4.22	5.05
13. Nilgiri	0.22	0.00
Tamil Nadu	23.43	44.28

Note: Districts have been arranged in descending order of numbers of workers in minor group 235 in 1961.

Source: 1) Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV Part C.
 2) Census of India, 1961, Volume IX, Part IV-B, Housing and Establishment Tables, Table E-III.

Household and Non-Household Industry

Tables 12 and 13 below provide information on the distribution of workers among the household and non-household sectors of the cotton handloom industry. The tables lead to the following conclusions:

- at the overall State level, as well as among the districts in general, the household sector was predominant in 1961, and the division between household and non-household sectors of the workforce was about the same in Tamil Nadu as it was in the country as a whole. (See Column 4 of each table).
- Within the household sector as a whole, the cotton handloom industry had a considerable weight in most districts and in the State as a whole. The State average of 38.13 per cent was much higher than the all-India average of around 20 per cent.
- The cotton handloom industry was not such an important part of the non-household sector employment in the State and among the districts in general, but here also the State average was appreciably above the all-India average.
- Among the districts, Salem emerges as the most important district at household as well as at non-household levels in 1961. Not only was this true in terms of the share of the workforce in each sector accounted for by the District -- about 25 per cent in each -- but also in terms of the importance of the industry within the District as shown in Column (5) of each Table.
- Taking the ranking of the districts in terms of their shares in the total workers in each sector shows some differences. In the household sector distribution,

Table 12: Tamil Nadu, 1961. Some characteristics of the distribution of workers in the cotton handloom industry (minor group 235) on a district wise basis

(1)	(2)	(3)	(4)	(5)
District	No. of workers in group 235 household industry	District's share in total workers in group 235 household industry	Share of household workers in total workers at group 235 in each district	Share of group 235 in total household workers in Divisions 2 and 3 in each district
	No.	%	%	%
1. Salem	111327	25.59	93.41	55.31
2. Coimbatore	73096	16.81	95.70	41.58
3. Tirunelveli	46740	10.75	96.73	26.04
4. Chengalpattu	45852	10.54	97.14	57.28
5. North Arcot	38796	8.92	97.32	41.46
6. Ramanathapuram	38706	8.90	94.95	44.45
7. Madurai	26122	6.01	85.00	38.59
8. South Arcot	17793	4.09	95.50	36.69
9. Tiruchirapalli	17040	3.92	78.72	23.64
10. Kanyakumari	9886	2.27	81.53	13.61
11. Thanjavur	5761	1.32	89.72	11.89
12. Madras	3826	0.88	63.87	29.64
13. Nilgiris	15	neg.	83.33	1.50
State	434960	100.00	93.35	38.13
India	2000413		93.71	20.14

Note: 1) "neg" denotes negligible.

2) Districts have been arranged by their rank in Column (2) above.

Source: 1) Census of India, 1961, Vol.IX, Part B-II(I), General Economic Tables, Table B-IV, Part C and appendix.

2) Census of India, 1961, Vol.II, Part II-B(I), General Economic Tables, Table B-IV, Part C.

Table 13: Tamil Nadu, 1961. Some characteristics of the distribution of workers in the cotton handloom (minor group 235). non-household industry on a district-wise basis

(1)	(2)	(3)	(4)	(5)
District	No. of workers in group 235 non-household industry	District's share in total work-ers in group 235, non-household industry	Share of non-household industry in total work-ers in group 235 in each district	Share of group 235 non-household work-ers in Divns. 2&3 in each district
	No.	%	%	%
1. Salem	7859	25.35	6.59	12.54
2. Madurai	4610	14.87	15.00	5.46
3. Tiruchirapalli	4605	14.85	21.28	6.20
4. Coimbatore	3287	10.60	4.30	2.25
5. Madras	2164	6.98	36.13	16.79
6. Ramanathapuram	2059	6.64	5.05	4.02
7. Tirunelveli	1582	5.10	3.27	2.08
8. Chengalpattu	1351	4.36	2.86	2.31
9. North Arcot	1067	3.44	2.68	1.66
10. Kanyakumari	915	2.95	8.47	5.15
11. South Arcot	839	2.71	4.50	3.64
12. Thanjavur	660	2.13	10.28	1.25
13. Nilgiris	3	0.01	16.67	0.03
State	31001	100.00	6.65	3.65
India	134203		6.29	1.68

Note: 1) Districts have been arranged by their rank in Column (2) above.

Source: 1) Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables, Table B-IV, Part C and appendix.

2) Census of India, 1961, Vol. I, Part II-B(I), General Economic Tables, Table B-IV, Part C.

(Table 12) Salem, Coimbatore, and Tirunelveli between them accounted for about 53 per cent of the total household workers; in the non-household sector, Madurai and Tiruchirapalli replaced Coimbatore and Tirunelveli at the 2nd and 3rd rank positions, and these districts, along with Salem accounted for slightly over 55 per cent of the non-household employment in the industry.

- Household to non-household employment ratios do not vary very much in general in the tables: the standard deviation of the values in Column (4) works out to 9.31. However, although, as this would indicate, the household sector was the predominant one in all the districts, the non-household sector did have, in 1961, some significance, as is shown in Column (4) of Table 13, in the districts of Madras, Tiruchirapalli, and Madurai, if we leave out the unimportant districts of Nilgiris and Thanjavur. However, even in these districts, cotton handloom industry was not a very important part of non-household sector employment as a whole.
- Over half of the total household employment in Salem and Chengalpattu was accounted for by the cotton handloom industry, while the industry does not seem to have accounted for a very large part -- in relative terms -- of total household sector employment in Tiruchirapalli, Madras District, and Kanyakumari; in the other districts where the industry was important, it accounted for around 40 per cent of total household sector employment.

Rural and Urban Distribution of the Industry

Table 14 below gives the distribution of workers in the cotton handloom industry as between rural and urban workers in 1961. Tables 15 to 18 (see Appendix of Tables) give further details of the distribution.

At the overall, State level, certain conclusions can be drawn from these Tables. First, it is clear from the "State" row in Table 14, that the industry was more or less evenly distributed as among rural and urban areas, with rural areas accounting for a marginally higher share of the workforce. The industry in 1961 was thus neither predominantly rural nor predominantly urban in character; however, the urban strength of the industry was greater in Tamil Nadu than in the country. Secondly, as is shown in Tables 15 and 16, in both rural and urban areas, by far the largest part of the workforce was in household industry; we have already seen that this was true for the industry as a whole in the previous section. Thirdly, household sector employment was marginally weighted in favour of rural areas, but this weight was much less in Tamil Nadu than in the country. Fourthly, as shown in Column (5) in each of Tables 17 and 18, the non-household industry at the State level was more to be found in the urban areas than in the rural, with urban areas accounting for more than two third of the total non-household employment in the industry.

In 1961, the cotton handloom industry accounted for more than half the total manufacturing employment in urban household industry, about a third of rural household industry, and was relatively insignificant in both rural and urban non-household industry; in all four however, the industry was of greater significance in Tamil Nadu than in the country as a whole.

The distribution of the industry by area in each of the districts shows a pattern that is not even. While the rural-urban distribution was more or less even, and close to the State average only in the district of Salem, the distribution was weighted in favour of rural areas in Coimbatore, North Arcot, South Arcot, Tiruchirapalli, Chengalpattu and Kanyakumari, and weighted in favour of urban areas in the three southern districts of Tirunelveli, Ramanathapuram, and Madurai. (See Table 14) The relatively unimportant districts of Thanjavur, Madras and Nilgiris have been ignored.

Table 14: Tamil Nadu, 1961. Distribution of 1,000 workers
in the cotton handloom industry (minor group 235)
in each district of Tamil Nadu, in Tamil Nadu,
and in India, divided as between workers in rural
and in urban areas

(Figures are in numbers of workers)

District State India	Workers in group 235 by area		
	Total	Rural	Urban
1. Salem	1000	533	467
2. Coimbatore	1000	824	176
3. Tirunelveli	1000	232	768
4. Chengalpattu	1000	599	401
5. Ramanathapuram	1000	254	746
6. North Arcot	1000	670	330
7. Madurai	1000	260	740
8. Tiruchirapalli	1000	629	371
9. South Arcot	1000	656	344
10. Kanyakumari	1000	570	430
11. Thanjavur	1000	352	648
12. Madras	1000	N.A.	1000
13. Nilgiris	1000	722	278
State	1000	526	474
India	1000	684	316

Note: Districts have been ranked by their share in total employment in group 235 in the State.

N.A. = not applicable.

Source: 1) Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Tables B-IV, Part C.
 2) Census of India, 1961, Volume I, Part II-B(I), General Economic Tables, Tables B-IV, Part C.

Column (4) in each of the Tables 15 to 18 reflect the fact that in virtually all the districts, the household sector formed the most significant part of the total employment in rural as well as in urban areas, although this is somewhat more marked in the former areas. This is clearly because, as shown in Column (5), Table 18, the non-household industry was largely in the urban areas, except in the two districts of Salem and Chengalpattu; even in these two districts, however, urban workers were by and large household industry workers.

Table 15 shows that among rural household workers, Coimbatore and Salem districts together formed the most important belt, accounting for more than 50 per cent of the workers. The northern districts of Chengalpattu, North Arcot, and South Arcot accounted, between them for over 25 per cent of the workers. (Column (3)).

Among the urban household workers, by far the most important single belt -- See Column (3) of Table 16 -- consisted of the southern districts of Tirunelveli, Ramanathapuram, Madurai and Kanyakumari, which accounted for about 44 per cent of the workers; Salem and Coimbatore together accounted for just about 32 per cent, while the northern districts of Chengalpattu, North Arcot and South Arcot accounted for about 18 per cent of the workers. The majority of the workers in urban household industry in 1961 was to be found concentrated in 3 districts -- Salem, Tirunelveli, and Ramanathapuram, -- which accounted for around 58 per cent of the workers in the category.

Between them, Salem and Coimbatore -- as shown in Column (3) of Table 17 -- accounted for almost 60 per cent of the workers in rural non-household industry, and the three districts of Salem, Coimbatore, and Tiruchirapalli, accounted for around 75 per cent of the workers in the group. The incidence of rural non-household workers in the other districts of the State was more or less insignificant.

Table 18, which shows the distribution of urban non-household workers in the industry, indicates that the most important contiguous belt for this category consisted of the southern districts: Ramanathapuram, Madurai, and Tirunelveli accounted for roughly 35 per cent of the workers in the category; the next important belt seems to be the central districts of Salem and Coimbatore, which between them accounted for about 25 per cent. The share of the northern-most districts, Chengalpattu, North Arcot, and South Arcot, was much less, at about 10 per cent.

Finally, an examination of Column (6) in each of the Tables 15 to 18 indicate broadly that the lower the rank of the district in the particular category, the less important the cotton handloom industry is in terms of its weight in the total workers in the manufacturing industries in the particular category: it seems broadly true that the relative share declines as we go down the column in all the four tables.

Apart from the points made above with relation to groupings of districts, it would appear, taking individual districts, that at all levels of disaggregation, Salem emerges as the single most important district for the industry in 1961. While Salem and Coimbatore together top the list among the rural categories, Coimbatore drops to a lower position in urban household, and even more in the ranking by urban non-household workers.

Size Structure of the Industry

As already noted in the first part of this paper, the size-wise distribution of establishments given in the Housing and Establishment Tables is not very reliable. However, on the assumption that the count of establishments is reliable, and combining these data with the figures on number of workers in the industry, it becomes possible to estimate the average

number of workers in the industry, it becomes possible to estimate the average number of workers per establishment in the cotton handloom industry. This exercise, at a district level, has been done and the results for Divisions 2 and 3 as well as for the cotton handloom industry have been shown in Table 19 below. It is worth noting, first, that the average size at the State level was much lower for Minor Group 235 than for the manufacturing sector as a whole, and that in both, the average size of establishments was slightly higher in rural than in urban areas. Secondly, the variations in size are not very large across the districts; given the relatively small variations, it is clear that among the major handloom districts, Kanyakumari, Chengalpattu, and Ramanathapuram had relatively high averages, while that in the other important districts came closer to the State average.

A breakdown of the average size data in terms in household and non-household industry is not possible. For the household level, the Household Economic Tables carry some information (in Table B-XVI) on sampled households at the major industry group level. Combining households with and without cultivation which have a principal household industry falling in group 23, and working out the averages gives an average size of 2.93, or, rounding off, of 3 persons per household unit. This, as is to be expected, is lower than the value of 5 persons per establishment for the industry as a whole. Estimates of average size for the non-household sector are not possible, but it is apparent that this value should be somewhat higher than the overall average of 5.^{36/}

^{36/} The overall average can be regarded as a weighted average of the average sizes of the household and non-household sectors, the weights being the share of each sector in total establishments. Since the breakdown by type of establishment is not available in the Census data, the non-household average cannot be estimated. Using employment figures as proxy for the establishments gives a result of 34 persons per establishment in the non-household sector, a figure that is so much higher than the corresponding figure for the household sector (=3) that the underlying assumption itself becomes questionable.

Table 19: Tamil Nadu, 1961. Average workers per establishment in manufacturing (Divisions 2 & 3) and in cotton handlooms (minor group 235) in each district by area

(figures are in no. of workers)

District	<u>All manufacturing industries</u>			<u>Cotton Handlooms</u>		
	Total	Rural	Urban	Total	Rural	Urban
1. Madras	13	N.A.	13	11	N.A.	11
2. Chengalpattu	13	13	14	8	7	9
3. North Arcot	8	8	9	5	4	6
4. South Arcot	9	10	8	6	6	6
5. Salem	8	10	6	5	6	4
6. Coimbatore	12	12	12	6	6	5
7. Nilgiris	8	7	10	N.A.	N.A.	N.A.
8. Madurai	11	15	9	6	6	5
9. Tiruchirapalli	10	11	10	5	4	5
10. Thanjavur	6	7	6	3	3	4
11. Ramanathapuram	12	18	9	7	8	7
12. Tirunelveli	12	22	8	4	5	4
13. Kanyakumari	21	31	8	9	12	6
State	10	12	9	5	6	5

Note: (1) "N.A." denotes not applicable

Source: Derived from (1) Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables, Table B-IV, Part C, & Appendix, and

(2) Census of India, 1961, Vol. IX, Part IV-B, Housing and Establishment Tables, Table E-III.

Seasonality

Information on seasonality in the cotton handloom industry in the Census data is only partial. It is available only for 1961; the data in the 1961 Census on seasonality relate only to the household sector, and not to the non-household sector, and is contained in the Household Economic Tables. Again, the data has not been disaggregated to the Minor Group level, but is available only at the Major Group level. Nevertheless, processing what little data there is gives some results of interest.

Table 20 below gives the distribution of households by time duration of activity of the principal household industry. The table in the Census Household Economic Tables, namely Table B-XVI, gives the data separately for households with and without household cultivation, and this has been incorporated into Table 20.

Taking all households in Major Group 23, Table 20 shows that most of the units were active for between 10 and 12 months. For households with household cultivation, the distribution has a lower concentration in the 10 to 12 month category than in the case of households without cultivation. This would imply that specialisation among households with cultivation was not complete, members of the family who participated in the household industry also involving themselves in cultivation in some manner or the other.

It is important to note that even at the household level, by 1961, the cotton handloom industry could not be regarded as being a very seasonal industry in the sense of its being active only for relatively short periods of the year. This is apparent for both rural and urban areas in Table 20, and is further brought out in Table 21 in which the average duration has been computed for households with principal household

Table 20: Tamil Nadu, 1961. Percentage distribution of sample households with principal household industry in major group 23 -- cotton textiles -- by time duration of activity, separately for households with and without household cultivation

Group and Area	Sample house- holds	Households classed by duration of working in months (Percentage distribution)				
		1-3	4-6	7-9	10-12	Unspecified
1. Households with household cultivation:						
T	11778	1.14	12.35	10.55	70.65	5.31
R	10772	1.18	13.14	10.97	69.36	5.36
U	1006	0.70	3.98	6.06	84.49	4.77
2. Households without household cultivation:						
T	39810	0.21	1.84	3.43	90.26	4.26
R	21330	0.30	2.48	4.14	88.97	4.12
U	18480	0.12	1.11	2.61	91.74	4.42
3. All households in group 23:						
T	51588	0.42	4.24	5.06	85.1	4.50
R	32102	0.59	6.06	6.43	82.39	4.53
U	19486	0.15	1.26	2.79	91.37	4.44

Source: Derived from Census of India, 1961, Volume IX, Part III, Household Economic Tables, Table B-XVI.

industry as a whole and for those in group 23. It has been assumed, in Table 21, that households in the "unspecified" category work, on average, for half the year. It is clear from Table 21 that at least at the level of the household industry, the cotton textile group of industries, (of which cotton handlooms formed about 79 per cent) in 1961, offered more regular employment than the average, whether the units were in rural or in urban areas, and whether or not they combined household cultivation, especially in the rural areas.

Table 21: Tamil Nadu, 1961. Average duration of activity in principal household industry for each category of sampled households in cotton textiles (major group 23) and all household industry, (Divisions 2 & 3)
(Figures are in number of months)

Category	Group 23 household industry			All household industry		
	Total	Rural	Urban	Total	Rural	Urban
1. Households with- out household cultivation	10.6	10.5	10.6	10.0	9.7	10.4
2. Households having household cultivation	9.6	9.5	10.3	9.0	9.0	9.8
3. All households with principal household industry	10.3	10.2	10.6	9.7	9.4	10.4

Source: Derived from Census of India, 1961, Volume IX, Part III, Household Economic Tables, Table B-XVI.

A crucial assumption in the foregoing analysis is that data on the cotton textiles industry, Major Group 23, is representative of the cotton handloom industry, Minor Group 235; this assumption which may be valid at the State level, where the cotton handloom industry accounted for around 79 per cent of the total households in group 23, becomes somewhat tenuous if applied to district level data. District level analysis of seasonality has therefore has to be dropped.

Links with Agriculture

As noted already, the Household Economic Tables of 1961 give the distribution of households in each Major Group of principal household industry as among those having household cultivation and those without household cultivation. The absolute numbers of such households in the cotton textiles industry in Tamil Nadu have already been given in Table 20 above. The relative distribution in Tamil Nadu and in India are shown in the upper half of Table 22 below. It is clear from this table that while, at the all India level, nearly 60 per cent of the households in the industry had not specialised in the cotton textile industry but also had some link with agriculture in the form of household cultivation, the corresponding figure in Tamil Nadu was very much lower, and was closer to a third of the total.

The obvious conclusion, that in Tamil Nadu workers in the cotton textile industry at the household level (the largest part of which, as already noted, consist of cotton handloom weaving) had, by 1961 become separated from agriculture, must be treated with caution on two counts. First, the separation by participation in household cultivation does not exclude the possibility that at least some of the workers in the purely household industrial households worked part of the year as agricultural workers. Secondly, as the lower half of Table 22 shows, the phenomenon noted with relation to the cotton textiles industry also seems to hold true at the overall manufacturing industry level as well, indicating that such specialisation as is brought out in the figures was not so much unique to the cotton handloom industry in Tamil Nadu as it was to household industry in the State as a whole.

In Table 23, (see Appendix of Tables) which is based on the General Economic Tables for 1961, the relative share of household workers in the industry and in manufacturing who have secondary work in agriculture, whether as cultivators

Table 22: Tamil Nadu and India, 1961. Distribution of sample households having principal household industry in cotton textile industry (major group 23) and in manufacturing industry (Divisions 2 & 3) by households with and without household cultivation

(Figures are in percentages)

Industry	Area and households by type	Share of households by area		
		Total	Rural	Urban
Group 23	<u>Tamil Nadu:</u>			
	households with cultivation	22.83	33.56	5.16
	households without cultivation	77.17	66.44	94.84
	<u>India:</u>			
	households with cultivation	49.75	59.21	6.90
	households without cultivation	50.25	40.79	93.10
Divisions 2 & 3	<u>Tamil Nadu:</u>			
	households with cultivation	26.40	34.47	5.22
	households without cultivation	73.60	65.53	94.78
	<u>India:</u>			
	households with cultivation	47.50	54.57	7.78
	households without cultivation	52.50	45.43	92.22

Sources: Derived from: 1) Census of India, 1961, Volume IX, Part III, Household Economic Tables, Tables B-XIII & B-XIV.
 2) Census of India, 1961, Volume I, Part III(ii), Household Economic Tables, Tables B-XIII & B-XIV.

or as agricultural labourers, is given, indicating that the broad conclusions drawn from Table 22 are acceptable. (The actual magnitudes shown in the two tables are not comparable, with the one relating to households and the other to workers.) One point that emerges clearly from Table 23 is that even though such secondary links with agriculture were less in Tamil Nadu than in the country for the manufacturing sector as a whole, the cotton textile industry at the household level in the State had noticeably weaker links with agriculture in 1961 than manifested in the industry at the all-India level or in the manufacturing sector in the State.

Information on the secondary work of workers in the non-household sector is available only in those cases where the secondary work is in household industry, and so there is no way of working out the links with agriculture of workers in non-household industry. However, on the reasonable assumption that such links are likely to be of a lower magnitude in the non-household industry than in household industry, the conclusion drawn in the preceding paragraphs about the household sector can be taken to hold for the industry as a whole. It must be emphasised that the tables refer only to Major Group 23, cotton textiles, and not strictly to the cotton handloom industry; it is assumed, since the handloom industry is a major part of the textile group, that these conclusions hold also for the cotton handloom industry. Because of the limiting nature of this assumption, the data have not been analysed at the district level.

Female Participation

Table 24 (see Appendix of Tables) brings out the area-wise, district-wise variation in female participation rates. The table shows that at the State level, female workers constituted about a third of the total workforce in rural as well as in urban areas, and that their participation was very much lower in the non-household sector than in the household. However, within both household as well as non-household sectors, variations in rural and in urban areas were very small.

The district-wise variations of the female participation rate vary considerably, but seem to display at the same time a geographical pattern that is worth noting: the three southern districts of Ramanathapuram, Tirunelveli, and Kanyakumari had significantly higher rates, and were followed by the two central districts of Coimbatore and Salem. The FPR was still lower among the northern districts of Chengalpattu, North Arcot, and South Arcot. In fact, if the district of Madurai is excluded, then it would appear that moving from north to south, the female participation rate tended to rise among the important handloom districts. This broad pattern holds, not only at the overall level, but also in the other columns in Table 24.

It may be noted that in the southern districts, the number of females in the industry was approximately the same as the number of males, and in one case -- the urban household industry in Kanyakumari district -- was nearly double that of the males. Some initial ideas on the reason for this variation, in particular the variation in the southern districts is taken up in the analysis of the data for 1971.

Employment Status of Workers

Information on the employment status of the workforce in the industry is again one of the items of information on which direct information is not available. However, in both the General Economic Tables and in the Household Economic Tables, some information at the Major Group level, i.e. for cotton textiles, is available. Data are available on the status of the workforce at household and non-household levels in the General Economic Tables, of which the non-household sector, where the cotton mill sector is a dominant part, cannot be used to make any inferences about the cotton handloom industry. In the household sector, on the other hand, where, as already noted, handloom workers constituted 79 per cent of the total workers at the State level, some conclusions can be drawn.

Table 25 below brings out the relative share of 'employees' in the household sector of the cotton textile industry in the State. It will be observed that in the aggregate, about a fifth of the total workers were in this category, the rest falling into the 'others' category, principally family workers. Employees formed a slightly larger share of the urban workforce than of the rural, and in general, more males were employees than females.

Similar information on the status of workers in the household sector of the cotton textiles industry is available from the Household Economic Tables, and these data have been used to compile Table 26. At the aggregate level, Table 26 points to conclusions very different from that drawn from Table 25, and seems to suggest that the share of hired workers in the total workforce was very low in 1961. One reason for this discrepancy between the two tables might be that while Table 25 relates to all employees, Table 26 refers to only hired workers, implying that a large part of the

Table 25: Tamil Nadu, 1961. Employees as a percentage of total workers in the cotton textile industry (major group 23) and in manufacturing industries, (Divisions 2 & 3) household sector only

(Figures are in percentages)

Group & Sex	Total	Rural	Urban
Cotton Textiles:			
All workers	20.91	19.39	25.62
males	25.51	25.62	25.38
females	16.07	13.43	20.20
Manufacturing Industries			
All workers	18.49	16.24	23.07
males	20.69	18.90	24.39
females	15.75	12.91	21.47

Source: Derived from Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV. Part A.

non-household labour in the industry consisted of unpaid workers. As to whether this conclusion is tenable or not cannot be verified from the Census data, and is an important issue needing further research.

Table 26: Tamil Nadu, 1961. Hired workers as a percentage of total workers in sampled households with principal household industry in cotton textile industry (major group 23) and in manufacturing industries (Divisions 2 and 3)

(Figures are in percentages)

Group & type of household	Total	Rural	Urban
Cotton Textiles:			
all households	10.50	12.06	7.61
cultivator hh.	21.43	21.07	25.32
non-cultivator hh.	5.30	4.55	6.13
Manufacturing Industries:			
all households	11.64	12.77	8.37
cultivator hh.	22.68	22.47	26.32
non-cultivator hh.	4.87	3.70	6.79

Note: 'hh.' refers to households

Source: Derived from Census of India, 1961, Volume IX, Part III, Household Economic Tables, Table B-XVI.

Table 26 provides one more somewhat surprising result: hired workers among households having both household industry and cultivation were proportionately higher than in the case of households which do not have any household cultivation at the level of the cotton textile industry as well as at the overall manufacturing industry level. It was observed in an

earlier paragraph that given the higher seasonality of the households with cultivation, there may not be any specialisation by individuals from the household in the particular industry. The presence of a greater number of hired workers in such households would suggest that it is indeed in such households that some form of development of the production organisation had occurred by 1961, these being the ones where size and capital availability made possible the expansion of the production unit by taking on hired workers to augment the labour provided by the family members. On the other hand, it would appear from the table that households which did not have any cultivation were of relatively smaller economic size. Again, the Census data, which do not go into the question of capital investment and value of output do not throw any further light on this interesting question.

In summarising this subsection on the cotton handloom industry in the State in 1961, the following points may be made:

- a) Tamil Nadu was one of the most important of the handloom regions in the country, and the industry formed an important part of the industrial profile of the State when measured in terms of persons employed.
- b) The cotton handloom industry in the State was predominated by the household sector in both rural and urban areas; the non-household sector, although present, was not of any great significance.
- c) The industry was more or less evenly distributed in the urban and rural areas of the State, but had a higher urban component in the State than at the all India level. While non-household employment was more prevalent in the urban areas of the State, household employment was more concentrated in the rural areas, but here also, the rural complement of household industry in the State was less than that at the all India level.

d) The industry accounted for more than half the total manufacturing employment in the State in the urban household sector, about a third of the rural household sector manufacturing employment, and was of very little significance in both rural and urban non-household manufacturing employment.

e) The average size of establishments in the cotton handloom industry in the State was quite small, and there was not much of variation in the average size across the districts.

f) The industry in the State was not a characteristically seasonal one in 1961, and provided employment to participants over the greater part, if not the whole, of the year.

g) The links of the workforce in the industry with agriculture in the form of secondary occupations were weak.

h) Hired workers formed only a small part of the total workforce in the industry, although there is some conflict in the data about the actual magnitudes.

i) Females constituted about a third of the total workers in the industry in 1961, and were relatively more to be found in the household than in the non-household sector.

j) The major districts for the cotton handloom industry in 1961 were, running from North to South, Chengalpattu, North Arcot, South Arcot, Tiruchirapalli, Salem, Coimbatore, Madurai, Ramanathapuram and Tirunelveli. Of these, in terms of employment, Salem, which stood first, was followed by Coimbatore and Tirunelveli.

k) Among the districts, Salem was far and away the most important district where the cotton handloom industry was concerned; Salem was the most important district not only in aggregate employment but also at the household and non-household levels of disaggregation. Moreover, not only was a significant part of the employment in the industry concentrated

in Salem, the cotton handloom industry also accounted for a significant part of the total employment in the district.

1) The household sector of the industry was to be found largely in the districts of Salem, Coimbatore and Tirunelveli, while what little non-household employment there was, was largely in Salem, Madurai, and Tiruchirapalli.

At a disaggregated level, the relatively important handloom districts in the State showed a pattern with relation to certain parameters, and the northern, central, and southern districts seem to fall into rough zones with similar characteristics, principally with relation to the weight of rural employment, household sector employment, and the employment of women. Thus i) Stated broadly, while the cotton handloom industry in the northern and central districts -- Chengalpattu, North Arcot, and South Arcot; Salem and Coimbatore -- was more rural in character relative to the State average, the industry in the southern districts -- Madurai, Ramanathapuram, and Tirunelveli -- was more urban in character. The northern and central districts were more important for rural household employment in the industry, and the southern districts for urban household employment, again, while the two central districts, followed by Tiruchirapalli, accounted for a large part of rural non-household employment in the industry, the urban non-household employment was largely in the southern districts. ii) Female participation among the districts varied widely, being the highest among the southern districts of the State.

B. Profile of the Cotton Handloom Industry in 1971

There is not as much material on the cotton handloom industry in the Census of 1971 as there is in the 1961 reports. This has already been mentioned in the first part of this paper. Issues such as seasonality of employment, links with agriculture, and so on, at least some information on which were available in the Household Economic Tables of 1961, cannot be taken up for 1971.

In the following paragraphs, the material on the industry that is available in the 1971 reports has been made use of to develop a profile of the industry for that year. Although it is intended as a profile, and the next sub-section concentrates on the issue of changes in the industry over the period 1961 to 1971, certain comparisons, especially on such issues as relative ranking of the districts with reference to one of the other parameter, have been carried out in this section itself. In order to facilitate the inter-temporal comparison in the following subsection and in this one, we have combined the two districts of Salem and Dharmapuri of the 1971 administrative regions, so as to make the area compatible with the Salem district of 1961. It may be noted that with the disaggregation of the data into Salem and Dharmapuri in 1971, it is clear that the cotton handloom industry is relatively insignificant in the Dharmapuri area. As to whether this was so in 1961 as well is something that the Census data does not provide information on.

Strength of the Industry in Tamil Nadu

Table 27 below gives an idea of the absolute magnitudes of the employment in the cotton handloom industry in the State in 1971. It will be noted that comparing the figures in this table with those in Table 5 indicates a smaller labour force in the industry in 1971 than in 1961. However, this change in magnitudes has a great deal to do with the definitional changes discussed in the first part of this paper, and the real magnitudes involved are discussed in a later part of this paper.

Table 27 gives the rank of Tamil Nadu among the States and Union Territories for each group of workers. The table makes it clear that in 1971, as in 1961, Tamil Nadu was the most important State at the overall level, as well as in urban cotton handloom industry employment. In rural cotton

handloom employment, the State came second to Andhra Pradesh at total and at household industry, but retained the primary position in rural non-household industry employment. Unlike in 1961, Assam in 1971 did not come anywhere near Tamil Nadu in female employment, but this may be due to the problem of definitional change having had its impact on the count of female workers in Assam. In any case, there is no doubt that Tamil Nadu remained in 1971, as in 1961, one of the principal cotton handloom areas in the country.

Given the importance of the State to the cotton handloom industry in 1971, Table 28 below takes up the question of the significance of the industry in the industrial profile of the State. This table shows that the cotton handloom industry accounted for about a fifth of the total employment in manufacturing industry, with the relative share of the industry being higher in the household sector than in the non-household sector. The weight of the cotton handloom industry in the non-household manufacturing employment continued to be low, but, at around 6 per cent, was significantly higher than in 1961.

The distribution of the workforce as shown in Table 29 cannot be cross checked using the data on establishments, since these are available only at the Major Group level for 1971.

Summing up, it appears that in 1971 also Tamil Nadu was a prominent centre for the cotton handloom industry in the country; handloom weaving also formed an important part of the industrial profile of the State, although, on the whole, it was less important in 1971 than in 1961.

Table 27: Tamil Nadu, 1971. Workers in the cotton handloom industry (minor group 235) and the distribution by area, sex, and different types of industry

(Figures are in numbers of workers)

Sex	Total	Rural	Urban
1. Total workers in industry group:			
Persons	359898 (1)	148503 (2)	211395 (1)
Male	272602 (1)	122087 (2)	150515 (1)
Female	87296 (1)	26416 (2)	60880 (1)
2. Workers in household industry only:			
Persons	274050 (1)	121755 (2)	152295 (1)
Male	205042 (1)	98917 (2)	106125 (1)
Female	69008 (1)	22838 (2)	46170 (1)
3. Workers in non-household industry only:			
Persons	85848 (1)	26748 (1)	59100 (1)
Male	67560 (1)	23170 (1)	44390 (1)
Female	18288 (1)	3578 (2)	14710 (1)

Note: Figures in parentheses indicate Tamil Nadu's rank among the States and Union Territories for each group of workers.

Source: Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 28: Tamil Nadu, 1971. Relative shares of the cotton handloom industry (minor group 235) in total workers in manufacturing industries (Divisions 2 & 3), disaggregated by area, sex, and type of industry

(Figs. in percentages)

<u>Sex</u>	<u>Total</u>	<u>Rural</u>	<u>Urban</u>
1. All workers:			
Persons	18.25	17.44	18.86
Male	16.50	17.70	15.63
Female	27.29	16.32	38.53
2. Workers in household industry only:			
Persons	40.91	30.36	56.65
Male	42.16	33.20	56.30
Female	37.60	22.14	57.45
3. Persons in non-household industry only:			
Persons	6.59	5.94	6.94
Male	5.79	5.91	5.73
Female	13.42	6.10	18.95

Source: Derived from Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A, Appendix.

Strength of the Industry in the Districts

Table 29 gives the district-wise distribution of the workforce in the cotton handloom industry in the State. It is clear that in 1971 also, Salem was the most important centre for the industry, and that the broader zone comprising Salem and Coimbatore together accounted for a large part of the industry. Unlike in 1961, the third place in 1971 went not to Tirunelveli but to Ramanathapuram. Apart from this change in ranking, it is worth noting that the top 7 districts in 1971, which coincide with the top 7 districts in 1961, together accounted for over 85 per cent of the total workers in the industry, a figure which more or less matches that for 1961. The rank ordering of the bottom 6 districts, from Tiruchirapalli to the Nilgiris, remained the same as in 1961.

Table 30 provides information on the importance of the cotton handloom industry within the manufacturing industry in each district. Very broadly, it appears that the importance of the industry diminishes as the rank of the district (from Table 29) declines. Comparing with the corresponding data for 1961 -- Table 11 -- shows that in virtually all the districts barring two -- Madurai and Kanyakumari -- the relative importance of the industry has declined over the decade. As to whether this decline in relative importance was due to a decline in the cotton handloom industry or to an expanded industrial base in the various districts is difficult to say from the Census data; it is quite likely that in some districts, such as, say Coimbatore or Madras, it is an overall expansion that is the underlying cause, although this may not be the case in other districts, as for example in Thanjavur. What is clear, however, is that the rate of expansion -- if any -- of the cotton handloom industry in most districts was less than the rate of expansion in the manufacturing sector's employment on the whole.

Table 29: Tamil Nadu, 1971. District-wise distribution of workers in the cotton handloom industry (minor group 235).

(Figures in column 2 are in numbers of workers and in columns 3 and 4 in percentages)

District	Total workers in group 235	Share of districts in total District's share	Cumulative share
(1)	(2)	(3)	(4)
1. Salem/Dharmapuri	94403	26.23	26.23
2. Coimbatore	60063	16.69	42.92
3. Ramanathapuram	39705	11.03	53.95
4. Tirunelveli	36198	10.06	64.01
5. Madurai	34667	9.63	73.64
6. Chengalpattu	30542	8.49	82.13
7. North Arcot	17803	4.95	87.07
8. Tiruchirapalli	15999	4.45	91.52
9. South Arcot	12014	3.34	94.86
10. Kanyakumari	8160	2.27	97.13
11. Thanjavur	5954	1.65	98.78
12. Madras	4380	1.22	100.00
13. Nilgiris	10	neg.	100.00
State	359898	100.00	

Note: Districts have been arranged by their rank in column 2.

Source: Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A.

Table 30: Tamil Nadu, 1971. Relative importance of the cotton handloom industry (minor group 235) in each district as measured by the share of the industry in total workers in manufacturing industries (Divisions 2 & 3)

(Figures are in percentages)

District	Share of group 235 in workers in Divisions 2 and 3
1. Salem/Dharmapuri	39.18
2. Coimbatore	18.12
3. Ramanathapuram	26.62
4. Tirunelveli	16.22
5. Madurai	22.41
6. Chengalpattu	18.73
7. North Arcot	12.05
8. Tiruchirapalli	10.51
9. South Arcot	17.54
10. Kanyakumari	16.53
11. Thanjavur	6.98
12. Madras	2.30
13. Nilgiris	0.06
State	18.25

Note: Districts have been arranged in descending order of numbers of workers in minor group 235 in 1971.

Source: Derived from Census of India 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A.

Within the districts, the cotton handloom industry was most significant in Salem, where it accounted for nearly 40 per cent of the total manufacturing workforce; following this came the districts of Ramanathapuram and Madurai, where the industry accounted for between a fifth and a quarter of the total manufacturing sector workers. Chengalpattu, South Arcot, Coimbatore, Kanyakumari and Tirunelveli were districts where the industry was a significant part of the industrial profile.

Household and Non-Household Industry

Tables 31 and Table 32 (both given in the Appendix of Tables) give some of the major characteristics of the distribution of workers in the cotton handloom industry as between household and non-household sectors. About a quarter of the total workers in the industry in the State were in the non-household sector, and this proportion is noticeably higher than the corresponding all-India ratio, as shown in Table 32. Thus, while the household sector was considerably important, in fact, the dominant part of the industry, the non-household sector was significant in its size in the State in 1971, relative to the national average. The importance of the cotton handloom industry in the State at both household and non-household levels is also clear from the last columns of the two tables. Minor Group 235 accounted for about 40 per cent of the total household manufacturing employment in Tamil Nadu, as against a corresponding figure of only 15 per cent at the all-India level; similarly, even though the importance of the industry at the non-household level in the State was quite low, at around 6 per cent, it was nevertheless more important in Tamil Nadu than the country as a whole.

Salem once again tops the list in both tables, indicating its position of primacy in terms of household as well as non-household employment. Among household sector workers, the top three districts of Salem, Coimbatore and Ramanathapuram

together accounted for around 55 per cent of the total workers. In four of the top five districts in Table 31, the cotton handloom industry accounted for close to, if not more than 50 per cent of the total workers in Divisions 2 and 3, indicating the importance of the industry in the household sector in these districts. Cotton handloom weaving was a significant part of the household industrial profile in Madurai and in South Arcot, although the numbers in the last named district were quite small.

The top three districts for the non-household industry appear to have been Salem, Madurai, and Coimbatore, which, from Table 32, accounted for almost 60 per cent of the total employment in this sector of the cotton handloom industry. Although the share of the industry in total non-household manufacturing employment was not as high as it was in the household sector, it was nevertheless significant in Salem and in Madurai where the share was close to 15 per cent. Compared to the corresponding shares in 1961, the share of the industry in most districts was higher in 1971. At the same time, variations in the values shown in column (4) of each table is higher than the corresponding variations in 1961 (See Tables 12 and 13), the standard deviations working out to 14.2.

The ratio of non-household to total employment in the cotton handloom industry is very high in the case of Madras, Kanyakumari, and Madurai, where it was over 45 per cent, slightly lower in Tiruchirapalli, at about a third, and lower again, but quite significant, at about 25 per cent, in the districts of South Arcot and Salem.

Putting these together would indicate that while the household sector continued to form the predominant part of the cotton handloom industry, the non-household sector had, by 1971, come to be of some importance in the State as a whole, and in particular, in some of the districts, where

not only did it constitute between a quarter and a half of employment in the industry, but it also came to account for a significant share of total employment in the non-household sector manufacturing employment.

Rural-Urban Distribution of the Industry

Table 33 gives the rural-urban distribution of the workforce in each district in 1971. At the aggregate level, as the last two rows indicate, while the industry continued to be slightly more rural in character in 1971 at the all India level, in Tamil Nadu the urban sector had the greater weight of employment in the industry, almost 6 out of every 10 workers being in the urban areas. This is somewhat different from the results for 1961, which showed that there was a marginally higher weight for rural areas. As in 1961, however, the industry in 1971 was neither predominantly rural nor predominantly urban in character.

Among the districts, North Arcot and Kanyakumari had rural-urban distributions approximating the State average. South Arcot, Tiruchirapalli, Coimbatore, and Chengalpattu were districts where the rural areas carried a weight greater than the State average, while in Madurai, Ramana-thapuram, Tirunelveli and Salem, the urban weight was greater than the average. In other words, the urban share in total employment in the industry in 1971 tended to increase as one moved from north to south, a pattern that was visible in 1961 as well. (See para 9)

Tables 34 to 37 (given in the Appendix of Tables) provide details on the household and non-household sectors in the rural and urban areas of each district.

Table 33: Tamil Nadu, 1971. Distribution of 1,000 workers
in the cotton handloom industry (minor group 235)
in each district of Tamil Nadu, in Tamil Nadu,
and in India, divided as between workers in rural
and urban areas

(Figures are in numbers of workers)

District/State/India	Workers in Group 235 by Area		
	Total	Rural	Urban
1. Salem/Dharmapuri	1000	388	612
2. Coimbatore	1000	658	342
3. Ramanathapuram	1000	226	774
4. Tirunelveli	1000	246	754
5. Madurai	1000	168	832
6. Chengalpattu	1000	501	499
7. North Arcot	1000	415	585
8. Tiruchirapalli	1000	681	319
9. South Arcot	1000	702	298
10. Kanyakumari	1000	433	567
11. Thanjavur	1000	530	470
12. Madras	1000	N.A.	N.A.
13. Nilgiris	1000	0	1000
State	1000	413	587
India	1000	577	423

Note: Districts have been ranked by their share
in total employment in group 235 in the State.

Source: Derived from: (1) Census of India, 1971, Series 19,
Part II B(ii), General Economic
Tables, Table B-IV, Part A.

(2) Census of India, 1971, Series 1,
Part II-B(iii), General Economic
Tables, Table B-IV, Part A.

These four tables show several interesting features at the aggregated level. First, an examination of column (4) in the tables indicates that the household sector was more predominant in the rural than in the urban areas in 1971. However, the weight of the rural areas of the industry in the household sector was clearly less in Tamil Nadu than it was in the country as a whole. In the urban areas, where non-household employment had a greater weight than it did in the rural areas, the household to non-household employment ratio was about the same in the State as in the country.

Within household sector employment, the greater part -- around 55 per cent -- was to be found in the urban areas, and in this aspect, again, Tamil Nadu was different from the rest of the country, where over 60 per cent of employment in the household sector was in the rural areas. The higher weight of urban employment within the household sector also indicates some shift from the situation in the State in 1961.

By far the largest part of the non-household employment in the State was again to be found in the urban areas, which was also the case at the all-India level. However, the rural share of non-household industry in Tamil Nadu was somewhat less than that in the country as a whole.

Much as in 1961, the cotton handloom industry in Tamil Nadu accounted for more than half the total manufacturing employment in urban household industry, a slightly lower share -- nearly a third -- in rural household industry, and was considerably less important in both rural and urban non-household industry, although in both of these the States average was higher than the all-India average.

Among the districts, Salem took the first place in rural non-household employment and urban household industry, giving way to Coimbatore and Madurai in rural household and urban non-household employment respectively.

The tables seem to indicate that among the more important districts for the cotton handloom industry, certain contiguous districts showed concentrations of the industry. Thus, Salem and Coimbatore together accounted for about 51 per cent of the rural household industry employment, and for around 53 per cent of the rural non-household sector employment. The four southern districts of Madurai, Ramanathapuram, Tirunelveli, and Kanyakumari between them accounted for 43 per cent and 45 per cent of urban household and non-household employment respectively. The three northern districts of Chengalpattu, North Arcot, and South Arcot between them accounted for between 12 and 22 per cent of the employment in each of the four categories. These nine districts together accounted for over 90 per cent of household sector employment (both urban and rural) and of urban non-household sector employment. In the case of rural non-household sector employment, Tiruchirapalli accounted for slightly over 13 per cent of the employment, so that the nine districts indicated above accounted between them for only about 85 per cent of the employment. The question of identifying contiguous zones with similar features is taken up in greater detail later in this paper, on the basis of the district level conclusions in these two sections of this paper.

Within rural employment in the cotton handloom industry, the non-household sector was most significant in the districts of Tiruchirapalli, Salem, Kanyakumari, South Arcot, and North Arcot, while household sector employment was more significant in Chengalpattu, Madurai, Tirunelveli and Coimbatore.

Within the urban part of the industry, the non-household sector was most significant in Kanyakumari, Madras, and Madurai, followed by Tiruchirapalli, Coimbatore and South Arcot, while household sector employment was more significant in Ramanathapuram and Tirunelveli, followed by Chengalpattu, Salem, and North Arcot. (See Table 37, column 4).

Column 5 of Table 34 indicates that the household sector employment was more rural than the State average in South Arcot, Coimbatore, Tiruchirapalli, and Chengalpattu, and below the average in North Arcot, Salem, Madurai, Tirunelveli and Ramanathapuram. Column 5 of Table 36 indicates that the non-household industry was more rural than the State average in Tiruchirapalli, South Arcot, North Arcot, Salem and Coimbatore, and more urban than the State average in the districts of Ramanathapuram, Chengalpattu, Kanyakumari, Tirunelveli and Madurai. In short, in the southern districts the industry was generally more urban than was the case in the central and northern districts of the State.

The last column in each of the tables clearly indicate that as we go from the more important to the less important districts, the share of the cotton handloom industry in total manufacturing sector employment also declines. One district that stands out sharply in this context is Madurai, where the cotton handloom industry accounted for almost 97 per cent of the total urban household sector employment in the district. (See Table 35)

Summarising the above, it would appear that in 1971 at the household as well as the non-household sector level, the cotton handloom industry was more urban than rural in character, a feature that marks it from the rest of the country and from Tamil Nadu a decade earlier. Among the districts, while Salem held the first place in the more important (in terms of weight in employment) two subgroups, Coimbatore and Madurai had come to the fore in the other two. Apart from this the districts show features in terms of rural and urban distribution that seems to show a pattern among contiguous districts, though such a pattern does not seem to be so clear in the household-non-household sector distribution.

Female Participation in the Industry

It has already been noted in the first part of this paper that changes in the definition of the term 'worker' between the Censuses of 1961 and 1971 would affect the count of female workers in the latter year relative to the former. Table 38 (See Appendix of Tables), when compared with its counterpart table for 1961 -- Table 22 -- in fact shows a lower FPR in the latter year. ^{to} Apart from this feature, which is clearly attributable/the definitional change, it is interesting to note that the female participation rate in the State at the aggregated level and in the urban areas was higher in 1971 than in the country as a whole. The relatively lower figure for the State in rural household employment has meant that in the rural area as a whole, female participation rate was lower in the State than in the country.

Among the districts, it is apparent that even despite the effect of the definitional change, the southern districts showed a remarkable high female participation rate, implying that female workers in these districts were more in the nature of permanent employees than casual, i.e. they were economically active for the main part of the year. That such employment was true for females only in these districts seems to be indicated by the sharp fall in the FPR for the other districts with the change in definitions between 1961 and 1971. It is also worth noting that in almost all of the districts, female participation was higher in urban than in rural areas, a phenomenon that, if explained by the definition used, would imply that females find more of regular employment in the urban than in the rural areas. Finally, we note that female participation rates were higher in the household sector than in the non-household sector of the industry, this being the case in almost all districts barring Madurai, Tiruchirapalli and Chengalpattu.

While Census data do not offer enough evidence to explain the reasons for the higher female participation in the industry among the southern districts, some evidence exists to offer a tentative hypothesis in terms of caste structure. In 1961, according to the Special Report on Handlooms of the 1961 Census, 51.2 per cent of the weavers in Ramanathapuram and 48.9 per cent of the weavers in Kanyakumari were from the Saliyar caste, and the largest part of the members of this caste were in these two districts.^{37/} It is possible that this feature of the caste composition of these two districts explains the higher female participation. However, this is not adequate, since the caste was also found in Salem and in Tiruchirapalli,^{38/} where such high female participation rates are not to be observed in either year. Some further research on this question is clearly needed.

Employment Status of Workers

As was the case with the 1961 data, the 1971 Census data also does not give the disaggregated data by employment status at the minor industry level. Some information is available on this at the Major Group level in the General Economic Tables, separately for household and non-household sectors. It is not possible to use the non-household sector data, since employment here is largely in the mill sector. Table 39 below gives the data on the share of employees in the cotton textile industry as well as in Divisions 2 & 3 for the household sector.

^{37/} Census of India, 1961, Vol. IX, Part XI-A, Handlooms in Madras State, p. 64.

^{38/} ibid., p.64.

Table 39 is largely self-explanatory and clearly shows the higher incidence of employees as against family and single workers in the cotton textiles industry relative to the manufacturing industry as a whole in the State. What is of interest in this table is that the incidence of such employment seems higher in the rural than in the urban areas, a point on which the 1961 data do not seem to be very clear.

Comparing Table 39 with Table 25 points to an interesting conclusion. The share of employees in the household sector of the cotton textile industry in 1971 was significantly higher than it was in 1961. It could well be argued that a large part, if not all of this change was due to the change in definitions, which in all likelihood adversely affected household workers more than it did employees. However, a comparison of the lower half of each table shows that the incidence of employees did not change all that much for the household manufacturing sector as a whole, suggesting that the increase in the incidence of employees in the cotton textile industry as a whole was a real one.

The profile of the cotton handloom industry in the State in 1971 that has been developed in the preceding paragraphs may be summarised as follows:

- a) Tamil Nadu was one of the most important handloom regions in the country, and the cotton handloom industry formed a significant part of the total manufacturing employment in the State.
- b) While the largest part of the employment in the industry was to be found in the household sector, the non-household sector was of some significance, and the share of the non-household sector in employment in the industry was higher in Tamil Nadu than in the country.

Table 39 : Tamil Nadu, 1971. Employees as a percentage of total workers in the cotton textile industry and in manufacturing industries, household sectors only

(Figures are in percentages)

Group and Sex	Total	Rural	Urban
Cotton Textiles			
All workers	34.68	43.94	19.93
Males	30.25	29.80	30.89
Females	37.25	51.49	12.59
Manufacturing Industries			
All workers	15.34	15.22	15.51
Males	14.77	13.66	16.51
Females	16.85	19.72	13.16

Source: Derived from Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part B.

- c) The industry in 1971 could not be described as being predominantly either rural or urban, but the urban share in total employment in the industry was appreciably higher than the rural share. The greater part of employment in each of the household and the non-household sectors, taken separately, was to be found in the urban areas of the State, and in this respect the character of the industry in the State was different from that at the all-India level, where it continued to be more rural in character.
- d) As in 1961, the industry accounted for more than 50 per cent of the total manufacturing industry employment in the urban household sector, about a third of that in the rural household sector, and was less important in rural and urban non-household sectors.
- e) Hired workers constituted about a third of the total workers in the cotton handloom industry in 1971, and accounted for a higher share of total employment in rural than in urban areas.
- f) Female participation in the industry was very low, but is likely to have been higher than the Census data suggest; female participation rate in the industry in the State was higher than that in India.
- g) The most important districts for the cotton handloom industry were the same as those in 1961, and comprised Chengalpattu, North Arcot, South Arcot, Tiruchirapalli, Salem, Coimbatore, Madurai, Ramanathapuram, and Tirunelveli. Of these districts, Salem stood first in share of employment, and was followed by Coimbatore and Ramanathapuram.
- h) Salem was the most important district for the industry, at the aggregate level and at the household and non-household industry levels. The industry also accounted for a major part of the manufacturing employment in the district.

i) The top three districts for household sector employment were Salem, Coimbatore, and Ramanathapuram; the non-household sector was largely located in the districts of Salem, Madurai, and Coimbatore.

At a disaggregated level, the districts continued to show a pattern similar but not identical to that identified from the 1961 Census data. Thus,

i) the rural component of the handloom industry was more important in the northern districts and in Coimbatore and Tiruchirapalli; the urban component was more important in the district of Salem from the Central areas and in all of the southern districts. The two central districts were the most important for rural household employment as well as for rural non-household employment; in the latter group, they were followed by Tiruchirapalli. Both urban household and non-household employment was more prevalent in the southern districts, and

ii) Female participation was significantly higher in the southern districts of the State.

C. Intertemporal Change in the Features of the Industry

1. As was already noted in the first part of this paper, it is not possible to make any meaningful direct comparisons of the number of workers in the cotton handloom industry in the data of the Census of 1961 and that of 1971. In order to make possible some comparison by minimising, but not altogether eliminating the changes attributable to definitional changes, we compare, in the following paragraphs, the data on the industry taking only the male workers into account.

2. At the aggregate level, however, certain type of direct comparisons are possible insofar as they relate only to the rankings of the districts in each Censal year, and some of these comparisons have been made in the preceding paragraphs. These will be consolidated later in this paper.

The basic data pertaining to the male workforce in the industry, and changes in the size of this workforce in aggregate and in its components, are presented in Table 40 below and Tables 41 to 43 (See Appendix of Tables).

At the aggregate level, it would appear that the size of the workforce has been declining between the two end points of the decade. In absolute terms, the number of males in the industry, stood at 2,97,674 in 1961, and at 2,72,602 in 1971, implying a decadal fall of about 8.4 per cent, and an average annual compound growth rate of -0.88 per cent. This does not amount to much of a decline, but must be seen against the performance of the manufacturing sector as a whole: decadal variation in the male employment in Divisions 2 & 3 was of the order of +19.56 per cent, giving an average annual compound growth rate of +1.8 per cent. It seems reasonable then, to conclude that the cotton handloom industry was at least in a period of stagnation, if not in decline, over the decade 1961-1971.

Within this overall stagnation, it appears that the number of rural workers in the cotton handloom industry declined rather sharply, the decadal fall working out to about 22 per cent; on the other hand, the numbers employed on urban looms rose marginally over the decade, by about 7 per cent, or about 0.68 per cent compound per annum.

Given the virtual stagnation in numbers in the cotton handloom industry and the overall growth in employment in manufacturing industry, it is not surprising to find that the relative share of the cotton handloom industry in total male employment in Divisions 2 and 3 declined over the decade, from 22 per cent in 1961 to 17 per cent in 1971. The share of the industry in male household workers in Divisions 2 and 3 remained more or less constant, at 43.2 per cent in 1961 and 42.2 in 1971; on the other hand, the share of the industry in total male workers in non-household manufacturing rose from 3.6 to around 6 per cent, nearly doubling, albeit from a very low base. (See Tables 7 and 28).

In relative terms, the non-household sector grew in importance over the decade, the increase being about three-fold from a low base. The relative importance of the household sector correspondingly declined, but even in 1971, it accounted for fully 75 per cent of the males employed in the industry. This is seen in Table 40 below, and also in the last columns of the bottom rows of Tables 42 and 43.

There are some problems in accepting these conclusions at their face value. It was indicated in the first part of this paper that the change in definition of the term 'worker' might have had the effect of some units which might have been classified as household industries, in 1961, being placed among non-household industry in 1971. If this was indeed the case, then a large part, if not the whole, of the relative decline in the household sector and the increase in the non-household sector employment becomes fictitious. The Census data does not provide any conclusive answers to this question, and only some rough guesses as to the extent of the reality is possible.

The decline in the absolute numbers of male household workers in the cotton handloom industry over the period was of the order of 67,773, while the increase in the number of males in the non-household sector of the industry was much less, at 42,701. In other words, the decline in the household sector numbers was about 1.6 times the increase in the non-household sector employment. Thus, while there does seem to have been some real decline in the household sector employment, at least some part of the increase in non-household sector employment could have been due to the definitional change. At the all-India level, the decline in household sector male employment over the period for the industry was of the order of 3,15,261 and the increase in the non-household sector was of the order of 87,817, so that the decline was nearly 3.6 times the increase. This in turn would imply that whatever the real magnitude of change in terms of the absolute decline

Table 40: Tamil Nadu: Distribution of 1,000 male workers separately for 1961 and 1971 by sex, area and type of unit in the cotton handloom industry

Year	Total	Rural	Urban
1. Workers in household & non-household industry:			
1961	1000	527	473
1971	1000	448	552
2. Workers in household industry only:			
1961	916	501	415
1971	752	363	389
3. Workers in non-household industry only:			
1961	84	26	57
1971	248	85	163

Source: Derived from: 1) Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Table B-IV Part C.

2) Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A.

of the household sector and the relative increase in the non-household sector, the change in Tamil Nadu over the decade in question was much less than that in the country as a whole. Beyond this it is not possible to draw any conclusions with any degree of certainty.

Keeping these factors in mind, we now turn to the question of intercensal variation in numbers in the districts. The data on male employment in the districts in 1961 and 1971 and the decadal variations in them are given in Tables 41-to 43. For ease of analysis, we have divided the districts where the handloom industry is of some importance, into three zones. The basis for the classification is the set of the following:

- contiguity
- rural/urban characteristics at household, non-household and aggregated levels
- inter-censal variation,

and is linked to the district-wise patterns noted earlier in this paper. It must be stressed that the zoning does not mean that districts in different zones do not possess any common characteristics.

Zone 1 consists of the three northern districts of Chengalpattu, North Arcot, and South Arcot. In all the three districts, rural employment in the industry outweighed urban employment in both years at total and at household sector levels, but not at the non-household sector level. In two of the districts, Chengalpattu and North Arcot, silk-weaving is prominent, making possible shifts from cotton to silk weaving and vice versa. In terms of relative weight, Zone 1 was more important in 1961 than in 1971 at the aggregated level and for household industry, while its importance in the non-household sector employment grew over the decade.

Zone 2 comprises the two central districts of Salem and Coimbatore, and includes Dharmapuri in 1971. This zone forms easily the most important belt for the cotton handloom industry, accounting for between 40 and 50 per cent of employment. Dharmapuri district, upon examination of the 1971 data, seems to be one where the cotton handloom industry was almost non-

existent; it accounted for barely 0.44 per cent of male employment in the industry in the State in 1971. Nevertheless, to keep the zones comparable between the two decades, Dharmapuri has also been included in Zone 2. Both Salem and Coimbatore were characterised by a higher rural complement in 1961 at the aggregated level, among household industry and non-household industry; the situation was altered sharply by 1971, the urban component gaining in importance. In general, the importance of Zone 2 in the cotton handloom industry in the State increased appreciably over the period. The only exception is in non-household rural employment, where the share declined. As to why this happened is something the Census data does not provide any clue on, and further research is needed to explain the phenomenon.

Zone 3 consists of the southern districts of Madurai, Ramanathapuram, and Tirunelveli; Kanyakumari has been left out of the zone because its share in the industry is very small, and the changes in the district are not always the same as in the other districts in the zone. Zone 3, unlike the other two zones, was characterised by a higher urban employment than rural in 1961 itself, whether in household, non-household, or both industry groups. In fact, the weight of this zone in rural employment in both the years and at all three levels -- aggregate, household, and non-household -- was pronouncedly low, and the relative weight in urban employment much higher, making the zone in aggregate comparable to Zone 1 in 1961.

Between 1961 and 1971, however, the Zone increased in importance at the all-areas level, but declined marginally in urban employment shares in total and household industry groups. Non-household rural employment declined and non-household urban employment rose, both in relative terms, over the period. The upshot is that, in general, Zone 3 was more important than Zone 1 by 1971.

Among the districts that have not been placed in any zone, the most interesting is the case of Tiruchirapalli, which was marked by a decline in both absolute and relative terms over the decade. In terms of its characteristics in the two years also, Tiruchirapalli cannot be comfortably placed in either the northern zone or in the central one; in both 1961 and 1971, for instance, the non-household component of the industry was quite important, although less so (unlike most other districts) in 1971 than in 1961. While in 1961 the workforce was significantly weighted in favour of rural areas, the reverse was true in 1971. Female participation rate was lower than the State average in the aggregate in both 1961 and 1971, but higher than the State average in rural areas in 1961. Thus, while in some features, the district resembles the districts in Zone 1, in others it resembles one or the other of the two major districts in Zone 2. Tiruchirapalli district is interesting for other reasons as well, and for these we have to look at information outside the Censuses of 1961 and 1971. For example, while it never was a major handloom district -- accounting for only between 5 and 7 per cent of the looms and workers in the Tamil Nadu area over the century^{39/} -- it was one of the few districts that showed a positive growth rate in numbers in the period from 1901 to 1921. Again, as late as 1954, Tiruchirapalli accounted for fully 43 per cent of the handloom manufactory employment in the Tamil Nadu area of the composite State of Madras.^{40/} We have already seen the importance of rural non-household employment in the district in 1961 and 1971.

^{39/} ibid., Statement XII, p.13.

^{40/} Report on the Survey of the Handloom Industry in Madras State, 1954, cited above. p.20.

Apart from Tiruchirapalli, two districts deserve some separate attention, and these are Salem and Madurai. Salem, as we have seen earlier, is the single most important district for the industry, and it would be of considerable interest to study the historical development of the handloom industry in the district. The second district is Madurai, where, over the decade 1961 to 1971, not only has the industry become more urban in character than in any other district in the State, the growth of the urban non-household sector has also been very sharp. The reasons underlying this somewhat unique pattern of growth also would make for some interesting research.

It is worth observing that the decline in the household sector has been widespread in the State, in both rural and urban areas. The only exceptions to this have been the remarkable increase in urban employment in Coimbatore and in Thanjavur, and the near stagnation, but not a decline, in urban household employment in Ramanathapuram. Leaving aside Thanjavur, as being of minor importance for the industry, further research is needed to explain the phenomenon in the other two districts.

Non-household employment has, in general, risen sharply in all the districts, the decadal growth rates often running into three digit figures. The lone exception is Tiruchirapalli, where, as already mentioned, some long term decline was probably at work. Relatively low growth, amounting in the circumstances to near stagnation, is noticeable in rural non-household employment in Madurai.

It appears from the above, that by and large the shift from household to non-household industry observed in the State was more or less evenly reflected in the various districts.

Negative growth rates in the household sector and positive growth rates in the non-household sector seems to have produced a mixed picture in the aggregate, as shown in Table 41. On the

whole, the net effect has been negative. Zone 1 shows the most marked overall decline, and there may be a tentative explanation for this.

The Economic Tables give information on the silk weaving industry as well. In 1971, as mentioned earlier, silk handlooms, mills, and spinning are mixed up in the same Minor Group. Adjusting for this by aggregating the appropriate Minor Groups in the 1961 data, and working out the decadal variations for the same three zones that have been used in the cotton handloom industry, it turns out that employment (rural and urban combined) in the silk industry fell rather sharply in the State, (by 32.7 per cent) in Zone 2, (by 61.18 per cent) in Zone 3, (by 34.0 per cent). But in Zone 1 alone the numbers stayed nearly constant, at +1.88 per cent for the decade. This in turn was due to a positive decadal variation, the only one in the State, in North Arcot, of the order of +26.6 per cent, and this from a not insignificant base -- North Arcot has 11 per cent of total employment in the silk industry in the State in 1961. Since it is a fairly simple matter to convert a loom from cotton to silk, providing that a master weaver or cooperative is available to take care of the increased working capital, it is possible that at least a part of the change in Zone 1 was due to a shift into silk.

Section III

Conclusions

In the preceding section, we have developed profiles of employment in the cotton handloom industry in Tamil Nadu from the Census data for 1961 and 1971. We have also drawn some conclusions on the character of change over the period between the two Censuses.

Abstracting from the points of detail, it has broadly been shown that in both the end years of the period, Tamil Nadu was one of the principal States for the industry, and the industry itself formed a significant part of the industrial employment in the State. In terms of employment, while the period as a whole was at best one of stagnation, certain changes do appear to have taken place in the internal structure of the industry: it was becoming more urban in character, and it is likely that there was some shift towards the non-household form of production taking place along with the definitely growing importance of a wage labour force. Some regional redistribution of the industry also appears to have been taking place over the period, with the northern districts showing a shift out of cotton and into silk handloom production, and the southern districts becoming relatively more important; the Salem-Coimbatore belt, however continued to remain the single most important cotton handloom area in the State.

The period of the 1960s was one of turbulence for the cotton handloom industry, and three features of the period apart from those taken up for detailed analysis must be noted in this regard. First, it is worth noting that the powerloom sector of the cotton textile industry -- the rapid growth of which, in an earlier period, had been an important factor in the decline of cotton handloom weaving in Maharashtra -- had begun to grow in Tamil Nadu as well, both absolutely and relatively, as is shown in Table 44 below. While the powerloom base in 1961 was almost insignificant when measured in terms of employment, it was already clearly noticeable by 1971. Since it is well known that the powerloom displaces more handloom workers than the workers it employs, this must in itself have begun to affect the industry adversely.

Table 44 : Tamil Nadu, 1961 and 1971. Relative shares
of male workers in cotton mills, cotton
handlooms, and powerlooms sectors

Year	Mills	Handlooms	Powerlooms
1961	25.39	73.74	0.87
1971	30.18	65.03	4.79

Source: Derived from: 1) Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables, Table B-IV Part C and Appendix.

2) Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A Appendix.

Secondly, the period after the mid-sixties was one of general stagnation in the economy as a whole and in the industrial sector in particular. As for the cotton textile industry, one significant effect of the continued deceleration in the economy was to create the problem of shrinking markets at home. Thus, while the per capita availability of cotton cloth in the country stood at 14.76 metres in 1961, it fell to 13.95 in 1966, and had fallen to 12.40 metres by 1971.^{41/} Whether or not the mill sector cut into the market hitherto fed by handlooms or not, the fact is that the domestic consumption of cotton handloom cloth was also declining over this period.

^{41/} Handbook of Statistics on Cotton Textile Industry, Thirteenth Edition. Indian Cotton Mills Federation, Bombay, September 1980, Table 19, p.34.

Thirdly, the beginnings of the export market in cotton handloom fabrics and apparel can be traced to the decade of the 1960s. As is clear from Table 45 below, cotton handloom exports did show some increase in the first part of the decade, accompanied by violent fluctuation; however, the period after 1968 or thereabout saw the beginning of a rapid escalation in export volume of both cloth and apparel of handloom origin. Thus, while on the one hand, the domestic market, with its demand for traditional handloom products was shrinking over the period, the export market, with its demand for other, non-traditional products, was beginning to grow, and had grown considerably by 1971. It is inferable that the product mix in the cotton handloom industry must have gone through some changes in the period; there would also have been other types of changes associated with the growing export market, as for example in marketing channels, organisation of production to make it easier to meet time-bound export commitments and so on. The point is that, while these types of changes are outside the scope of the present paper, the phenomena of declining domestic consumption of cotton cloth, and the booming export market, were sustained through the 1970s as well. Domestic per capita availability of cotton cloth continued to fall, with some small fluctuations, to reach 9.57 metres in 1977;^{42/} the export growth is shown in Table 45. Powerloom growth also appears to have continued into the 1970s; although no reliable figures on the powerloom industry are available, either at the national or the State level, the growth of the industry is reflected in the fact that at present about 85,000 authorised powerlooms exist in the State, and there is said to exist a sizable unauthorised powerloom sector.

42/ ibid., p.34.

Table 45: India. Trends in the export of cotton handloom cloth and manufactures, 1961-1968
(calendar years)

Year	Handloom Cotton Cloth	Handloom Cotton	
	Quantity	Value	Manufactures
	Million Metres	Rs. crores	Rs. crores
1961	25.92	4.78	0.74
1965	39.69	9.53	3.04
1966	37.02	6.73	1.67
1967	31.87	6.84	1.85
1968	18.64	4.59	3.58
1969	26.34	7.15	4.16
1970	27.50	7.42	4.98
1971	27.74	9.18	6.45
1972	42.59	14.77	6.88
1973	59.85	26.47	7.88
1974	60.23	33.23	14.28
1975	47.85	31.84	11.09
1976	72.44	50.19	22.75
1977	101.48	78.45	31.04
1978	81.43	62.24	29.20

Note: Value figures are presumably in current prices.

Source: Hand book of Statistics on Cotton Textiles Industry, Thirteenth Edition; Indian Cotton Mills Federation, Bombay, September 1980, Table 37, p.57.

The point is then that the type of market developments as well as competition within the decentralised sector that began in the 1960s, also continued into the next decade. Thus, it is more than likely that the type of employment changes in the structure of the industry that were observed from the Census data for the period 1961 to 1971 were further intensified in the following years. Unfortunately, data on this aspect is almost completely absent. Apart from some figures on the number of looms and the production on these looms for 1973, there is very little information pertaining to the industry for later years. Perhaps the 1981 Census data will throw some further light on the question when it is published. Analysis of such data might help to establish the continuity of change, if such existed, over the entire 20 year period, and the extent to which any changes that took place after 1971 was rooted in those that began in the 1960s.

The preceding section of this paper has also raised some questions that require further research. Among these are the issue of the regional distribution of female participation in the industry, and the reasons for the shift from cotton to silk being confined to only the northern districts. Quite apart from these issues, which have been raised from the examination of the Census data, there still remains the need to link up the type of changes identified in the preceding paragraphs of this section with the type of change observed from the analysis of the Census data in the previous section, which is an aspect that this paper has not taken up.

Appendix of Tables

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Table 15: 1961. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) rural household industry in the districts of Tamil Nadu, in Tamil Nadu, and in India

District	No. of workers in Group 235, rural household industry	Districts share in total workers in Group 235, rural household industry	Share of rural household in- dustry in total rural workers in Group 235 in each district	Share of rural household in- dustry in total household workers in Group 235 in each district	Share of Gr 235 in tota rural house workers in Divisions 2 in each dis
(1)	No. (2)	% (3)	% (4)	% (5)	% (6)
1. Coimbatore	61390	26.08	97.53	83.99	40.26
2. Salem	59230	25.16	93.24	53.20	47.21
3. Chengalpattu	27517	11.69	97.27	60.01	57.62
4. North Arcot	26388	11.21	98.86	68.02	41.78
5. South Arcot	12136	5.16	99.23	68.21	31.94
6. Tiruchirapalli	12095	5.14	88.86	70.98	21.62
7. Tirunelveli	10992	4.67	98.05	23.52	10.01
8. Ramanathapuram	10128	4.30	97.65	26.17	24.35
9. Madurai	7555	3.21	94.58	28.92	21.54
10. Kanyakumari	5776	2.45	93.86	58.43	8.97
11. Thanjavur	2155	0.92	95.27	37.41	6.91
12. Nilgiris	13	0.01	100.00	86.67	3.16
STATE	235375	100.00	95.96	54.11	30.76
INDIA	1409566		96.51	70.46	17.74

Note: (1) Districts have been arranged by their rank in cols. (2) and (3).

(2) Madras District, which has no rural area, has been excluded.

Source: (1) Census of India, 1961, Vol.IX, Part B-II(I), General Economic Tables, Table B-IV, Part C

(2) Census of India, 1961, Vol.I, Part II-B(II), General Economic Tables, Table B-IV, Part C.

Table 16: 1961. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) urban household industry in the districts of Tamil Nadu, in Tamil Nadu, and in India

District	Number of share worker's in Group 235, urban household industry	Districts total workers in Group 235, urban household industry	Share of household industry in total urban workers in Group 235 in each district	Share of household industry in total workers in Group 235 in each district	Share of Group 235 in total urban household workers in divisions 2 & 3 in each district
(1)	No. (2)	% (3)	% (4)	% (5)	% (6)
1. Salem	52097	26.10	93.60	46.80	68.71
2. Tirunelveli	35748	17.91	96.33	76.48	51.27
3. Ramanathapuram	28578	14.32	94.03	73.83	62.84
4. Madurai	18567	9.30	81.63	71.08	56.92
5. Chengalpattu	18335	9.19	96.94	39.99	56.79
6. North Arcot	12408	6.22	94.21	31.98	40.78
7. Coimbatore	11706	5.87	87.12	16.01	50.22
8. South Arcot	5657	2.83	88.36	31.79	53.88
9. Tiruchirappalli	4945	2.48	61.55	29.02	30.63
10. Kanyakumari	4110	2.06	88.44	41.57	49.66
11. Madras	3826	1.92	63.87	100.00	29.64
12. Thanjavur	3606	1.81	86.70	62.59	20.88
13. Nilgiris	2	neg.	40.00	13.33	0.34
STATE	199585	100.00	90.45	45.89	53.17
INDIA	590847	87.66	29.54	29.73	

Notes: 1) "neg." = negligible, and indicates a share of less than 0.005 per cent.
 2) Districts have been arranged by their rank in columns (2) and (3).

Sources: 1) Census of India, 1961, Vol. IX, Part B-II(1), General Economic Tables, Table B-IV, Part C.
 2) Census of India, 1961, Vol. I, Part II-B(II), General Economic Tables, Table B-IV, Part C.

Table 17:1961- Some characteristics of the distribution of workers in the cotton
handloom rural non-household industry in the districts of Tamil
Nadu, in Tamil Nadu and in India

District	No. of workers in Group 235, rural non-house- hold industry	Districts share in total work- ers in Group 235, rural, non- household industry	Share of rural, non-household industry in		Share of Group 235 in rural non-house- hold workers in Divisions 2&3 in each district
			total rural workers in Group 235 in each district	total non-house- hold workers in Group 235 in each district	
(1)	No. (2)	% (3)	% (4)	% (5)	% (6)
1. Salem	4294	43.30	6.76	54.64	15.31
2. Coimbatore	1556	15.69	2.47	47.34	3.03
3. Tiruchirapalli	1516	15.29	11.14	32.92	5.57
4. Chengalpattu	772	7.78	2.73	57.14	2.41
5. Madurai	433	4.37	5.42	9.39	0.20
6. Kanyakumari	378	3.81	6.14	41.31	3.35
7. North Arcot	305	3.08	1.14	28.58	1.42
8. Ramanathapuram	244	2.46	2.35	11.85	1.40
9. Tirunelveli	219	2.21	1.95	13.84	0.84
10. Thanjavur	107	1.08	4.73	16.21	0.44
11. South Arcot	94	0.95	0.77	11.20	1.16
12. Nilgiris	0	0.00	0.00	0.00	0.00
STATE	9918	100.00	4.04	31.99	3.64
INDIA	51013		3.49	38.01	2.09

Notes: (1) Madras District, which has no rural areas, has been excluded.

(2) Districts have been arranged by rank in columns (2) and (3).

Sources: (1) Census of India, 1961, Vol. IX, Part B-II-(I), General Economic Tables, Table B-IV, Part C.

(2) Census of India, 1961, Vol. I, Part II-B(II), General Economic Tables, Table B-IV, Part C.

Table 18: Some characteristics of the distribution of workers in the cotton

handloom urban non-household industry in the districts of Tamilnadu,
in Tamil Nadu, and in India.

District	No. of workers in Group 235, urban non- household industry	Districts share in total workers in Group 235, urban, non- household industry	Share of urban non-household industry in total urban workers in Group 235 in each district	total non- household workers in Group 235 in each district	Share of Group 235 in urban, non-household workers in Divisions &3 in each district
(1)	(2)	(3)	(4)	(5)	(6)
1. Madurai	4177	19.81	18.37	90.61	6.71
2. Salem	3565	16.91	6.40	45.36	10.29
3. Tiruchirappalli	3089	14.65	38.45	67.08	6.57
4. Madras	2164	10.26	36.13	100.00	1.68
5. Ramanathapuram	1815	8.61	5.97	88.15	5.36
6. Coimbatore	1731	8.21	12.88	52.66	1.83
7. Tirunelveli	1363	6.46	3.67	86.16	2.73
8. North Arcot	762	3.61	5.79	71.42	1.79
9. South Arcot	745	3.53	11.64	88.80	5.00
10. Chengalpattu	579	2.75	3.06	42.86	2.19
11. Thanjavur	553	2.62	13.30	83.79	1.97
12. Kanyakumari	537	2.55	11.56	58.69	8.26
13. Nilgiris	3	0.01	60.00	100.00	0.05
STATE	21083	100.00	9.55	68.01	3.66
INDIA	83190		12.34	61.99	1.50

Notes: Districts have been arranged by rank in columns (2) and (3).

Sources: (1) Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables,
Table B-IV, Part C.(2) Census of India, 1961, Vol. I, Part II-B(II), General Economic Tables,
Table B-IV, Part C.

Table 23: Tamil Nadu and India, 1961. Share of household workers with secondary work in agriculture among total household workers with principal work in cotton textile industry (major group 23) and manufacturing (Divisions 2 & 3)

(Figures are in percentages)

Region	Industry Group	<u>Cultivators</u>			<u>Agricultural labourers</u>			<u>In agriculture</u>		
		Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Tamil Nadu	Group 23	3.10	4.56	1.09	0.72	1.15	0.12	3.82	5.71	1.21
	Divisions 2 and 3	4.92	6.79	1.11	2.29	3.26	0.29	7.21	10.05	1.40
India	Group 23	7.28	9.42	1.41	2.48	3.28	0.28	9.76	12.70	1.68
	Divisions 2 and 3	11.60	13.91	2.35	4.31	5.25	0.54	15.91	19.16	2.89

Sources: Derived from: 1) Census of India, 1961, Vol.IX, Part II-B(I), General Economic Tables, Table B-IV, Part A.

2) Census of India, 1961, Vol.IX, Part II-B(II), General Economic Tables, Table B-VII, Part A

3) Census of India, 1961, Vol.I, Part II.B(i), General Economic Tables, Table B-IV, Part A.

4) Census of India, Vol.I, Part II-B(iii), General Economic Tables, Table B-VII, Part A.

Table 24: Tamil Nadu, 1961. Female participation in the cotton handloom industry:

Females per 100 males in each area and type of industry in each district, and in the State

District	Total		Household industry		Non household industry	
	Total	Rural	Urban	Total	Rural	Urban
1. Madras	21	N.A.	21	30	N.A.	30
2. Chengalpattu	47	44	53	49	45	55
3. North Arcot	47	54	34	48	55	35
4. South Arcot	30	33	25	32	34	28
5. Salem	54	49	60	56	51	62
6. Coimbatore	60	67	35	62	68	38
7. Nilgiris	80	160	0	114	160	0
8. Madurai	38	49	34	41	52	37
9. Tiruchirappalli	45	60	26	52	63	30
10. Thanjavur	29	15	38	32	16	44
11. Ramnathapuram	103	109	101	108	113	107
12. Tirunelveli	81	82	81	84	84	83
13. Kanyakumari	103	74	161	111	78	182
STATE	57	56	57	59	58	61

Source: Derived from Census of India, 1961, Vol. IX, Part B-II(I), General Economic Tables, Table B-IV Part C and Appendix.

Table 31: Tamil Nadu, 1971. Some characteristics of the distribution of workers in cotton handloom household industry (minor group 235) on a district-wise basis

District	No. of workers in Group 235, household industry	Districts share in total workers in Group 235 household industry	Share of Group 235 in household industry in total workers at Group 235 in each dt.	Share of Group 235 in total household workers in divisions in each dt.
(1)	(2)	(3)	(4)	(5)
1. Salem/Dharmapuri	71144	25.96	75.36	61.02
2. Coimbatore	48784	17.80	81.22	46.08
3. Ramanathapuram	34439	12.57	86.74	58.97
4. Tirunelveli	30333	11.07	83.80	28.75
5. Chengalpattu	25493	9.30	83.47	50.75
6. Madurai	19049	6.95	54.95	41.05
7. North Arcot	13972	5.10	78.48	25.52
8. Tiruchirappalli	10539	3.85	65.87	23.51
9. South Arcot	9006	3.29	74.96	36.73
10. Thanjavur	5059	1.85	84.97	15.88
11. Kanyakumari	4467	1.63	54.74	23.69
12. Madras	1765	0.64	40.30	15.80
13. Nilgiris	0	0.00	0.00	0.00
STATE	274050	100.00	76.15	40.91
INDIA	981338		80.82	15.45

Note: Districts have been arranged by their rank in columns (2) and (3).

Sources: (1) Census of India, 1971, Series 19, Part II-B(11), General Economic Tables, Table B-IV, Part A, Appendix.
 (2) Census of India, 1971, Series 1, Part II-B(11), General Economic Tables, Table B-IV, Part A, Appendix.

Table 32: Tamil Nadu, 1971. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) non-household industry on a district-wise basis

District	No. of workers in Group 235, non-household industry	Districts share in total workers in Group 235, non-household industry	Share of Group 235, non-household industry in total workers in Group 235 in each dt.	Share of Group 235 in total non-household workers in Divisions 2&3 in each dt.
(1)	(2)	(3)	(4)	(5)
1. Salem/Dharmapuri	23259	27.09	24.64	18.70
2. Madurai	15618	18.19	45.05	14.42
3. Coimbatore	11279	13.14	18.78	5.00
4. Tirunelveli	5865	6.83	16.20	4.99
5. Tiruchirappalli	5460	6.36	34.13	5.08
6. Ramnathapuram	5266	6.13	13.26	5.80
7. Chengalpattu	5049	5.88	16.53	4.48
8. North Arcot	3831	4.46	21.52	4.12
9. Kanyakumari	3693	4.30	45.26	12.10
10. South Arcot	3008	3.50	25.04	6.84
11. Madras	2615	3.05	59.70	1.46
12. Thanjavur	895	1.04	15.03	1.67
13. Nilgiris	10	0.01	100.00	0.07
STATE	85848	100.00	23.85	6.59
INDIA	2328477		19.18	2.17

Note: Districts have been arranged by their rank in Column (2).

Sources: 1) Census of India, 1971, Series 19, Part II-B(ii), Table B-IV, General Economic Tables, Part A, Appendix.
 2) Census of India, 1971, Series 1, Part II-B(iii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 34.3. 1971. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) rural household industry in the districts, state, and country

District	No. of workers in Group 235, rural household industry	Districts share in total workers in Group 235, rural household industry	Share of rural household industry in total rural workers in group 235 in each dt.	Share of rural household industry in total rural workers in Group 235 in each dt.	Share of rural household industry in total rural workers in Divs. 28 in each dt.
(1)	(2)	(3)	(4)	(5)	(6)
1. Coimbatore	34894	28.66	88.31	71.53	43.72
2. Salem/Dharmapuri	27037	22.21	73.90	38.00	47.99
3. Chengalpattu	13960	11.47	91.24	54.76	46.88
4. Tirumelveli	7960	6.54	89.43	26.24	12.89
5. Ramnathapuram	7508	6.17	83.62	21.80	31.36
6. Tiruchirappalli	7274	5.97	66.75	69.02	21.52
7. South Arcot	6597	5.42	78.19	73.25	33.96
8. North Arcot	5802	4.77	78.48	41.53	16.83
9. Madurai	5237	4.30	90.15	27.49	21.56
10. Thanjavur	2875	2.36	91.13	56.83	13.35
11. Kanyakumari	2611	2.14	73.95	58.45	16.97
12. Nilgiris	0	0.00	0.00	0.00	0.00
STATE	121755		81.99	44.43	30.35
INDIA	605788		86.52	61.73	12.72

Notes: 1) Districts have been arranged by their ranks in columns (2) and (3).
2) Madras district, which has no rural area has been excluded.

Sources: 1) Census of India, 1971, Series 19, Part II-B-(ii), General Economic Tables, Table B-IV, Part A, Appendix.
2) Census of India, 1971, Series 1, Part II-B-(iii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 35:1971. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) urban household industry in the districts

of Tamil Nadu, in the State and in India

District	Workers in Group 235 urban household industry	Districts share in total workers in Group 235, urban household industry	Share of urban household in- dustry in total urban workers in Group 235 in each district	Share of urban household in- dustry in total household workers in Group 235 in each dt.	Share of Group 235 in total urban household workers in Divisions 2&3 in each dt.
	No. (2)	% (3)	% (4)	% (5)	% (6)
1. Salem/Dharmapuri	44107	28.96	76.29	62.00	73.20
2. Ramanathapuram	26931	17.68	87.65	78.20	78.15
3. Tirunelveli	22373	14.69	81.96	73.76	51.12
4. Coimbatore	13890	9.12	67.59	28.47	53.33
5. Madurai	13812	9.07	47.86	72.51	96.88
6. Chengalpattu	11533	7.57	75.67	45.24	56.39
7. North Arcot	8170	5.36	78.48	58.47	40.27
8. Tiruchirappalli	3265	2.14	63.99	30.98	29.61
9. South Arcot	2409	1.58	67.35	26.75	47.29
10. Thanjavur	2184	1.43	78.03	43.17	21.13
11. Kanyakumari	1856	1.22	40.10	41.55	53.46
12. Madras	1765	1.16	40.30	100.00	15.80
13. Nilgiris	0	0.00	0.00	0.00	0.00
STATE	152295	100.00	72.04	55.57	56.65
INDIA	375550		73.07	38.27	23.64

Note: Districts have been arranged by their rank in Columns (2) and (3).

Sources: 1) Census of India, 1971, Series 19, Part II-B(iii), General Economic Tables, Table B-IV, Part A, Appendix.
 2) Census of India, 1971, Series I, Part II-B(iii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 36: 1971. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) rural non-household industry in the districts of Tamil Nadu, in the State, and in India

District	Workers in Group 235, rural non-household industry	Districts share in total workers in Group 235, rural non-household industry	Share of Rural Non-household industry in total rural workers in Group 235 in each dt.	total non-household workers in Group 235 in each dt.	Share of Group 235 in rural, non-household workers in Divns. 2&3 in each dt.
(1)	No. (2)	% (3)	% (4)	% (5)	% (6)
1. Salem/Dharmapuri	9550	35.70	26.10	41.06	17.07
2. Coimbatore	4619	17.27	11.69	40.95	6.02
3. Tiruchirapalli	3623	13.54	33.25	66.36	7.04
4. South Arcot	1840	6.88	21.81	61.17	7.54
5. North Arcot	1591	5.95	21.52	41.53	4.17
6. Ramanathapuram	1471	5.50	16.38	27.93	3.38
7. Chengalpattu	1341	5.01	8.76	26.56	4.45
8. Tirunelveli	941	3.52	10.57	16.04	1.77
9. Kanyakumari	920	3.44	26.05	24.91	4.34
10. Madurai	572	2.14	9.85	3.66	2.19
11. Thanjavur	280	1.05	8.87	31.28	1.14
12. Nilgiris	0	0.00	0.00	0.00	0.00
STATE	26748	100.00	18.01	31.16	5.94
INDIA	94385		13.48	40.54	2.77

Notes: 1) Madras district, which has no rural area has been excluded.

2) Districts are arranged by their rank in columns (2) and (3)

Sources: 1) Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A, Appendix.
2) Census of India, 1971, Series 1, Part II-B(iii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 37:1971. Some characteristics of the distribution of workers in the cotton handloom (minor group 235) urban non-household industry in the districts of Tamil Nadu, in the State and in India

District	Workers in Group 235, urban non- household industry	Districts share in total workers in Group 235, urban non-house- hold industry	Share of urban non-household non industry in		Share of Group 235 in urban, non-house- hold workers in Divns. 2&3 in each dt.
	No.	%	total urban workers in Group 235 in each district	total non-house- hold workers in Group 235 in each district	%
(1)	(2)	(3)	(4)	(5)	(6)
1. Madurai	15046	25.46	52.14	96.34	18.31
2. Salem/Dharmapuri	13709	23.20	23.71	58.94	20.04
3. Coimbatore	6660	11.27	32.41	59.05	4.47
4. Tirunelveli	4924	8.33	18.04	83.96	7.65
5. Ramanathapuram	3795	6.42	12.35	72.07	8.02
6. Chengalpattu	3708	6.27	24.33	73.44	4.49
7. Kanyakumari	2773	4.69	59.90	75.09	29.77
8. Madras	2615	4.42	59.70	100.00	1.46
9. North Arcot	2240	3.79	21.52	58.47	4.09
10. Tiruchirapalli	1837	3.11	36.01	33.64	3.28
11. South Arcot	1168	1.98	32.65	38.83	5.97
12. Thanjavur	615	1.04	21.97	68.72	2.13
13. Nilgiris	10	0.02	100.00	100.00	0.10
STATE	59100	100.00	27.96	68.84	6.94
INDIA	138432		26.93	59.46	1.89

Note: Districts have been arranged by their rank in columns (2) and (3).

Sources: 1) Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A, Appendix.
 2) Census of India, 1971, Series 1, Part II-B(iii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 36: 1971. Female participation in the cotton handloom industry (minor group 235), females per 100 males in each area and type of industry in each district

District	Total			Household industry			Non-household industry		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1. Madras	8	N.A.	8	N.A.	N.A.	12	5	N.A.	5
2. Chengalpattu	11	7	16	11	7	16	12	5	16
3. North Arcot	20	8	31	22	8	35	13	10	16
4. South Arcot	5	4	7	6	5	8	4	3	6
5. Salem/Dharmapuri	28	18	35	32	21	40	16	10	20
6. Coimbatore	21	20	22	21	21	24	19	18	20
7. Nilgiris	0	0	0	N.A.	N.A.	N.A.	0	0	0
8. Madurai	43	38	44	35	38	33	54	33	55
9. Tiruchirappalli	21	17	32	21	18	27	22	13	43
10. Thanjavur	13	15	11	14	16	13	5	4	6
11. Ramanathapuram	89	84	90	94	91	95	61	55	63
12. Tirunelveli	60	64	59	61	62	60	58	81	54
13. Kanyakumari	71	52	89	82	60	126	59	31	71
STATE	32	22	40	34	23	44	27	15	33
INDIA	29	27	32	31	28	37	19	16	20

Note: N.A. indicates "not applicable".

Sources: 1) Census of India, 1971, Series 19, Part II-B(ii), General Economic Tables, Table B-IV, Part A, Appendix.

2) Census of India, 1971, Series 1, Part II-B(iii), General Economic Tables, Table B-IV, Part A, Appendix.

Table 41: District-wise distribution of male workers - household and non-household industry combined - in the cotton handloom industry in Tamil Nadu, 1961 and 1971, and decadal variation

(Figs in No. of workers and percentages)

District	As of 1961			As of 1971			Decadal variation in per cent		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Chengalpattu	32049 (10.77)	19683 (12.54)	12366 (8.79)	27414 (10.06)	14277 (11.69)	13137 (8.73)	-14.46	-27.47	+6.23
North Arcot	27206 (9.14)	17348 (11.05)	9858 (7.01)	14817 (5.44)	6837 (5.60)	7980 (5.30)	-45.54	-60.59	-19.05
South Arcot	14288 (4.80)	9166 (5.84)	5122 (3.64)	11407 (4.18)	8078 (6.62)	3329 (2.21)	-20.16	-11.87	-35.01
Zone 1	73543 (24.71)	46197 (29.43)	27346 (19.44)	53638 (19.68)	29192 (23.91)	24446 (16.24)	-27.07	-36.81	-10.60
Salem	77334* (25.98)	42570* (27.12)	34764* (24.71)	72823 (26.71)	30310 (24.83)	42513 (28.25)	- 4.29*	-27.04*	+23.56*
Dharmapuri				1190 (0.44)	750 (0.61)	440 (0.29)			
Coimbatore	47651 (16.01)	37720 (24.03)	9931 (7.06)	49666 (18.22)	32882 (26.93)	16784 (11.15)	+ 4.23	-12.83	+69.01
Zone 2	124985 (41.97)	80290 (51.15)	44695 (31.77)	123679 (45.37)	63942 (52.37)	59737 (39.69)	- 1.04	-20.36	+33.65

*Data relate to Salem and Dharmapuri.

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District	As of 1961			As of 1971			Decadal variation in per cent		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Madurai	22295 (7.49)	5354 (3.41)	16941 (12.04)	24293 (8.91)	4218 (3.45)	20075 (13.34)	+8.96	-21.22	+18.50
Ramanathapuram	20064 (6.74)	4955 (3.16)	15109 (10.74)	21055 (7.72)	4931 (4.00)	16174 (10.75)	+4.94	- 1.49	+ 7.05
Tirunelveli	26566 (8.96)	6170 (3.93)	20496 (14.57)	22597 (8.29)	5420 (4.44)	17177 (11.41)	-15.26	-12.16	-16.19
Zone 3	69025 (23.19)	16479 (10.50)	52546 (37.35)	67945 (24.92)	14519 (11.89)	53426 (35.50)	-1.56	-11.89	+ 1.67
Tiruchirapalli	14879 (5.00)	8514 (5.42)	6365 (4.52)	13216 (4.85)	3353 (7.36)	3963 (2.57)	-11.18	+ 9.85	-30.31
Madras District	4936 (1.66)	Nil (0.00)	4936 (3.51)	4065 (1.49)	Nil (0.00)	4065 (2.70)	-17.65	--	-17.65
Thanjavur	4985 (1.67)	1964 (1.25)	3021 (2.15)	5270 (1.93)	2750 (2.25)	2520 (1.67)	+ 5.72	+10.02	-16.58
Kanyakumari	5311 (1.78)	3533 (2.25)	1778 (1.26)	4779 (1.75)	2331 (1.91)	2448 (1.63)	-10.02	-34.02	-37.68
STATE	297674 (100.00)	156982 (100.00)	140692 (100.00)	272602 (100.00)	122087 (100.00)	150515 (100.00)	- 8.42	-22.23	+ 6.98

Notes: 1) Nilgiris District is excluded. 2) Figures in parentheses are percentages of State totals.

Sources: 1) Census of India, 1961, Vol. IX, Part B-II(I), Table B-IV Part C and Appendix.
2) Census of India, 1971, Series 13, Part II-P(ii), Table B-IV, Part A, Appendix.

Table 42 : District-wise distribution of male household workers in the cotton handloom industry in Tamil Nadu, 1961 and 1971 and decadal variations

(Figs. in No. of workers and percentages)

District	As of 1961			As of 1971			Decadal variation in per cent		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Chengalpattu	30836 (11.30)	19004 (12.74)	11832 (9.57)	22922 (11.18)	12996 (13.14)	9926 (9.35)	-25.66	-31.61	-16.11
North Arcot	26251 (9.62)	17056 (11.13)	9195 (7.44)	11436 (5.58)	5386 (5.44)	6050 (5.70)	-56.44	-68.42	-34.20
South Arcot	13504 (1.95)	9075 (6.03)	4429 (3.58)	8520 (4.16)	6298 (6.37)	2222 (2.09)	-36.91	-30.60	-49.83
Zone 1	70591 (25.98)	45135 (30.25)	25456 (20.59)	42879 (20.91)	24680 (21.95)	18199 (17.15)	-39.26	-45.32	-23.51
Salem	71397* (26.17)	39313* (26.35)	32084* (25.95)	53155 (25.92)	21874 (22.11)	31281 (29.48)	-24.44*	-43.09*	-1.60*
Dharmapuri				790 (0.39)	500 (0.51)	290 (0.27)			
Coimbatore	44989 (16.49)	36518 (24.48)	8471 (6.85)	40221 (19.62)	28981 (29.30)	11240 (10.59)	-10.60	-20.61	+32.69
Zone 2	116386 (42.66)	75831 (50.33)	40555 (32.80)	94166 (45.93)	51355 (51.92)	42811 (40.34)	-19.09	-32.28	+5.56

*Data relate to Salem and Dharmapuri.

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District	As of 1961			As of 1971			Decadal variation in per cen		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Madurai	18539 (6.80)	4972 (3.33)	13567 (10.97)	14157 (6.90)	3788 (3.83)	10369 (9.77)	-23.64	-23.81	-23.57
Ramanathapuram	18581 (6.81)	4745 (3.18)	13836 (11.19)	17774 (8.67)	3930 (3.97)	13844 (13.04)	- 4.34	-17.18	+ 0.06
Tirunelveli	25459 (9.33)	5966 (4.00)	19493 (15.77)	18878 (9.21)	4900 (4.95)	13978 (13.17)	-25.85	-17.87	-28.29
Zone 3	62579 (22.94)	15683 (10.51)	46896 (37.93)	50809 (24.78)	12618 (12.76)	38191 (35.99)	-18.81	-19.54	-18.56
Tiruchirappalli	11245 (4.12)	7434 (4.98)	3811 (3.08)	8735 (4.26)	6153 (6.22)	2582 (2.43)	-22.32	-17.23	-32.25
Madras District	2940 (1.08)	Nil (0.00)	2940 (2.38)	1590 (0.77)	Nil (0.00)	1580 (1.49)	-16.26	--	-46.26
Thanjavur	4374 (1.60)	2987 (2.00)	1387 (1.12)	4421 (2.16)	2480 (2.51)	1941 (1.83)	+ 1.07	-16.97	+39.94
Kanyakumari	4693 (1.72)	3237 (2.17)	1456 (1.18)	2453 (1.20)	1631 (1.65)	822 (0.77)	-47.73	-49.61	-43.54
STATE	272815 (100.00)	149189 (100.00)	123626 (100.00)	205042 (100.00)	98917 (100.00)	106125 (100.00)	-21.84	-33.70	-14.16

Notes: 1) Nilgiris district is excluded. 2) Figures in parentheses are percentages of State Totals.

Sources: 1) Census of India, 1961, Vol. IX, Part B-II(I), Table B-IV Part C and Appendix.

2) Census of India, 1971, Series 19, Part II-B(ii), Table B-IV, Part A, Appendix.

Table 43. District-wise distribution of male non-household workers in the cotton
handloom industry in 1961 and 1971 and decadal variation, Tamil Nadu
(Figs in No. of workers and percentages)

District	As of 1961			As of 1971			Decadal variation in per cent		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Chengalpattu	1213 (4.88)	679 (8.71)	534 (3.13)	4492 (6.65)	1281 (5.53)	3211 (7.23)	+270.32	+88.66	+501.31
North Arcot	955 (3.84)	322 (4.13)	633 (3.71)	3381 (5.00)	1451 (6.26)	+1930 (4.35)	+254.03	+350.62	+204.90
South Arcot	784 (3.15)	91 (1.17)	693 (4.06)	2887 (4.27)	1780 (7.68)	+1107 (2.49)	+268.24	+1856.04	+ 59.74
Zone 1	2952 (11.87)	1092 (14.01)	1860 (10.90)	10760 (15.93)	4512 (19.47)	6248 (14.08)	+264.50	+313.19	+235.91
Salem	5937* (23.88)	3257* (41.79)	2680* (15.70)	19668 (29.11)	8436 (36.41)	11232 (25.30)	+238.02*	+166.69*	+324.70*
Dharmapuri				400 (0.59)	250 (1.03)	150 (0.34)			
Coimbatore	2662 (10.71)	1202 (15.42)	1460 (8.56)	9445 (13.98)	3901 (16.84)	5544 (12.49)	+254.81	+224.54	+279.73
Zone 2	8599 (34.59)	4459 (57.22)	4140 (24.26)	29513 (43.68)	12587 (54.32)	16926 (38.13)	+243.21	+182.28	+308.84

*Data relate to Salem and Dharmapuri.

contd.

District	As of 1961			As of 1971			Decadal variation in per cent		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Madurai	3756 (15.11)	382 (4.90)	3374 (19.77)	10136 (15.00)	430 (1.86)	9706 (21.87)	+169.86	+12.57	+187.67
Ramanathapuram	1483 (5.97)	210 (2.69)	1273 (7.46)	3281 (4.86)	951 (4.10)	2330 (5.25)	+121.24	+352.86	+ 83.03
Tirunelveli	1207 (4.86)	204 (2.62)	1003 (5.88)	3719 (5.50)	520 (2.24)	+3199 (7.21)	+208.12	+154.90	+218.94
Zone 3	6446 (25.93)	796 (10.21)	5650 (33.11)	17136 (25.36)	1901 (8.20)	15235 (31.32)	+165.81	+138.82	+169.65
Tiruchirapalli	3634 (14.62)	1080 (13.86)	2554 (14.97)	4481 (6.63)	3200 (13.81)	1281 (2.89)	+23.31	+196.30	-49.84
Madras District	1996 (8.03)	Nil (0.00)	1996 (11.70)	2485 (3.68)	Nil (0.00)	2485 (5.60)	+24.50	--	+24.50
Thanjavur	611 (2.46)	100 (1.28)	511 (2.99)	849 (1.26)	270 (1.17)	+579 (1.30)	+33.95	+170.00	+13.31
Kanyakumari	618 (2.49)	295 (3.30)	322 (1.89)	2326 (3.44)	700 (3.02)	+1626 (3.66)	+276.38	+136.49	+404.97
STATE	24859 (100.00)	7793 (100.00)	17066 (100.00)	67560 (100.00)	23170 (100.00)	44390 (100.00)	+171.77	+197.32	+160.11

Notes: 1) Nilgiris district is excluded. 2) Figures in parentheses are percentages of State Total
 Sources: 1) Census of India, 1961, Vol. IX, Part B-II(I), Table B-IV Part C and Appendix.
 2) Census of India, 1971, Series 19, Part II-B(ii), Table B-IV, Part A, Appendix.

Appendix 1Sources of Data in the Censuses of 1961 and 1971 on the cotton handloom industry and on the cotton textile group of industriesA. The Census of 1961

A.1 The General Economic Tables. Volume IX, Parts B-II(I) and II-B(II).

A.1.1 Part B-II(I)

1. Table B-IV, Part A.

Title: "Industrial Classification by Sex and Class of Worker of Persons at Work at Household Industry".

Level of Disaggregation: Division and major groups of ISIC.^{1/}

Nature of Data: District-wise, area-wise (i.e. total, rural, and urban), and sex-wise, gives the number of workers by their status -- 'employee' and 'others'.

Comments: ~~Based~~ Based on full count of Individual Slips;

- The B-IV Tables of 1961 partly correspond to the B-III Tables of 1951, but classification differences exist;
- covers only divisions 0 to 3 of ISIC;^{1/}
- uses the concepts of 'worker', 'employee', and 'household industry';
- classification is by principal work.

2. Table B-IV, Part B.

Title : "Industrial Classification by Sex and Class of Worker of Persons at Work in Non-household Industry, Trade, Business, Profession or Service".

Level of Disaggregation: Division and major group of ISIC.^{1/}

Nature of Data: District-wise, area-wise, sex-wise, gives total number and status of workers -- 'employer', 'employee', 'single worker', 'family worker'.

- Comments: - Based on a full count of Individual Slips;
 - Covers Divisions 0 to 9 of ISIC;^{1/}
 - uses the concept of 'worker', 'employer', 'employee', 'single worker', 'family worker', and 'non-household industry';
 - rural numbers are not directly available, but can be calculated by subtraction;
 - classification is by principal work.

3. Table B-IV, Part C.

Title: "Industrial Classification by Sex and Divisions, Major Groups, and Minor Groups, of Persons at Work other than cultivation."

Level of Disaggregation: Divisions, major groups and minor groups of ISIC^{1/}

Nature of Data:-District-wise, area-wise, and sex-wise, gives total numbers of workers as well as numbers in household and non-household industry separately.

- Minor groups in which the numbers are very low (less than 1% in the case of divisions 1 and 4-9, and less than 0.5% in the case of divisions 2 & 3) are given separately in an Appendix.

- Comments - Based on a full count of Individual Slips;
 - covers all divisions;
 - uses the concepts of 'worker', 'household industry', and 'non-household industry';
 - rural numbers as well as total persons for household and non-household industry are not directly available but can be easily calculated.
 - classification is by Principal Work;
 - this is a basic table for data at the minor group level.

A.1.2 Part II-B(II)

1. Table B-V.

Title: "Occupational Classification of Persons at Work other than Cultivation".

Level of Disaggregation: Division, group and family of National Classification of Occupations based on NCO 1958.

Nature of Data : District-wise, area-wise, and sex-wise, gives the distribution of workers within each group and family among the broad nine-fold classes (I to IX). Families with less than 1 per cent of workers in the division are given separately in an Appendix.

Comments: - Based on a full count of Individual Slips;
- covers all occupational divisions. Of main interest to a study of handlooms is division 70: "Spinners, Weavers, Knitters, Dyers and Related Workers"; the families in this division are:

702 : Spinners, Piecers and Winders;

703 : Warpers and Sizers;

704 : Drawers and Weavers; and

705 : Pattern Card Preparers.

As can be seen, this mixes up workers in the cotton handloom industry with workers in the cotton mill sector, as well as with workers on other fabrics, whether in mills or handlooms.

- Uses the concepts of 'worker', 'household industry', 'non-household industry', and each of the categories of the nine-fold classification;
- classification is by Principal Work.

2. Table B-VII, Part A

Title: "Persons Working Principally (i) as Cultivators (ii) as Agricultural Labourers or (iii) at Household Industry Classified by Sex and by Secondary Work (i) at Household Industry (ii) as Cultivator or (iii) as Agricultural Labourer."

Level of Disaggregation: Major Group of ISIC^{1/} for Principal Work, and Broad category for Secondary Work.

Nature of Data : District-wise, area-wise and sex-wise, gives Principal Work at major group level and Secondary Work at Broad categories I, II, and IV. Major groups with less than 5 per cent of the division totals are given in an Appendix.

Comments: - Based on full count of Individual Slips
 - covers divisions 0 to 3;
 - uses the concepts of 'worker', 'Principal Work', 'Secondary Work', and 'household industry' as well as those of 'agricultural labourer' and 'cultivator';
 - useful in that it provides the links between workers in a major group of household industry and agriculture.
 - one problem in this table is that, since the concepts of Principal and Secondary work were introduced late in the process, some errors may have crept in. It has been noted for instance, that there were cases where the Principal Work had not been marked.

3. Table B-VII, Part B

Title : "Industrial Classification by Sex of Persons Working in Non-Household Industry, Trade, Business, Profession or Service who are also engaged in Household Industry".

Level of Disaggregation : Major groups of ISIC^{1/} for both Principal and Additional Work.

Nature of Data : District-wise, area-wise, and sex-wise, gives cross tabulation of individuals by Principal Work at non-household industry on the one hand and Additional Work at household industry on the other. The table also gives total number of persons with Principal Work in the major group concerned.

Comments : - Based on a full count of Individual Slips;
 - covers divisions 0 to 9
 - uses the concepts of 'worker', 'non-household industry', 'trade', and 'business profession or service'.
 - in combination with Table B-VII, Part A (see above), gives the links of group 23 household industry workers with agriculture and with non-household industry, though in the one case the household industry is principal work, and in the other case, additional work. Not of much use otherwise, since it mixes up mill and handloom workers.

A.2 Household Economic Tables. Volume IX, Part III

1. Appendix IV

Title : "Statement showing the number of Households and Population".

Nature of data : this appendix gives district-wise and area-wise, the number of households and

household population as per Union Primary Census Abstract on the one hand and households and household populations covered by the 20 per cent sample on which the Part III tables are based.

Remarks : Since all the data in the Part III Tables are based on a 20 per cent systematic random sample, with no population estimates, this table is useful, since it gives an idea of the coverage.

2. Table B-XIII

Title : "Sample Households Engaged Both in Cultivation and Household Industry showing size of land Cultivated Classified by Principal Household Industry in Rural and Urban Areas Separately".

Level of Disaggregation : Major groups of ISIC.^{1/}

Nature of Data : District-wise and area-wise, gives the number of sampled households which have both cultivation and household industry.

Comments : - Sample household data only. Population estimates require multiplication by a factor of 5;

- covers divisions 0 to 3;
- uses the concepts of 'household cultivation', 'household industry', and 'principal household industry'.
- useful to the extent that it can be used to show the average size of land cultivated by such households, and to arrive at the share of households with cultivation in total households in any given major group.

3. Table B-XIV, Part A.

Title : "Sample Households Engaged only in Household Industry Classified by Principal Household Industry in all Areas; Part A: Households Classified by Major Groups of Principal Household Industry and Number of Persons Engaged".

Level of Disaggregation: Major groups of ISIC.^{1/}

Nature of Data : District-wise and area-wise, gives households with only household industry by principal household industry and the distribution of households within each group by size classes of employment. Major groups which have less than 10 per cent of the divisions are given in an Appendix.

- Comments: - Sample households only. Population estimates require multiplication by a factor of 5.
- covers divisions 0 to 3;
 - uses the concepts of 'household', and 'principal household industry';
 - in conjunction with Table B-XIII (see above), can be used to divide the households in each major group as among those separated from and those with links with agriculture; this table operates at a households level in contrast with Table B-VII, Part A (see above).
 - also gives an idea of average employment size in each group of households.

4. Table B-XIV, Part B.

Title : "Sample Households Engaged only in Household Industry Classified by Principal Household Industry in all Areas; Part B: Households Classified by minor groups of Principal Household Industry".

Level of Disaggregation : Minor group of ISIC^{1/} at 4-digit level.

Nature of Data : District-wise, area-wise, gives the number of sample households in each minor group.

Comments : - Sample households only. Population estimates require multiplication by a factor of 5;
 - covers divisions 2 & 3;
 - uses the same concepts as mentioned in Part A above.

5. Table B-XVI

Title : "Sample Principal Household Industry Classified by Period of Working and Total Number of Workers engaged in Household Industry in all Areas".

Level of Disaggregation : Major groups of ISIC.^{1/}

Nature of Data : District-wise, area-wise, and separately for households having cultivation and households not having cultivation, and for all households with household industry, gives the distribution of households by classes of time duration of activity over the year; within each such class, the number of family workers (male and female) and of hired workers are also given.

Comments: - Sample households only. Population estimates require multiplication by a factor of 5;
 - covers divisions 0 to 3;
 - gives the time duration of activity in each type of household, the number of hired workers, and a cross tabulation of these.
 - uses the concepts of 'household', 'household industry', 'principal household industry', 'family worker' and 'hired worker'.

2. Table B-IV, Part A, Appendix.

Title : "Industrial Classification of Persons at Work other than Cultivation as Main Activity by Sex and Divisions, Major Groups, and Minor Groups; Appendix: Distribution of Workers in Manufacturing, Processing, Servicing and Repairs by Household Industry and Non-Household Industry".

Level of Disaggregation : Divisions, major groups and minor groups of NIC.^{2/}

Nature of Data : District-wise, area-wise, and sex-wise, gives the distribution of total workers among household and non-household industry separately.

Comments : - Population estimates based on a sample of Individual Slips;
 - covers divisions 2 and 3 only;
 - relates to main activity only;
 - uses the concepts of 'worker', 'household' industry' and 'non-household industry';
 - this table corresponds with Table B-IV, Part C of 1961;
 - at the minor group level, it forms the basic table from which data on the industry can be gathered.

3. Table B-IV, Part B.

Title : "Industrial Classification of Workers in Manufacturing, Processing, Servicing and Repairs on Household Industry Basis as Main Activity by Sex and Class of Workers".

Level of Disaggregation : Division and major group of NIC.^{2/}

Nature of Data : Area-wise and sex-wise, gives the number of workers in the State in each group by status -- 'employee', 'single worker' -- in the household industry. Data are not available at a district level.

- Comments: - Population estimates based on a sample of Individual Slips;
- covers divisions 2 and 3;
 - uses the concepts of 'employee', 'single worker', and 'family worker';
 - relates to main activity only;
 - relates only to household industry;
 - figures for family workers are not directly given, but are obtainable by deducting the sum of employees and single workers from the total;
 - since district level data are not given, the table, though equivalent to Table B-IV, Part A of 1961, does not fully correspond to it; another difference between the two tables being that the 1961 table only gives the breakdown by 'employee' and 'others'.

4. Table B-IV, Part D.

Title : "Industrial Classification by Sex and Class of Workers of Persons at Work in Non-Household Industry, Trade, Business, Profession or Service as Main Activity".

Level of Disaggregation : Division and major group of NIC.^{2/}

Nature of Data : District-wise, area-wise, and sex-wise, gives the number of workers by status -- 'employer', 'employee', 'single worker' and 'family worker' -- for workers in the non-household industry only.

- Comments : - Population estimates based on a sample of Individual Slips;
- covers divisions 0 to 9;
 - relates to main activity only;
 - uses the concepts of 'worker', 'non-household industry', 'employer', 'employee', 'single worker' and 'family worker';
 - corresponds with Table B-IV, Part B of 1961.

B.1.2 Series 1, Part II-B(iv), Volume IIGeneral Comment

Part II-B(iii) for Tamil Nadu has not yet been published. Data for Tamil Nadu are to be found in the all-India volume mentioned above.

1. Table B-V, Part A.

Title : "Occupational Classification by Sex of Persons at Work According to Main Activity other than Cultivation".

Level of Disaggregation : Divisions, groups and families of the National Classification of Occupations, based on NCO 1968.

Nature of Data : for the State as a whole, sex-wise, and area-wise, gives the distribution of workers in each group by the nine-fold classification.

Comments : - Population estimates based on a sample of Individual Slips;
 - covers all the occupational divisions;
 - relates only to main activity;
 - uses the concept of 'worker';
 - corresponds to Table B-V of 1961, and, as in that table, mixes up workers in the handloom industry with those in the mill sector and in the production of cloth from other yarns.

2. Table B-V, Part B

Title : "Occupational Classification by Sex and Class of Workers in Non-household Industry, Trade, Business, Profession or Service as Main Activity".

Level of Disaggregation : Divisions and groups of NCO, 1968.

Nature of Data : State-wise, area-wise and sex-wise, gives the distribution of workers by status -- 'employer', 'employee', 'single worker' and 'family worker' -- for workers in non-household industry only.

Comments : - Population estimates based on a sample of Individual Slips;
 - covers all occupational divisions;
 - relates to main activity only;
 - it is possible to derive totals of males and females in the household industry of each occupational group by putting this table together with Table B-V Part A (see above).

B.2 Establishments Tables, Series 19, Part III B.

1. Table E-II, Part A.

Title : "Distribution of Manufacturing, Processing, or Servicing Establishments other than Household Industries Classified by Registered Factories, Unregistered Workshops and Size of Employment".

Level of Disaggregation : Divisions and major groups of NIC.^{2/}

Nature of Data : District-wise, area-wise, and for each major city in each district, gives total establishments and persons employed in 8 size classes for registered factories and 6 size classes for unregistered workshops.

Comments : - Based on full count of Establishments Scheduled canvassed in 1970;
 - covers only divisions 2 and 3;
 - uses the concepts of 'Establishments', 'registered factory', 'unregistered workshop' and 'worker'.

2. Table E-II, Part B.

Title : "Distribution of Manufacturing, Processing, or Servicing Establishments other than Household Industries Classified by Industry, Fuel/Power or Manual Used and Size of Employment".

Level of Disaggregation : divisions and major groups of NIC.^{2/}

Nature of Data : District-wise, and for each major city, and area-wise, gives the establishments by size classes of employment cross-tabulated by type of fuel or power used.

Comments : - Based on a full count of Establishments Schedules canvassed in 1970;
 - covers only divisions 2 and 3;
 - uses the concepts of 'worker', 'establishments', and 'non-household industry';
 - corresponds to part of Table E-III of 1961.

3. Table E-II, Part C.

Title : "Distribution of Household Industry Establishments Classified by Industry, Fuel/Power Used and Size of Employment".

Level of Disaggregation : divisions and major groups of NIC.^{2/}

Nature of Data : as in Table E-II, Part B, (see above) except that this table relates only to household industry.

Comments : - as in Table E-II, Part B (see above).
 - Tables E-II Part B and Part C together correspond to Table E-III of 1961, with the difference that in the latter, the data are disaggregated to the minor industry group level.

Notes: 1/ ISIC refers to International Standard Industrial Classification.

2/ NIC refers to National Industrial Classification.

Appendix 2

Minor group industries falling within the cotton textile group of industries (major group 23) in the Censuses of 1961 and 1971.

A. Census of 1961

<u>Minor Group No.</u>	<u>Industry</u>
230	Cotton ginning, cleaning, pressing and baling.
231	Cotton spinning (other than in mills).
232	Cotton spinning and weaving in mills.
233	Cotton dyeing, bleaching.
234	Cotton weaving in powerlooms.
235	Cotton weaving in handlooms.
236	Manufacturing of Khadi textile in handloom.
237	Printing of cotton textile.
238	Manufacturing of cotton nets.
239.	Manufacturing of cotton cordage, rope and twine.

B. Census of 1971

230	Cotton ginning, cleaning and baling.
231	Cotton spinning, weaving, shrinking, sanforising, mercerising, and finishing of cotton textiles in mills.
232	Printing, dyeing and bleaching of cotton textiles.
233	Cotton spinning other than in mills. (Charkha).
234	Production of khadi.
235	Weaving and finishing of cotton textiles in handlooms, other than khadi.
236	Weaving and finishing of cotton textiles in powerlooms.
239	Cotton textiles not elsewhere classified.

Sources: 1) Census of India, 1961, Volume IX, Part B-II(I), General Economic Tables, Flyleaf to Table B-IV, Appendix C, pp. 378-9.

2) Census of India, 1971, Series 19, Part II³B(ii), General Economic Tables, Flyleaf to Table B-IV, Appendix, p.104.

