Blacksmiths in the hearth

Teenage Hugo Spinners in a workshop of a Khadi Production Centre at Salkuchi.

Drum warping and beaming for silk looms.

A mini Rice Mill Catering to the husking needs of the village customers.
Chapter 7

STRUCTURE OF THE INDUSTRIES IN CASE STUDIES

In the 5th chapter it has been stated that our field investigations has brought 26 different types of industries. These industries have been classified as per the prevailing concepts into two groups, viz., (1) Cottage, and (2) Small Scale. This chapter is devoted to the (A) concepts of cottage and small scale industries and (B) to an assessment and analysis of the internal structure of the industries under case study.

(A) Classification of Industries

(1) Concepts of Cottage and Small Scale Industries

After more than three decades of planning in our country with the industrialisation issue in the forefront the question of classifying industries into groups like traditional, modern, cottage, village, small, medium or large-scale should have been resolved by now. But contrary to expectations the government agencies in our country, leave aside the academics and professionals, have used different terms at different times to cover a particular group of industries. The Planning Commission, for example, had used in the First Five Year Plan the terms 'village', 'cottage' and 'small' industries interchangeably. Small industries were divided into two groups, (1) those 'which represent traditional skill and crafts' and (2) those 'which are more recent and are connected
with the corresponding large scale industries'. In the Sixth Five Year Plan 1980-85, the Planning Commission uses a composite term 'Village and Small Industries (VSI)' to connote two groups of industries, viz., (1) 'traditional industries (vis. handlooms, khadi and village industries, sericulture, handicrafts and coir)' and (2) "modern small scale industries including 'Tiny' units and powerlooms". It does not state clearly whether traditional industries should be treated as 'village' or 'small' although the distinction between 'traditional' and 'modern small scale' industries is very clear. In the estimates of output, employment and exports 'village industries' have been shown as a separate category within the 'traditional' group and a footnote says that 'Khadi and Village Industries' connote those which fall under the purview of the Khadi and Village Industries Commission and the 'small scale industries' refer to those under the purview of the small Industries Development Organisation (it may also be noted that while the industries are 'small scale', the Organisation is connected with the development of 'small industries'). Still another footnote says that employment data relate to 'the whole of the unregistered manufacturing sector and certain portion of the registered manufacturing sector units which have investment in plant and machinery up to Rs. 20 lakhs (and in the case of ancillary units up to Rs. 25 lakhs).'

1. (i) First Five Year Plan, 1952, pp. 315, 321, 325
(ii) Sixth Five Year Plan 1980-85, pp. 186, 187
All the above explanations given by the Planning Commission confounds the confusion. The 'unregistered' sector refers negatively to the industries 'not registered' under the Factories Act 1948 and are supposed to employ less than 10 persons using power or less than 20 persons without using power. Now should these unregistered industries be treated as 'small' or 'village' industries? Or are all the unregistered industries 'small scale' provided their investment in plant and machinery does not exceed the ceiling limit? And what about the industries with investment up to Rs. 20 lakhs but registered under the Factories Act? Are they 'small scale'?

We cite concrete examples of the confusion. The Directorate of Economics and Statistics, Assam while conducting a survey of the cottage industries in Assam in 1954-55 covered handloom, brass and bell metal, blacksmithy, pottery and a host of such other industries numbering 72 under the term 'cottage' industries. The same Directorate while conducting, at the suggestion of the Standing Committee on Small Industries Statistics, a survey as part of an All India scheme, of 'small scale industrial units in the unorganised sector' in the urban areas of Assam in 1969-70, covered, among others, the above mentioned handloom, bell metal, blacksmithy and pottery units as 'small' industries. The Directorate of Industries, Assam

have also shown in their Directory of Small Scale Industries several bell metal and handloom units registered as 'small scale' industries. If the registered units (with the Directorate of Industries) alone are 'small scale' what about the non-registered units of the same industry group? Are they 'Cottage', 'village' or 'small'?

Perhaps more interesting; some bell metal artisans from Assam (Sarthebari) are being taken to Delhi to exhibit their production process as well as their products in the Handicrafts Fairs held in connection with the Republic Day (26th January) celebrations and one such artisan was awarded the Master Craftsman National Award by the All India Handicrafts Board in 1966. This shows that bell metal smithy is treated as handicraft by the Handicrafts Board, but after registration with the Directorate of Industries it also becomes 'small scale'. As a matter of fact, a Catalogue on Handicrafts of India includes handloom woven fabrics and hand printed artistic cotton and silk textiles, bamboo and cane works, wood carving, ivory and horn works, handtooled leather works,

(11) Directory of Small Industries in the Urban Areas of Assam, 1969-70, Shillong, 1971 (mimeo.). It gives districtwise list of industries with either trade names or names of the proprietor. It may also be noted that while the Directory uses the term 'small industries', the Report (mimeo. 1972) uses the term 'small scale'.

3. Directorate of Industries, Assam, Directory of Small Scale Industries, Assam, 1985, pp. 50-51, 55, 56, 76 of Kaurup section. (The Directory does not contain serialised page number even).

4. All India Handicrafts Board, Nation Awards to Master Craftsman, 1966, p. 30
pottery, jewellery and metal wares and a host of such other artistic products of cottage artisans as 'handicrafts', whereas the Khadi and Village Industries Commission and the state Khadi and Village Industries Boards show some of them (Khadi, Nugs and other silk fabrics, village leather, pottery etc.) as 'village industries'. All these show that the same traditional industry at one time becomes 'cottage', at another 'village', still on another occasion it becomes 'handicraft' and after 'registration' it becomes 'small scale'!

The illustrations above show that industries in our country are not clearly demarcated. In fact, several boards, commissions and organisations formed at different times (there are six organisations, vis., the Central Silk Board, All India Handloom Board, All India Handicrafts Board, All India Khadi and Village Industries Commission, Coir Board and Small Industries Development Organisation) for specific purpose, owing to the absence of co-ordination among them, define industries in their own way and show the industries under their purview as belonging to that specific group. This is why the confusion about 'cottage', 'village', 'handicraft' and 'small' industries. In other countries such anomalies seem to be less and rare.

In the U.S.A, the term 'Small Business' is used to cover 'almost any type of business that is locally owned and in which the owner is in charge of the operations'. The

5. All India Handicrafts Board, Handicrafts of India, 1935
United States Department of Commerce defined 'small business' in 'industries' in 1931 as "firms employing less than 50 persons in some industries and firms employing less than 2500 persons in others" with specification of the manufacturing or servicing activity.  

In Japan the terms 'small business' or 'small enterprise' cover any enterprise including trade and services like hair dressing and the Small Business Basic Law of 1963 defined small enterprise in industry as one "which has a capital or a total investment amounting to not more than Yen 30 million (Rs. 10 lakhs approximately) or regular employees numbering net more than 300."  

In the Federal Republic of Germany the term 'Handwerk' is used and it covers 124 trades and professions 'fixed by statute' embracing 'not only master-craftsmen working on their own - as for instance, stove builders, photographers or gold- and silver-smiths - but also concerns employing 50, 100 or indeed at times even hundreds of persons in, for example, housebuilding, road making and machine-building'. It is to be recalled that the German word 'Handwerk' and its English equivalent 'Handicraft' originally indicated 'work performed by hand' and we Indians instinctively form the mental picture of the skilled and practised hand that controls the simple

tools. There are also academicians and professionals in our country who think that some of the 'fine arts and crafts' like 'cane works, lacquard works, gold and silver works, ivory articles, wood carving etc. ... by their very nature ... are not capable of being run on machinery or electricity and are dependent exclusively on the accumulated dexterity and craftsmanship ...'\(^8\) But contrary to such medieval ideas, the German handicraftsman knows 'how to tend the machine as a modern device' and now-a-days 'seldom simply by hand but usually with the assistance of machines, they manufacture new products or repair, fit and install', of course, 'it is not the mechanical equipment that gives the decisive finish but man's skill and capacity for undertaking pains'.\(^9\)

(2) Traditional and Modern Industries

The foregoing analysis shows the need for clear classification of industries in our country. The task is not, however, as easy as in the developed countries. In the

\(^8\) Shetty, M.C., Small Scale and Household Industries in a Developing Economy, Asia Publishing House, 1963, p. 5

\(^9\)(1) Zelle, Arnold, Handicrafts in Germany, Press and Information Office of the Federal Government of Germany, 1963, pp. 6-7

(11) Dr. Eugene Staley uses the term 'Artisan Industry' for handicrafts and divides them into (1) Artisan Homework and (2) Artisan Workshop. Ref, Planning and Promoting the Development of Modern Small Industry, paper reprinted from the Planning for Economic Development in the Caribbean, Puerto Rico, 1963, pp. 76-77
developed countries almost all the industries have, long since, been mechanised and from this angle they may be said to have attained almost the same technological level; therefore, the problem of classification there is that of 'size' alone and the criteria are the amount of investment and/or the number of employees. In our country the economy represents a many coloured dome of different levels of development both in agriculture and industry. Here one finds industries at the household and factory levels producing the same or similar goods. At the household level again some use family labour, others hired and/or family labour, some produce goods mainly for use at home, others manufacture for the neighbourhood, still some others produce for exports (soir) even. Some of the units of the same industry use power driven machinery or appliances to produce traditional goods, while others produce non-traditional goods like confectionaries by manual labour. The 'size' from the point of view of employment may be larger in a manually operated establishment (handloom or soir) than its power operated

* In Sweden and Switzerland some household industries supplementing farmers' or mountain dwellers' income as part-time occupations or leisure activities of an artistic or quasi-hobby sort are reported to have been still existing. Ref. Staley, Eugene, Development of Small Industry Programme, paper in Methods of Industrial Development, O.E.C.D., 1962, p. 206

10. In the soir industry in Merele husk beating (defibering), fibre cleaning, spinning and curling machines are used. Ref. Survey of Coir Industry, Coir Board, Ernakulam, 1968, p. 80

In gold smithy some units in Gambati also use gold sheet making, wire drawing and polishing machines.
counterpart (power loom). Even from the point of view of capital investment a handloom factory with 10/12 looms may be larger than a cottage powerloom unit with one loom.  

It follows from the above that the best criteria of classifying industries seems to be the 'technique' adopted in the production process in a particular product line, say, textiles. From this angle industries may be classified into (1) traditional using manually operated tools and implements to produce traditional goods and (2) modern power operated industries. But as has been pointed out above there are industries which produce modern or non-traditional goods such as new style shoes, furnitures, garments, soap, candles, matches etc. with traditional technique or without using power. Therefore, technique of production cannot be the sole criterion; in other words, the type of product should also be taken into account in classifying industries into traditional and modern. Thus a modern industry may be defined as one which produces, repairs or services non-traditional or modern wares either by power operated appliances or manually operated tools and appliances.

11. Capital cost of a powerloom including motor etc. was Rs. 3000 in 1964 (Ref. Report of the Powerloom Enquiry Committee (Ashok Mehta Committee), 1964, p. 53) while cost of a fly shuttle loom with Jaquard was about Rs. 350 in Sulkushi.

(5) **Cottage and Domestic Industries**

The traditional group of industries may again be divided into two, viz., (1) those which produce goods for markets either in the neighbourhood or for off places or abroad, and (2) those which processes or produces goods mainly for use or consumption at home. For the first group we use the term 'cottage industry'. The use of terms like 'village' or 'rural' for cottage industry is not proper. No doubt traditional cottage industries are prevailing mainly in the rural areas; but they are still existing, as had been in the past, in the urban areas too. Moreover, modern industries are parcellating, of late, to the semi-urban as well as purely rural areas as is evident from the industries in our case studies. What is more, modern capital intensive large-scale industries like paper mills (in Jogighora and Jagiroad in Assam) and polyester spinning mills (at Nathkuchi near Tihu and Tulsibari near Mangia in the Kamrup district) have been or are going to be set up in the purely rural areas and the future trend is that many such industries are likely to be dispersed to semi-urban or purely rural areas. Such large-scale modern industries set up in the countryside (location of large-scale industry or what is called in our country 'nucleus unit' leads to the growth of new urban areas) cannot and should not be called rural or village industry.

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15.(i) In England and other European countries industries had moved away, in the preceding two centuries, from the towns to the countryside partly to escape from municipal and guild restrictions and partly for technical reasons. Ref. Ashton, T.S., The Industrial Revolution,
The programme of rural industrialisation in our country should not be confused with traditional village or cottage industries. No doubt, traditionalists in our country lay emphasis on hand spinning, hand pounding, khadi and such other traditional village industries as immediate and short term measures for providing job to the rural unemployed and under-employed as means of raising or supplementing family income. But the objective of rural industrialisation programme as originally set in 1962 by the Standing Committee of the Rural Industries Planning Committee under the Planning Commission (45 rural industries projects including one at Gauripur in Assam were launched), was, in the words of the then Deputy Chairman of the Planning Commission (G. L. Manda), "the intensive and integrated development of all kinds of small industries as well as processing industries based on agriculture." The rural industries projects were to be implemented "as part of wider and well co-ordinated plan of area or regional development providing for all round development of agriculture, irrigation, communications, industries, social services etc."

As Ashok Mehta had visualised the rural industrialisation programme, "the new strategy for non-farming

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1760-1830, Oxford University Press, 1962, p. 48; and

(11) In England "the countryside has changed greatly since the World War II. There are more industrial sites and fewer blacksmiths and basket-makers ... ." Ref. Industry and the Countryside, Action Society Trust, Faber and Faber, London, 1963, p. 17
occupations will include the principal elements of promotional programmes for units using small machines, which would be power driven where electricity is available* for processing of agricultural produce including preservation of fruits and vegetables, for manufacture of agricultural inputs like improved implements, pesticides, pumps etc., servicing and repairing of agricultural machinery and equipment. It will also promote industries based on animal husbandry products like dairying and poultry and forest based industries using improved technique, "A few industries of modern and sophisticated type fabricating parts or whole of consumer goods like bicycle, sewing machines, wooden furnitures ... radio receivers and transistors, crockery sets etc. may form part of the new pattern to meet the emerging local demand." For traditional industries like cobblers and shoe-makers, potters, carpenters and blacksmiths "a modest modernisation programme involving provision for more productive tools or machines may be introduced." It follows, therefore, that a proper rural industrialisation programme with emphasis on industrial dispersal and necessary state intervention would

14. G.L. Panda's letter to the Chief Ministers of the states written in June 1962 is quoted by Subhas Chandra Sarkar in his paper Rationale of the New Programme. Ashok Mehta has been quoted from his paper The New Strategy. The papers have been compiled along with 14 others in Rural Industrialisation: Why and How, published by the Khadi and Village Industries Commission, Bombay, 1972, pp. 35, 70.
help setting up of modern big and small industries as well as modernisation of traditional industries in the countryside. This is why such industries should not be called 'rural' or 'village' industries and the terms should be dropped.

The use of the term 'household industry' in place of 'cottages industry' is gaining currency among academies. We think this term should be reserved for traditional processing or manufacturing activities carried out in the households mainly for use and not for exchange. It may be noted that unlike in the present day Western countries, members of the peasant households, particularly the women folk in our country engage themselves in dehusking, pounding and grinding paddy, rice, wheat, pulses, etc.; preparation of jams, jellies, chutneys and pickles for use at home. Sometimes they rear some silk worms, raise some cotton, gin, spin and weave them or sometimes weave in the handloom a few metres of clothes for family use by buying some grains of yarn from the market (now-a-days it has become a fashion in the educated middle class families both in the rural and urban areas to have a sewing machine and to repair and stitch simple family clothes). The agricultural male members make their hoe and harrow, weave a few bamboo or cane nets etc. for use at home. They crush the farm sugarcane and prepare some jaggery or Gur and so on and so forth. The fisherman makes and repairs his boat and net. Such activities still being carried out by agricultural families might startle the western academies and remind them of the 'so-called agricultural families of the Middle Ages'
not exclusively occupied with agriculture, but doing for themselves, at the same time, a great deal of the work done now-a-days by the artisans and industrial workers. No doubt, such economic activities do not supplement the 'money income' but certainly add something to the 'real income' or 'gross product' of the families and checks the outflow of money income that would have been spent on purchases of those articles or services from the market. By economic standard such activities do not come under the purview of the 'measuring rod of money.' In our country also most of the persons engaged in such activities have been excluded from the 'worker' category. Whether the products of such domestic activities


(11) B.C. Allen, Superintendent of Census operations in Assam in 1901 was wonderstruck at the absence of a dividing line between one means of livelihood and another among the inhabitants in Assam. Ref. Census of India, 1901, Vol. IV, Assam, Part I, Report, p. 169

16. According to Prof. Pigon even the unsold part of the farmer's produce does not enter into the National Dividend, leave aside the services of the housewives and the paradox of fall of national dividend after a man marrying his house-keeper. Ref. Economics of Welfare, Macmillan, London, 1952, pp. 32-33

17. As a result of exclusion of persons engaged in domestic economic activities in the 1971 Census the work participation rate had declined to 35 p.c. in 1971 from 43 p.c. in 1951 and 1961. In Assam while total population had increased in 1971 by 37.8 lakhs over the past decade, total workers had fallen by more than 5 lakhs and the female participation rate decreased to only 4.66 p.c. from 29.41 p.c. in 1961. Ref. Census of India, 1971, Series 3, Part I-A, Assam, pp. 38-40.
such as the product of the domestic handloom are taken into account in the estimates of national product is not known.*

Exclusion of persons engaged in such activities from the 'worker' category may be a good statistical device for covering up the under- or un-employed** as 'non-workers' but it amounts to sidetracking the reality of economic life of the people in the developing countries like ours. These processing or manufacturing activities in the agricultural households are the 'house', 'houseie' or household industries in the proper sense of the term. Some of these industries like the domestic handloom can be 'reactivated' or 'commercialised';

* The Sixth Five Year Plan 1980-85 shows 30.21 lakh handlooms, 61.5 lakh persons engaged in them and production of 2900 million metres of cloth. (p. 197, para 12.50 and 12.51)

** Estimates of 18.7 million unemployed made by the Committee on Unemployment (Bhagabati Committee) in 1973 were based mainly on the 1971 Census records of 'workers'. Ref. Report of the Committee on Unemployment, 1973, pp. 53, 199

18. (i) This type of industry prevailed in the European countries in the Middle Ages and was carried out during the intervals of other works specially in the winter interruption of agriculture. In the textile industry at a later stage large undertakers used to give out raw materials and took back the finished products. The system came to be known as 'domestic' and the industry as 'domestic industry'. Ref. Marshall, Alfred, op.cit., p. 246 and footnote 2; and

(ii) Mautaux, Paul, op.cit., pp. 62-64

19. The All India Village Industries Association and the All India Spinners Association had, under the leadership of Mahatma Gandhi, taken up, inter alia, programmes for reviving and encouraging such industries. Ref. Gandhi, M.K., Economic and Industrial Life and Relations, Navajivan, vol. II, pp. 178, 186, 203-05, 245-50
of course, not with what Prof. Myrdal calls "trade on nostalgic thoughts about the virtues of self-reliance and independent work" but from the angle of 'poverty alleviation programme', that is, for providing jobs to the under- or unemployed to supplement or to raise the family income of the poverty stricken population and better still, to help emerging, if possible, a new class of entrepreneurs by modernising the domestic industries. This is why these industries should be treated as a distinct category and since the term 'household industry' is used synonymously with 'cottage industry' we suggest the term 'domestic industry' to cover domestic manufacturing activities the products of which are meant only for use at home.

The cottage and domestic industries have several points of similarities and dissimilarities. Both use traditional methods of production and produce traditional goods which can be improved and modernised. While cottage industries are operated by family and/or hired labour, a domestic industry is run by family labour alone and hired labour is rare (if the housewife is ill or idle a village woman is hired to dehusk paddy). A cottage industry is run either in or near the household or far away from the artisan's home (we have found gold and bell metal smiths working more


21. According to Prof. T.S. Ashton although the term 'domestic system of industry' is convenient, it is also misleading, for these activities conform to no single system of organisation. Ref. op. cit., p. 65
than 50 km away from their homes), whereas a domestic industry is run within the household alone. The important distinguishing feature between the two is that while the products of cottage industries are meant for customers, dealers or for markets near or distant, those of the domestic industries are mainly for use at home and rarely for exchange.

We, therefore, define cottage industry in the Indian context as market oriented traditional manufacturing activity carried on with traditional technique. Domestic industry, on the other, may be defined in this context as traditional processing or manufacturing activity carried on at home mainly for the consumption needs of the family. 22

These cottage industries, leave aside the domestic ones should not be categorised or registered as 'small scale' industries; for the investment criterion in plant and machinery is not at all comparable with the ceiling investment of Rs. 2 lakhs for the 'Tiny' units even, not to talk of Rs. 25 lakhs fixed for 'small scale' industry in our country. As a matter of fact there is no 'plant' or 'machinery' in the cottage industries, the fixed capital goods of which consists of a few tools, implements or accessories. For providing facilities of

22. Prof. Myrdal distinguishes three types of indigenous manufactures in the developing countries, viz., (1) handicraft production designed to serve only the immediate consumption requirements of the family or the village, (2) urban based sophisticated handicrafts formerly catering to the princely courts, and (3) intermediate type of handicrafts of the villages carrying on trade outside their confines. Ref. op. cit., vol. II, pp. 1094-95
finance, marketing, tax concession, subsidy, modernisation etc.
the industries may be registered, if considered essential, as 'cottage' or 'household' industries with the state Directorate of Industries or as 'handicraft' with the All India Handicrafts Board; but whatever may be the authority, these industries should be registered with one and one authority alone. And the activities of the various boards and commissions like the Central Silk Board, Coir Board, Handloom Board, Handicrafts Board, Khadi and Village Industries Commission and the Small Industries Development Organisation should be co-ordinated by a central authority. It may be recalled that Jayaprakash Narayan had mooted in 1961 a proposal for establishment of a Rural Industrialisation Commission and the Asok Mehta Committee on Khadi and Village Industries (1968) had, besides recommending the setting up of the Commission, even suggested its organisational structure and functions. Establishment of such an organisation would have certainly helped bringing about procedural reforms necessary for co-ordinating the overlapping functions of the aforementioned boards as well as avoiding the confusion and mesh of promotional and modernisation programmes for the industries in the traditional


(ii) Report of the Khadi and Village Industries Committee, Govt. of India, 1968, Chapter VII
sector. * Alas! Committees and Commissions are set up by the government for suggestions and recommendations alone and not for policy implementation!!

(4) Small Scale and Small Industries

As regards small scale industries, the question of classifying them as a distinct category seems to have been solved in our country for the time being by fixing the ceiling limit of Rs. 25 lakhs (Rs. 15 lakhs for ancillaries) investment in plant and machinery. Needless to emphasise that the size of investment itself indicates that small scale industries concern only modern industries, i.e., they employ modern plant and machinery and/or produce, assemble, repair and/or service modern wares. It is also not necessary to repeat that these industries are species of the large genus of capital intensive and/or large scale industries and the demarcation line between the two is drawn arbitrarily. 24

Large scale industries in our

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*The Estimate Committee of the Lok Sabha in its 77th Report in 1960 had also recommended inter alia, setting up of a Committee to suggest measures for reducing the multiplicity of organisations and eliminating the overlapping functions of the existing organisations relating to small industries at the central and state levels. Ref. Kushhal, S.C., The Industrial Economy of India, Chaitanya Publishing House, Allahabad, 1969, p. 303

24. Dr. Eugene Staley maintains that the distinction between hot and cold water, just as water that is hot for washing hands may be cold for running a steam turbine, so is the idea of large and small establishments; it all depends upon the industry, the country and the purpose in hand. Ref. Small Industry Development, Stanford Research Institute, Misc. Paper No. I, 1958, p. 4
country, therefore, may be considered in this context as those which have more than Rs. 50 lakhs investment in plant and machinery.

But such a clear division of industries into large scale and small scale does not exist although the 'small scale' or 'small' industries under the purview of the Small Industries Development Organisation exist as a separate category. Here terms like 'economic unit', 'optimum size', 'small size' etc. are used for judging the efficiency, competitive strength or profitability of firms in different industries without any reference to the amount of investment in capital equipments. For example, the Textile Re-organisation Committee (1968) considered cotton mills having 50,000 spindles or 1000 looms as 'economic'. In the cement industry, kilns of 250-300 tons daily capacity are called 'small'; 50 tons daily capacity is considered 'minimum economic size' for a firm in paper industry. In the sugar industry a unit with 1000 tons daily sugarcane crushing capacity is considered 'economic'. And in these industries the questions of investment and/or employment per firm are not raised.

As against the above, industries in our country are divided into 'registered' and 'non-registered' or 'organised' or 'un-organised' sectors. This division is done for industrial hygiene and for implementing the provisions of

labour regulations of the International Labour Organisation. The legislations relating to the enforcement of labour regulations are covered by the factories acts. In our country a comprehensive factories act was passed in 1948 by amending or repealing the earlier ones legislated since 1881; this act is known as the Factories Act 1948 (LXIII of 1948) and was enforced since April 1949. Factories or industrial concerns engaged in 'Manufacturing Process' employing 10 or more 'workers' if using power or 20 or more 'workers' if not using power are required to obtain a licence and get themselves registered with the Chief Inspector of Factories of the states (the Act is administered by the state governments). Industrial statistics known as (formerly) Census of Manufacturing Industries were collected under the Industrial Statistics Act 1942 for this 'registered sector'; now-a-days statistics of this sector designated as 'Annual Survey of Industries' are collected under the Collection of Statistics Act 1953 (32 of 1953) and rules framed here-under from time to time. It is worthwhile noting that the Central Statistical Organisation (formerly the National Sample Survey Organisation) covers on

* 'Manufacturing Process' under the Factories Act 1948 means any process for making, altering, repairing, finishing, packing, cleaning, breaking-up, demolishing or adapting any article or substance with a view to use, sale, transport, delivery or disposal; or pumping oil, water or sewage; or generating, transforming or transmitting power; or composing types of printing, lithography, photogravure or book binding; or constructing, reconstructing, repairing or breaking-up ships or vessels. Ref. Directorate of Economics and Statistics, Assam, Annual Survey of Industries, 1962, Assam, Annexure II, f.5, p. 310
A census (complete enumeration) basis all industrial establishments, except those under the control of the Defence Ministry, employing 50 or more workers if using power and 100 or more workers without using power and the rest of establishments, i.e., employing 10-49 workers using power and 80-99 workers without using power are covered by a probability sample.

It may be noted that many factories, industrial concerns or firms covered by this Factories Act 1948 may have less than the small scale industries' ceiling investment of Rs. 50 lakhs in plant and machinery and as we have pointed out in Chapters 4 and 5, most of the industrial establishments in Assam except 64 big and medium industries have less than this ceiling investment; but they are not treated as 'small scale'; whereas establishments registered as 'small scale' employing more than 10 or 20 workers respectively using or not using power may also need registration under the Factories Act provided the Inspector of Factories intend to enforce the said Act; in such cases the same industrial concerns may come under the 'unorganised sector' as 'small scale' as well as under the 'organised sector' within the purview of the Factories Act 1948. This is, perhaps, why, the Planning Commission while showing the estimates of employment in the


* Small scale industries registered with the state Directorate of Industries are covered by occasional surveys by the Small Industries Development Organisation but the unregistered industries are excluded.
Village and Small Industries sector had to state, in a footnote that they cover "certain portion of the registered manufacturing sector units" which imply chances of overlapping due to procedural defects.* Such procedural defects may be corrected by applying the simple criterion of investment to all industrial establishments whether registered or not under the Factories Act 1948 or as 'small scale' with the Directorate of Industries; in other words, industrial firms/units having investment of more than Rs. 2 lakhs in plant and machinery may be treated as 'large scale'.

Now from the angle of investment, small scale industries have again been divided into two groups, (1) Small Scale, and (2) Tiny units, the latter being demarcated from the former by investment "up to Rs. 2 lakhs in plant and machinery and located in towns with population less than 50,000." Certainly, investment in certain industries like rice huller, oil expeller, printing press, saw mill, candle factory etc. existing in the urban and rural areas does not amount to even Rs. 1 lakh and according to the Planning Commission "more than 90 per cent of the existing small scale units are tiny."27 The problems of

* The National Committee on the Development of Backward Areas (Sivaraman Committee) was aware of this defect. It stated "thus the results of the ASI and the SIKO surveys cannot be 'added up' in any meaningful way both because of the overlap and because of the exclusion." Ref. Report on General Issues Relating to Backward Areas Development, Planning Commission, Govt. of India, 1981, pp. 78-79, Para 7.14

27. Sixth Five Year Plan, 1980-85, p. 200
finance, raw materials, marketing, industrial site and factory building etc. of these units are also different from those of Rs. 50 lakh units. Therefore, these industries should be treated as a separate category; we think the term 'small industry' is more appropriate than the term 'Tiny Unit'; at the same time the ceiling investment of Rs. 2 lakhs for these units should form the floor limit for 'small scale' industries, i.e., industries with more than Rs. 2 lakhs and up to Rs. 2 lakhs investment in plant and machinery should be treated as small scale. Such a clear grouping would help removing confusion in implementing developmental and promotional programmes for 'small' and 'small scale' industries. Moreover, the locational criterion of 'town' and the population limitation of 50,000 are needless appendages to the concept of 'tiny' or 'small' industries; for such industries are existing both in the cities, metropolis as well as megapolis. And as the aims of promotional programmes of small scale and tiny units are the encouragement of the emergence of a class of new small entrepreneurs or the growth of a neo-pete bourgeois class and creation of gainful employment through wage labour, small or

28. The Stanford Research Institute divides small industries into three groups, all manufacturing establishments with less than 100 employees are called 'Small Industry'; among the 'small' again (1) establishments with less than 10 employees are classified as 'very small'; (2) those with 10 to 49 employees as 'central group' and (3) those with 50 to 99 employees are called 'small to medium'. Ref, Staley, Eugene, Planning and Promoting the Development of Modern Small Industry, paper in op.cit., p. 75
tiny units deserve equal, if not more, treatment irrespective of their spatial location. The objectives of dispersal of such small as well as other large and capital intensive industries to semi-urban and rural areas may be served by motivational programmes combined with licensing, fiscal and monetary measures.

The scheme of classification of industries as has been suggested above, viz., domestic, cottage, small, small scale and large scale is expected to leave least room for confusion and help avoidance of overlapping of functions of the host of promotional agencies existing and functioning in our country. The type of classification of industries suggested also shall not present any difficulty in the implementation of labour laws and welfare schemes. The Coir industry has been brought within the purview of the Factories Act 1948 by the Coir Industry (Regulation and Licensing) Rules 1958 which enjoins registration of the establishments with the Coir Board. Likewise all other industrial establishments in the cottage, small and small scale may be brought, like the large scale ones, under such regulations and labour benefits may be enforced under the provisions of the Factories Act 1948. In the Coir industry, however (it is regarded as cottage industry), large units were split up into small ones "presumably to avoid payment of labour benefits accruing out of the Factories Act."  

29. Coir Board, op.cit., Preface  
30. Ibid., p. 85
(B) Internal Structure of the Industries in Case Studies

With the background of the concepts of industries, we now pass over to the assessment of the organisational structure of the industries that came up in the case studies. By organisational structure here we mean the organisation of the industries, vis., ownership, management pattern and capital structure. Employment features and income characteristics as well as the problems of the industries would be dealt with separately in the subsequent chapters.

(5) Ownership and Management

Ownership in industry generally implies control over the instruments of production, raw materials needed for processing, products of the establishments for disposal or marketing and the income that accrues during the production process after deducting cost of production, i.e., profit.

From the angle of ownership over the instruments of production, out of 2201 handloom establishments in 1980-81, one was managed by a co-operative society, two by Khadi Production Centres (KPC) and one by the Assam Apex Weavers' and Artisans Co-operative Federation Ltd. (APWED) and the rest 2197 (99.82 p.c.) were under individual proprietorship or in private management. Among the Muga reeling, Eri spinning and yarn winding units only one belonged to the KPC and the rest 1015 were under individual proprietorship. The two Ambeshwarika and cotton carding units in 1980-81 and the
only paddy husking unit in 1970-71 were also owned by the KPC and a co-operative society under the same. This shows that out of 3470 cottage establishments in the 12 industries group (two industries, viz., paddy husking and incense making died during the second survey) only 7 were under either co-operative or government agencies and the rest 99.90 p.c. were in the private sector in 1980-81.

Among the 184 small scale establishments of the 12 industries group in 1980-81 all but the lone Silk Twisting Plant at Sualkuchi were owned by individual entrepreneurs. While only one furniture unit was on partnership basis, a saw mill and a rice huller unit were held by undivided Hindu families. A printing press on partnership basis found during the 1st survey in 1970-71 was split up into two during the second survey in 1980-81.

(6) Independent and Dependent Enterprise

Industrial establishments may also be divided into independent and dependent from the angle of control over the raw materials as well as the final products of the enterprises. No doubt such an approach seems uncommon; but our field investigation has compelled us to look at the issue from this angle. It is common place that industrial establishments arrange the necessary raw materials and dispose the final products. But in our field study we have found that many handloom units and almost all the bell metal, brass and gold
smithy units in the cottage industries sector and rice huller, and tailoring units in the small scale industries sector receive the raw materials from either the customers or other agents like the middleman, co-operative society, KFC or ARTIFED in lieu of a fixed or contract rate of remuneration for the finished product. The difference between those who produce direct for the market and those who produce for customers and/or other agents is cardinal; for while the former enjoy the value added, that is, they receive, besides remuneration for the self-used factors, some reward for Knightian uncertainty bearing, if not for Schumpeterian innovations, the latter group of producers receive only the contract or prevailing rate of remuneration although they are the owners of the instruments of production.

Again a difference is to be drawn between those who produce direct to the orders of the customers with the latter's raw materials and those who produce out of the raw materials supplied by other agents or dealers. While in the first case value added is equal to the cost of raw materials plus wages paid by the customer or received by the producer, in the second case value added becomes higher by the amount of margin charged by the raw material supplying agent over and above the actual cost of production; that is, while in the first case no element of profit enters in the deal, in the second case profit accrues to the raw material supplying agent and not to the fixed capital owning producer who does not bear the business risk. An illustration will clarify the point.
Suppose a consumer supplies 600 grams of Eri yarn to a weaver for weaving a Chadar. The value of yarn is, say, Rs. 45 (in 1980-81) and wage for weaving is Rs. 20. The value of the Chadar is, therefore, Rs. 65 (Rs. 45 + 20) which is equal to cost of production. Now suppose the yarn is supplied by the KPC or a private dealer for the same purpose. The KPC charges a social welfare margin of 8 p.c. (it is included in cost of production), a centre margin of 25 p.c. and an insurance margin of 0.5 p.c. or a total margin of 33.5 p.c. over cost of production of Rs. 65. The ex-factory mark-up of the Chadar comes to Rs. 86.78, i.e., Rs. 21.78 above cost of production accrues as gross profit to the KPC or the private dealer. Now suppose a 16 p.c. rebate or commission is given to the customer or another dealer, the price of the Chadar comes down to Rs. 72.90; in other words, Rs. 7.90 over cost of production accrues to the KPC or the private agent. Had the weaver purchased the yarn and marketed the Chadar the margin of Rs. 21.78 without rebate or commission or Rs. 7.90 with rebate or commission would have accrued to the weaver.* But as the weaver is dependent he receives only the wages and not the

* It is also a point of great theoretical as well as practical importance. By removing the middleman in the line of distribution starting with the wholesaler and then a host of retailers and sub-retailers whose services, inter alia, were called 'unproductive' by Adam Smith, the retail price level may be brought down by eliminating the abnormal profits earned by these distributing agents.
profit.

Literatures on industry study seem to have paid less importance to the aforementioned aspect. However, some studies on the handloom industry in our country, viz., the Textile Enquiry Committee (Kamesh Committee, 1954) have thrown light on the topic.\textsuperscript{31} The studies on the Handloom Industry in Madras by the University of Madras and the Handloom Industry in Karnataka and Sholapur by the National Council of Applied Economic Research have divided the weavers into two main groups, viz., independent and dependent; weavers who arrange the raw materials like yarn and do the marketing of their products besides having their own looms have been called independent and those who weave in their own looms yarn supplied by other agents like the middlemen or master-weaver and hand over the products to the agents in lieu of wages have been called dependent.\textsuperscript{32}

We think other industrial enterprises, or to be more specific, artisans' workshops may also be divided into

\textsuperscript{31} All India Handloom Board, Report of the Textile Enquiry Committee, 1954 (Bengalee translation), pp. 14-15

\textsuperscript{32}(1) A Survey of Handloom Industry in the Madras State, University of Madras, 1959, p. 46; and

(11) NCEAR, The Handloom Industry in Karnataka and Sholapur, Asia Publishing House, 1959. In this Report handloom establishments have been divided into several groups like independent, dependent, co-operative, government agencies etc., and the workers into 'own-account', master weaver, contract worker, wage worker etc., in Chapter III.
independent and dependent groups* by applying the criteria of
bearing the business risk and accrual of margin or profit in
the production process. An enterprise or a workshop is
independent if the business risk is borne by it and it is
dependent if the same is borne by agents other than the
enterprise. It is what is now-a-days called the 'putting out'
system under which raw materials are distributed or delivered
either by the dealers/some parent bodies or are collected by
the workers themselves from the former an contract system of
wages that makes the producing units dependent on the raw
material supplying agents. Such workers inspite of their
apparent independence with their own instruments of production
are no more than workmen in the services of their employees.
The system, however, is not a new one, rather is a remnant of
the pre-capitalist production relations emerging in the
European countries, particularly in England and mainly in the
textile industry since the middle ages which continued down
to the end of the seventeenth century.33 ** This system has

* The Sivarama Committee on Village and Cottage Industries
had observed that the artisans worked on two broad patterns;
some work in their own homes on piece wages on materials
put to them by the middlemen and others buy raw materials
and pay wages to workers from advances given by the
middlemen. Ref. National Committee on the Development of
Backward Areas, Report on Village and Cottage Industries,
p. 22, Para 5.2

33. Mantoux, Paul, op. cit., pp. 63-65

** In our country the system was introduced probably by the
East India Company's Commercial Residents during the 18th
century. The Residents and their servants assembled the
weavers and placed a guard over them until they entered
into 'engagements' to supply the products against advance
to the Company only. Once a weaver had received advances
found its way, in the present capitalist countries, to other modern industries like electronics the parts of which are made in the decentralised sector and the parent body undertakes the assembling and marketing the final products.

However, there are other enterprises and artisans serving directly the consumers who supply the raw materials and take back the finished product by paying the prevailing rate of wages or charges. Examples are gold smiths, rice huller units etc. in the mofussil areas; in such cases the consumers supply gold or paddy and ornaments are made or milling is done in return of certain remuneration. Such enterprises are independent, for here the consumer directly receives the product and no middle putting out or marketing agent who might pocket the surplus over cost of production exists there.

Handloom Industry

In the above context the handloom establishments in our case studies may be divided into independent and dependent groups as shown in Table 7.1.

from the Company. "shall on no account give to any other person whatever, European or Native, either the labour or the produce engaged to the Company", failing which he "shall be liable to be prosecuted in the Dewani Adalat." Ref. Dutt, R. C., op.cit., vol. I, pp. 181-82. He has cited at length the Minutes of Evidence on the Affairs of the East India Company (1813).
Table 7.1
Independent and Dependent Handloom Units, 1980-81

<table>
<thead>
<tr>
<th>Surveyed areas</th>
<th>Independent units</th>
<th>Dependent units</th>
<th>Total units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sangruti</td>
<td>929 (62.85)</td>
<td>549 (37.15)</td>
<td>1478 (100)</td>
</tr>
<tr>
<td>2. Rampur</td>
<td>920 (67.92)</td>
<td>137 (32.08)</td>
<td>427 (100)</td>
</tr>
<tr>
<td>3. Ramdia</td>
<td>187 (1.76)</td>
<td>167 (98.24)</td>
<td>170 (100)</td>
</tr>
<tr>
<td>4. Sarthebani</td>
<td>17 (10.76)</td>
<td>58 (89.24)</td>
<td>65 (100)</td>
</tr>
<tr>
<td>5. Bajo</td>
<td>12 (37.5)</td>
<td>20 (62.5)</td>
<td>32 (100)</td>
</tr>
<tr>
<td>6. Tokradi</td>
<td></td>
<td>17 (100)</td>
<td>17 (100)</td>
</tr>
<tr>
<td>7. Silguri</td>
<td></td>
<td>12 (100)</td>
<td>12 (100)</td>
</tr>
<tr>
<td>8. Abhaypur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Kalitakushi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Ramnare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1241 (56.38)</td>
<td>960 (43.62)</td>
<td>2201 (100)</td>
</tr>
</tbody>
</table>

Source: Field investigation.

(Figures in brackets are percentages of the total).

The data in the above table are self-explanatory.

The independent establishments have their own looms, buy the raw materials like yarn, art thread etc. and do the marketing of their products. The dependent establishments have their own looms but they work on the raw materials supplied by
others and receive wages on piece system. In the independent group of Susalkuchi, 67 (5.88 p.c.) semi-independent establishments, i.e., sometimes working on own materials, sometimes on others' materials or weaving in one loom own fabric and in another others' fabric have been included along with 3 other units under co-operative or government agencies. The dependency ratio of the establishments on private dealers, co-operatives or government agencies in Susalkuchi is difficult to work out, for if one loom weaves for a co-operative another loom in the same establishment weaves for a government agency or a private dealer.

In Rampur and Sarthebari, however, all the dependent units were under government agencies. In Ranadia 55.69 p.c. (93) of the dependent handloom units were under the KFC there and 44.31 p.c. (74) were working under private dealers or co-operatives of Susalkuchi (they supply cotton yarn and Muga cocoons respectively for weaving and reeling to the artisans in other villages within reach). In Hajo, Tokradia and Silguri all the units were dependent on private dealers or co-operatives of Susalkuchi.
**Table 7.2**

Independent and Dependent Looms 1980-81

<table>
<thead>
<tr>
<th>Areas</th>
<th>Units</th>
<th>Total Looms</th>
<th>Independent</th>
<th>Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Saalkuchi</td>
<td>1478</td>
<td>2998</td>
<td>1932 (64.44)</td>
<td>1066 (35.56)</td>
</tr>
<tr>
<td>2. Rampur</td>
<td>427</td>
<td>515</td>
<td>378 (73.40)</td>
<td>137 (26.60)</td>
</tr>
<tr>
<td>3. Ramdia</td>
<td>170</td>
<td>170</td>
<td>3 (1.76)</td>
<td>167 (98.24)</td>
</tr>
<tr>
<td>4. Sarthabari</td>
<td>65</td>
<td>65</td>
<td>7 (10.76)</td>
<td>58 (89.24)</td>
</tr>
<tr>
<td>5. Hajo</td>
<td>32</td>
<td>32</td>
<td>12 (37.5)</td>
<td>20 (62.5)</td>
</tr>
<tr>
<td>6. Tokradia</td>
<td>17</td>
<td>17</td>
<td>-</td>
<td>17 (100)</td>
</tr>
<tr>
<td>7. Silguri</td>
<td>12</td>
<td>12</td>
<td>-</td>
<td>12 (100)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2201</td>
<td>3809(100)</td>
<td>2332 (61.22)</td>
<td>1477 (38.78)</td>
</tr>
</tbody>
</table>

Source: Field investigation. Figures in brackets are percentages of total. Looms owned by govt. or co-op. agencies have been shown as independent.

**Table 7.3**

Sample of 100 Handloom Establishment of Saalkuchi 1980

<table>
<thead>
<tr>
<th>Size</th>
<th>Units</th>
<th>Total Looms</th>
<th>Independent</th>
<th>Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 1-2 looms</td>
<td>74</td>
<td>103 (100)</td>
<td>52 (50.48)</td>
<td>51 (49.52)</td>
</tr>
<tr>
<td>(2) 3-5 *</td>
<td>20</td>
<td>75 (100)</td>
<td>62 (82.66)</td>
<td>13 (17.34)</td>
</tr>
<tr>
<td>(3) 6 and more</td>
<td>6</td>
<td>40 (100)</td>
<td>35 (82.5)</td>
<td>7 (17.5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>218 (100)</td>
<td>147 (67.43)</td>
<td>71 (32.57)</td>
</tr>
</tbody>
</table>

Source: Field investigation. Figures in parenthesis are percentages of total.
Table 7.2 shows the total number of independent and dependent looms in the areas surveyed. It may be recalled that Salkuskhali had about 1200 looms in 1961 out of which 39 p.c. (470) looms were dependent on the co-operatives. Our first survey in 1970 showed 2165 looms out of which 1365 (63.05%) were independent and 800 (36.95%) were dependent as against 33.56 p.c. (1066) in 1980. Out of the dependent looms again 698 (23.28% of the total) in 1980 as against 449 (20.78%) in 1970 were under the co-operative and/or government agencies while 368 (12.28%) as against 351 (16.17%) respectively in the 2nd and 1st surveys were under private dealers. The data on Salkuskhali show that with the increase in the number of looms in 1980 by about 150 p.c. over 1961 and about 38.5 p.c. over 1970 the dependency rate has decreased slightly from 39 p.c. in 1961 to nearly 36 p.c. in 1980 although the total number of dependent looms has gone up from 470 to 1066 over the period.

The random sample of 100 units of Salkuskhali gives, however, a slightly different dependency ratio as shown in Table 7.3. The dependency ratio in this sample is 32.37 as against 35.56 found on complete enumeration as shown in Table 7.2. It is interesting to note that 37.5 p.c. of the looms of the relatively big factories (Table 7.3 last column) are found dependent on co-operatives. This dependency is not due to inability of the owners to finance their looms, but for

34. Census of India, 1961, Selected Handicrafts of Assam, pp. 45-46
maintaining close contact with the co-operatives for obtaining raw materials on favourable terms and marketing their own products at favourable price that they keep one or two looms dependent.

At Rampur the dependent looms (137 or 26.40 p.c. of 515) were all under the KPC and there was no weavers' co-operative or private dealer to put out either Eri cocon or Eri yarn for weaving Eri fabric. However, out of 43 samples 12 (nearly 28 p.c.) had worked sometimes on a fabric-sharing system, i.e., Eri cocones are supplied by others and the artisan while spinning and weaving offers half of the fabrics to the raw material supplier and keeps the other half in lieu of cash wage. However, the practice is occasional and therefore it cannot be placed under any regular system; but it indicates that the poor weavers are ready to work under middlemen likely to emerge as some Marwari dealers at Mirza and Bijoy Nager (about 12 and 6 km east of Rampur respectively) are reportedly putting out Eri cocones among some artisans in the neighbouring countryside.

In Ramdin, Sartheberi, Hajo, Tekradia and Silguri the number of commercial looms were a few during the first survey, viz., 26, 18, 15, 9 and 4 respectively. While all the looms of Sartheberi were independent during the first survey, 89.24 p.c. became dependent during the second survey due mainly to commercialisation of 58 domestic looms by the Weavers' Extension Service Centre established there in 1974 by the Department of Sericulture and Weaving. In Ramdin too
domestic looms were reactivated by the KPC established there in 1976 and the dependent looms under other dealers had risen to 74, but at the same time 3 independent Pat (mulberry) looms also appeared. The number of dependent looms in Hajo was only 6 during the first survey which had risen to 20 (62.5%) during the second survey. In Tekredia and Silguri all the looms were dependent during both the surveys.

Spinning Units

As regards Muga reeling (while the fibre of a Muga cocoon is pulled, the cocoon rotates and the fibre reels out, hence Muga is reeled), Eri spinning and yarn winding units are concerned, 305 out of 332 establishments were concentrated in Sualkuchi and only 27 were found in Ramdie and Tekredia during the first survey. It may be noted that households having looms generally reel Muga or spin Eri cocoons for yarn and do the winding and unwinding of Pat, Muga, Eri or cotton yarn as part of weaving and therefore such establishments were not counted as separate units; only the units separate from looms were entered in the listing and all the units were found dependent during both the surveys. While all the units in Sualkuchi were engaged in Muga reeling and yarn winding (Eri spinning and Mulberry Pat reeling is not done in Sualkuchi), the units in the other two villages were engaged in Eri spinning in the 1st survey. During the 2nd survey the number of these units (all dependent) had increased to 1014 due to inclusion of
285 Erl spinning units in Rampur under the KPC, 24 Erl or Muga units in Hajo, 451 Erl units in Ramdia (426 under the KPC and 25 under other dealers) and 15 in Takradia with a fall of Muga reeling units to 239 in Salkuchi where Muga supply decreased. Besides, two cotton spinning units (treated as independent) one each at Hajo (having 80 New Model Charthas and 7 Reeling machines) and Rampur (having 25 WMC and 5 RM) were run by the KPCs and 117 females worked in the units as wage earners on piece system.

Metal Smithy

The brass smithy establishments, 83 and 57 respectively during the 1st and 2nd surveys at Hajo were dependent on the Mahajans or co-operatives for the supply of rolled brass sheets out of which various wares and utensils are made by the artisans according to specifications given by the dealers in return of fixed rates of wages by kg weight of the wares. Likewise all the 65 and 48 bell metal smithy units of Serthebari during the 1st and 2nd surveys respectively were dependent on the Mahajans or the Assam Samahoy Khekr Sangha for supply of scrap metal out of which the artisans manufacture specified wares in return of fixed wages by kg weight. However during the second survey 2 independent brass smithy (out of 59) units emerged in Hajo. There were also three independent bell metal smithy units at Hajo and the artisans (11) bailed from Serthebari; during the second survey, however, only one unit with 3 artisans was
working there (brass and bell metal artisans as well as goldsmiths migrate temporarily to other areas in search of work and more income). One lonely bell metal unit with 2 hired workers was working independently during both surveys at Ramdia.

**Other Industries**

All the rest of the establishments of the total 26 industries during the 1st survey and 24 during the second survey were independent. The management of these units either collect the materials for processing, repairing etc. and do the marketing of the products or receive the raw materials supplied by the customers and handover the products to them in return of a fixed rate of remuneration. The 35 gold smithy (57 during the 1st survey) units and 7 Ghani (10 in the 1st survey) units were found serving directly the consumers. Likewise 108 tailoring units (74 in the 1st survey) except 2 one each at Ramdia and Hajo during the two surveys were working on cloths supplied by customers. The other two units, however, engaged themselves sometimes in making ready-made garments to the orders of some dealers. The furniture (10 and 16 during the surveys) units, rice hullers (8 and 15) and even the two saw mills were working on raw materials supplied by customers. Needless to mention that repairing services like bicycle, radio receiver sets, shoe etc. are done directly on the customers' wares.
It follows from the foregoing analysis that out of 3470 establishments in the cottage sector (in 1980-81) 960 handloom, 1014 spinning/reeling, 57 brass and 48 bell metal units totalling 2079 or 59.91 p.c. of the cottage establishments were dependent under the 'putting out' system or wage earning units serving their masters to whom the surplus over cost of production had accrued and the rest of the establishments in the cottage and small scale sectors were independent.

(7) Capital Structure

Capital in industry consists of three elements, viz., (1) value of fixed capital goods like tools, instruments and machinery, (2) value of land and building for the workshop or factory and (3) working capital for raw and other materials consumed during the production process, fuel or energy, storage of the finished products and for payments to the staff and workers. It is well known that there are difficulties in assessing these values. Value of fixed assets like machinery, land and building may be assessed with reference to the historic cost of the assets at the time of installation. This gives a wide range of values of the same assets in different firms or establishments installed at different time points over which their prices vary. Reference to book value of the assets after deducting depreciation also presents the same difficulties besides assessing the value of repair and replacements of parts and addition or extension of new ones.
The owners in our case studies report that the book value of their assets are appreciating rather than depreciating due mainly to the continuous price rise. Reference to replacement cost of the equipments at current prices seems easier and better, for it gives almost the same value with marginal variation under conditions of product differentiation of the equipments, but most of owners of enterprises do not know the actual price and on our part too it is difficult to collect price data for all the equipments for a heterogeneous group of industries. Moreover the historic or the book value of the equipments like the Ambar Charkha is not known to the present personal in management. Under the circumstances we have taken the average value of the equipments with reference to the recently established ones of the particular industrial group.

Likewise, assessment of the value of land and building also presents the same difficulties. The value of land differs from area to area and site to site, cost of building also differs in the same way varying according to its structure. Again some of the establishments were found housed in rented buildings, while some others were found to use a part of the residential house or a grocery shop and many of the cottage establishments were found run in the premises of the household even without a shed. Again some had very simple separate workshops, some had moderate ones while a few others had RCC buildings for the same industry (handloom in Swalkushi) which resulted in wide variation in the value of land and building.
This is, perhaps why, the current definition of small scale industry in our country takes into account only the investment in plant and machinery and not in land and buildings. Hence we have also excluded the value of land and building from the analysis.

Working capital constitute a very important variable in determining employment and income at a given point of time. The investment in fixed assets like plant and machinery or simple tools and implements with a particular technology being given, it is investment in working capital, i.e., raw materials or stock of unfinished goods, finished goods and wage goods (labour payments) that determines the level of employment and income in an industry and its constituent establishments. Non-supply or less supply of raw materials in an establishment, given the productive capacity, causes frictional unemployment or employment to fall in terms of working hours or days with concomitant decline in income. Likewise investment in stocks of raw materials and unsold finished goods which Hawtrey calls 'Liquid capital' (the term investment in inventory is gaining currency), i.e., capacity and willingness of an entrepreneur to hold on stocks of raw materials and finished products also affect employment and income; if the entrepreneur is not willing or not in a position to hold on stocks particularly of finished products of his enterprise, specially during periods of slacking demand, the scale of output is curtailed or production is discontinued temporarily causing employment and
income to fluctuate. But the irony of the reality is that reliable data on this vital aspect are not revealed by the industrial establishments under individual management. The managements state hesitantly in the interviews, the value of raw materials, the stock of finished products etc., but as regards cash in hand or bank balance they either refuse to reveal the actual or supply false data - a case which is probably not encountered in the corporate sector where the annual balance sheet makes all data available. In the dependent industrial establishments, i.e., which work on raw materials supplied by other agents, the data on working capital are of not much importance, for the scale of production as well as employment and income of such units are entirely dependent on the raw material supplying agents. The amount of working capital needed by such units for a given period, say, a month, may be worked out simply by the productive capacity of the establishment or establishments.**

Moreover, most of the cottage artisans and petty industrialists, besides not maintaining accounts, are found to dispose of their products every day or week for buying raw materials,

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* For a theoretical discussion of the issue please refer Keynes' General Theory, ch. 7, particularly section II, pp. 75-76 (Macmillan, 1964, paper back edition).

** This situation was also faced by the Evaluation and Monitoring Wing of the State Planning Department while studying the Brass smithy and Bell Metal industries respectively in Hojo and Sarthebri in Assam. Ref. Evaluation Report, No. 22, 1974, pp. 14-17 and Evaluation Study, No. 32, 1975, p. 21
meeting day to day family requirements and/or labour payments. Under the situation we have worked out the working capital requirements on the basis of cost of raw materials, labour charges and other incidental expenditures incurred during the production process despite the difficulties encountered in collecting data.

Handloom industry

Fixed capital in the handloom industry consists of sley, shuttle, reed, beams, frame, healds and such other accessories which form the loom. Besides these, a unit needs levers, rods, winding groves, spinning wheel, spindle, bobbins etc. The larger the size of a handloom factory, the more is the need of such accessories. There are also two types of looms, throw shuttle and flyshuttle (other two types are Leim and Pit looms used by the hill tribes). The fly shuttle loom is generally fitted in a wooden frame and use iron reeds while a throw shuttle loom is fitted in four bamboo poles and use bamboo reeds. (Throw shuttle looms engaged in Eri fabric weaving were found using iron reeds). Therefore while the cost of a throw shuttle loom varies from Rs. 150 to Rs. 200, that of a fly shuttle loom was about Rs. 600 to Rs. 700 in 1980-81. Out of the 3809 looms in the areas surveyed 82.83 p.c. (3155) were fly shuttle and 17.17 p.c. (654) were throw shuttle looms. While Sankheda had the highest concentration of fly shuttle looms (2998), throw shuttle looms were concentrated in Rampur (515) and used in Eri weaving. Nearly
8000 looms in Suwalki were also fitted with Dobhey for design works and the cost of the Dobhey including its frame (Rs. 50) was about Rs. 300. Therefore investment in a fly shuttle loom with Dobhey is about Rs. 1000 and without Dobhey is about Rs. 700. Labour engaged per loom is one weaver, but in Suwalki a helper called Jegali is engaged among two looms to assist the weaver on the loom as well as for pirm winding etc. This shows the capital labour ratio of 10/1.5 with Dobhey and 7/1.5 without Dobhey in the fly shuttle as against 2 to 1 in the throw shuttle. Productivity of the fly shuttle loom is 3 times more than that of throw shuttle loom which show almost the same capital/output ratio, i.e., while investment of Rs. 200 produces 1 metre of cloth in the throw shuttle, investment of Rs. 700 produces 3 metres in the fly shuttle. A semi-automatic loom (Chittaranjan or Pedel loom costing about Rs. 4000 in 1980-81) weaves about 25 metres as against 35 metres in the Power loom (price was about Rs. 10,000 in 1980-81) in a 8-hour day. This shows that productivity is about 8 and 12 times higher respectively in semi-automatic and power looms than that of a fly shuttle loom while investments are also about 6 and 14 times more. Now supposing an one rupee metrage in the throw and fly shuttle looms and 0.20 paisa metrage in the semi-automatic and power looms, the weaver in

35. Textile Enquiry Committee, op.cit., p. 13
36. Govt. of India, Report of the Powerloom Enquiry Committee (Anshok Mehta Committee), 1964, Table IX, p. 17. We have referred to the medium quality fabric of the Mysore Centre.
the throw shuttle loom earns one rupee a day, the fly shuttle weaver earns three rupees a day as against the semi-automatic loom weaver earning Rs. 5 and the powerloom weaver earning Rs. 7. This shows the economy both in terms of physical productivity as well as income of the semi-automatic and powerloom over the throw shuttle and fly shuttle handlooms.

Working capital required per loom varies according to the type of yarn used and design of the fabrics. The silk looms of Sulkushi weave per year about 18 kg Pat or Muga yarn and 30 kg cotton yarn. The Eri looms of Rampur and Bamdia also can weave about 18 kg Eri yarn in a year. Besides yarn, looms with embroidery works use art thread and at Sulkushi some use gold thread called Gune (sari). There is also need of finance for labour payments where hired labour is used. For meeting all these expenditure a plain silk fabric weaving loom in Sulkushi needs about Rs. 9,000 while designed fabric weaving loom needs about Rs. 16,000 with an average of nearly Rs. 11,000 working capital. An Eri loom also needs about Rs. 4000 as against a cotton loom requiring about Rs. 2500 at 1980-81 cost structure.

Spinning/Reeling Units

Muga reeling and Eri spinning tools are very few and simple. Muga reeling is done by rotating a small wooden wheel fitted with a bamboo stem fixed on two 3 inches high poles fitted like a frame. The equipment is called Bhauri (at
Sualkuchi it is called Sal). The cocoon are boiled in a small cast iron pot and after cooling two persons do the reeling of the cocoon with lukewarm heat. One person collects the fibres of 4-5 cocoon and passes the thread over the bamboo stem to the other person on the opposite side of the Bhauri who while holding the thread by the left hand rotates the wheel with the right hand which twists the thread and winds it over the bamboo stem like a big bobbin. The cost of the equipment and the pot is about Rs. 50. Two persons reel 400-500 cocoon in about 8 hours and output is about 80 grams (one thousand cocoon yield 150 to 175 grams) yarn. The amount of working capital required depends upon the price of Muga cocoon per thousand which varied between Rs. 100 to Rs. 120 in 1980-81 and reeling rate per thousand cocoon was Rs. 15.

Eri is generally spun in the Takli, locally known as Takura. Eri cocoon are boiled in a vessel, the chrysalis (pupa) inside the cocoon is removed by opening the cocoon which are then cleaned. 20 to 30 such open cocoon are placed on the top of a stick about 6-8 inches long. Then fibres are pulled out by the fingers and joined with the stick of the Takli which contains a small weight at the bottom and a reed stem at the lower part of the stick. The cocoon stick is held by the left hand and the Takli that twists the thread is rotated by the right hand which also maintains the uniformity of the thread by rubbing with the fingers. The cost of the Takli is negligible, a rupee or two. In Kampur, however, some
spinners use an improved labour saving wooden spinning Charhka produced by some local accessory making establishment at Gauhati and this Charhka is rotated by peddling. Here dry open cocoons after boiling, cleaning and making like pupples are fitted on a long stick and spun by rotating the wheel fitted with a spindle which twists the thread uniformly of it being maintained by the hands which remain free. The cost of the Charhka is about Rs. 150. While the Takli spinner spins about 20/25 grams of yarn a day, about 50 grams are spun in the Charhka. While the income of a Takli spinner per day amounts to about Rs. 1.50 that of a Charhka spinner comes to about Rs. 3 (rate per kg yarn was Rs. 62.50 in 1981, one kg cocoon yields about 700 to 800 grams of yarn). In Rampur about 50 p.c. of the spinners (15 out of 45 samples) reported to have the Charhka, but only about 12 p.c. (5 samples) were using it and the rest were reported to be out of order. It is worthwhile noting that the KPC at Rampur does not encourage the use of the Charhka on the plea of low quality of the yarn.

Anyway, a spinner can spin in the Takli about 9 kg cocoons or about 7 kg yarn in a year and needs nearly Rs. 600 (price of cocoon varied between Rs. 50 to Rs. 55) for cocoons and soda/serf etc. for cleaning.

* The National Committee on the Development of Backward Areas was probably wrongly informed by some such authority that 'there is no improved appliance for spinning of Eri cocoons'. However, the Committee had recommended the introduction of the new Amber Charhka for spinning Eri cocoons and other silk waste. Ref. Planning Commission, Report on the Development of North Eastern Region, (Riveresan Committee), 1981, p. 91 (Para 10.13)
Smithy group of Industries

In brass and bell metal industries capital goods consists of simple tools like anvils, hammers, tongs, chisels, iron scissors, files, pinces etc. and a bellows fitted to a hearth in the ground. While the brass smiths cut the brass sheets made by the rolling mills into size with nicks to join for making urns and utensils by heating, beating and soldering, the bell metal artisans smelt scrap metals in the hearth, cast in moulds the required weight and the necessary size, shape and thickness of the wares are made by incessant beating with 2/3 hammers at a time. Then the rough products are made plain again by heating and beating with small hammers and made smooth by rubbing with files. Then again the utensils are polished in the 'Kumd' - a wooden wheel like apparatus fitted with a chisel which is rotated by another person with the help of a string. Then the decorative figures, if any, are engraved.

The value of all the implements vary as per their number which is determined by the number of persons working in an establishment; the larger the size of a unit, the more is the number of the tools and implements and therefore the higher is the value. In brass smithy investment varied between Rs. 500 to Rs. 700 employing 1.5 persons. In bell metal units it varied between Rs. 900 to Rs. 1500 with an average of Rs. 1200 providing employment to 4.1 persons. Changes in the technique of production during the two time point surveys (1971 and 1981) was very little; while all the bell metal
units had used goat-skin bellows in the 1st survey, 8 samples out of 10 or 80 p.c. had replaced it by hand operated iron bellows the price of which was Rs. 60 to Rs. 110 according to size. In Haje only two units out of 10 samples had used such small bellows with a cost of Rs. 50 to Rs. 70.

Working capital in the brass industry consists of the cost of the quantity of brass sheet worked on per month or year, coal used in the hearth and chemicals and labour charges (average Rs. 4.15) per kg. An one man average unit needs about 100 kg brass per month the price of which amounts to Rs. 3200 (@ Rs. 32 per kg in 1980-81). Cost of coal and chemicals is about Rs. 100 for 100 kg brass. Working capital per month exclusive of wage, therefore, comes around Rs. 3300.

A representative bell metal establishment of 4 persons can work on about 200 kg metal in a month, its price is Rs. 12000(@ Rs. 60 per kg), cost of charcoal and chemicals etc., is about Rs. 100 and therefore working capital required per month per unit is around Rs. 12,100 exclusive of wages.

In the blacksmithy industry appliances used are the same as in brass or bell metal industry, simply their size is bigger and stronger than in the other two industries. The sizes of the hearth and the bellows made of wood and leather are also much larger. The blacksmith smelts scrap iron or steel pieces in coal fire and hammers them on the anvil for giving different size and shape while the finish is given by rubbing with files and denting, if required, is done by
chisels. The value of the implements and the bellows ranges between Rs. 600 to Rs. 800, the average being Rs. 700 for a two-man unit. An unit heats about 250 kg iron per month the price of which is about Rs. 750 (Re 3 per kg). The unit consumes about 2.5 quintals of coal, the local price of which is Rs. 250 (Re 1.00 per kg). Working capital required per month, therefore, comes to Rs. 1000.

Implement in gold smithy also consists of the same tools as in brass or bell metal industry, but they are small and delicate in size. While during the first survey all the units had used goat skin bellows, during the second survey 16 samples out of 20 or 80 p.c. of the total (33) units used hand driven iron bellows. The value of the implements varied between Rs. 600 to Rs. 1000 with an average of Rs. 800 for an one-man unit. Estimate of working capital in this industry is difficult, for the units depend entirely on the supply of gold, silver or copper by the customers. The time of working on one Tola (11.66 grams) of gold is also difficult to work out, for it all depends upon the type of jewellery and ornament, such as necklace, ear-ring, bangle etc. and their design. Normally a simple chain takes two days and a necklace takes four days.

In Tin smithy also the same type of implements are used and their values were Rs. 300 and Rs. 400 in the two one-man units.
Pottery

In pottery capital consists of the potter's wheel made of planks and clay. Other tools are a few wooden discs with handle to beat the clay and pots. The value of these tools is about Rs. 150. Raw materials in pottery is clay which is dug out of alluvial soil, generally from the beds of rivers or Beels. The clay is kneaded by feet after mixing with sand and water for giving it plasticity. The pasty clay is now made into balls which are put on the wheel. While the wheel spins after a few vigorous turns given by the potter, the artisan gives the required shape to the fore part of the clay ball one after another by his fingers. The emerged shape of the urn or utensil is then separated from the ball with the help of a string. After giving the finishing touch by beating with a wooden mallet if necessary, the wares are dried up in the sun before or after which necessary colours are given or patterns drawn. The wares then are piled up in a Bhati or Kiln for baking in a fire of paddy husk, cowdung and straw. Baking generally takes 10 to 12 hours. The baked urns and utensils are now ready for marketing. It may be recalled that in Assam there are two potter castes, viz., Hira and Kumar. The Hira caste does not use the potter's wheel and their utensils are not used in religious rites. The Hiras prepare the utensils by beating the clay pieces with the wooden mallet and therefore it is more time consuming or labour intensive.

Working capital of the potters consists of the cost of clay and fuels for baking. An artisan can work on about 14
quintals of clay which are to be collected all at a time for working about 7 months during the dry season (October to April); the tradition of measuring clay is also peculiar; it is measured by cubic hand, a 5 cubic hand long pit (about 16 cft) is reported to have contained about 2 quintals of clay. The cost of 14 quintals (about two cart loads) of clay is about Rs. 700. The vares (e.g. about 3000 medium size pitchers) needs 3 times baking which involves a cost of Rs. 150. Working capital required, therefore, comes around Rs. 1000 with an annual turn over of about Rs. 6000.

Dairy

Investment in dairying is also moderate. Preparation of curd and separation of cream from milk are the two main products. The undertaker all that needs is some earthen vessels for storing milk for curd (unlike in some other parts of India milk without boiling is stored up for 3-4 days after which it automatically condenses into curd) and a few aluminium containers for handling milk. The cost of these vessels and containers is about Rs. 500. The cost of a traditional hand driven wooden cream separator is about Rs. 1000 which amount to a total investment of Rs. 1500, employment is one person per unit provided milk is supplied by the cattle farmer; in case milk is collected and cream are supplied by the undertaker himself 2/3 persons are hired occasionally. It is worthwhile noting that while a traditional cream separator yields about 3 kg of cream out of
40 litres of milk, a power separator yields 4 kg cream from the same quantity of milk (1 kg cream out of 10 kg milk).

**Shoe Repairing**

Shoe repairing in the mofussil as well as in the urban areas in Assam is done by cobblers who hail from Bihar. Their investment consists of the cost of an anvil, 1/2 hammers, 2/3 chisels, needles and brushes; some pieces of leather, 2/3 boxes of polish, a bottle of adhesive and some grams of yarn for making cords. The value of the fixed implements is about Rs. 100 and that of the raw materials is about Rs. 200 for a single-man unit.

**Ghani Industry**

Capital goods of a traditional Ghani industry consist of a 3 feet long piece of leg of about 1.5 or 2 feet diameter fixed in the ground. It contains an opening of 1 or 1.5 feet diameter on the top having another small opening inside for holding the piston that presses mustard seeds. The value of this Ghani is about Rs. 1000. It presses about 8 kg seeds at a time in 4/3 hours and yields about 2 litres oil. The Ghani is drawn either by human or animal labour. In Ranidia the Ghanis are drawn by two persons while in Rampur the two Ghanis are drawn by bullocks (one is used in one shift called (Fera). The value of the pair of bullock is about Rs. 1500. Therefore investment of Rs. 1000 in the Ghani provides
employment to 2 persons with human motive power and investment of Rs. 2500 provides employment to one person with animal motive power. Oil output per day is 4 litres out of 16 kg of seeds pressed equally in two shifts. The rate of remuneration per shift (Peru) is Rs. 3 plus 6 kg of oil cakes which fetch Rs. 6 in the market.

**Power Expeller**

As compared with the traditional Ghani, the lone power expeller in our case study (2 H.P. machine) extracts 13 litres of oil out of 40 kg seeds in a day, i.e., oil extraction per 8 kg mustard seed is 2.6 litres as against 2 litres in the traditional Ghani. The rate of pressing oil per kg seed is also less, i.e., 0.30 paisa as against 0.37 paisa in the Ghani. What is more, the owner of the expeller earns Rs. 12 from 40 kg seeds pressed plus Rs. 27 from 27 kg oil cakes. In other words, gross earning in the power expeller is Rs. 39 per day plus a net gain of 3 litres of oil which fetches a price of Rs. 37.50 (at Rs. 12.50 per litre). In other words, gross earning in the power expeller is Rs. 76 per day as against Rs. 18 in the traditional Ghani, i.e., four times more. Investment in the power expeller was Rs. 9000, that is, 3.6 times more than in the bullock driven Ghani. While the bullock driven Ghani provides employment to one person, the power expeller employs two labours plus one person on management. Therefore capital/labour ratio in both the traditional and power Ghanis is almost the same, in the
traditional Ghani it is 2.5/1 and in the power Ghani it is 3/1. Capital/output ratio in the power Ghani is 1/1.4, in the traditional Ghani it is 1/1.6, i.e., slightly more in the traditional Ghani, but in terms of oil extraction the power Ghani is better, it yields 0.6 litres more oil from the same quantity of mustard seeds than in the traditional Ghani. It therefore, follows that the apparently labour saving device is more economic than the apparently labour intensive Ghani.

**Tailoring**

Investment in tailoring units consists of the value of the sewing machine, a few tools like scissors, scales, screw drivers, oil cane and a measuring tape. The value of the pedal machine varies from model to model of the same company and from manufacturer to manufacturer; it is up to buyer to select the model and the company like Singer or Usha. The price varied from Rs. 500 to Rs. 700. Total investment in fixed assets like the sewing machine, other tools and some furnitures does not exceed Rs. 1000 for a single-man unit. Cost of cloths used is the principal constituent of working capital in a tailoring unit, but since the units are dependent entirely on cloth supplied by customers, estimate of working capital here is not possible.
Rice huller

Investment in rice hullers and atta chakki varies according to husking or grinding capacity measured in terms of horse power used in the machine which ranged in our case studies between 10 H.P. and 30 H.P. The value of machines installed during the sixties and seventies varied from Rs. 15,000 to Rs. 20,000. But those of the units installed during the fifties (at Sualkuchi) varied from Rs. 4000 to Rs. 10,000 the resale value of which had gone up. Some of the original hullers were also replaced by shellers with additional investment. Average investment, therefore, per installation works around Rs. 16,000 with employment provision of 2.4 persons including the owner-manager. In these units too the raw materials, i.e., paddy and wheat are supplied by the customers and daily average capacity was 20 quintals or monthly 500 quintals. Therefore monthly working capital is equivalent to the capacity multiplied by the market price of paddy/wheat, power revenue bill plus labour payments.

Printing Press

Capital goods in printing presses consist of the printing, cutting, numbering, perforating and lead cutting machines, lead holding cases and galleys. The cost of the machines varied according to their size, the common in our case studies being the 'crown size' with the capacity of maintaining four composing cases and four compositors. Out of the six
presses in our case studies two were installed in the late sixties and four in the seventies. Investment in fixed assets varied between Rs. 11,000 and Rs. 15,000 with an average of Rs. 14,000 including cost of a motor and some furnitures. Two treadle units found in the 1st survey had installed 1 H.P. motors during the 2nd survey. Average employment was 3.6 persons with a daily printing capacity of 0.5 format (16 pages constitute one format). Working capital consists of paper, cards, ink and such other materials plus salary of the hired workers and electricity bill. In our case studies working capital per month was about Rs. 5000.

Furniture Making

Furniture and other wood-wares are manufactured out of timbers sawn from hard and soft logs by the saw mills and the work is done by the carpenters. The village carpenters in Assam engage themselves in various kinds of woodworks; in construction works they make and fit posts, plates, battens, door and windows etc. and do carving if required. They also make furnitures like bedsteads, tables, chairs and other wares like boats, cabinets, loom accessories etc. Another group do sawing alone and is known as sawers. These carpenters have no particular workshop or establishment, they carry their tools and implements from one place to another as and when called for and perform the work by two/three persons either on partnership basis or the master craftsman hires his assistants on wage basis. Workers engaged in such activities are
generally included in the 'construction' category of industrial division while persons engaged in furniture and fixture making with a workshop are included in the 'manufacturing' group.

Furniture making workshops in Assam were found in the past mainly in the urban areas and were run by carpenters who had migrated from erstwhile East Pakistan, Punjab or West Bengal. Such manufacturing units run by local carpenters have, however, trickled down, of late, to the moffusil areas.

The capital goods of the carpentry units consists of some saws, plane axes, planes, joiner's clamps, chisels, a rule and a square, brace and bits, hammers, augers, pincers, pliers, screw drivers etc. The value of the instruments vary according to their number with an average of Rs. 1500 providing employment to 3 persons. Since the carpenters work on timbers supplied by the customers or on timbers purchased by taking advances from customers it is difficult to estimate the working capital. However, one unit reported the need of about Rs. 8000 as initial working capital.

Bakery

Bakery and confectionery industries in Assam are of recent origin. There are only a few confectionaries in the

37. Selected Handicrafts of Assam, Census of India, 1961, p. 87
urban areas which manufacture candles and biscuits of moderate 
quality and all the quality packed biscuits and candies are 
imported from outside the state. Traditional baking units 
have been percolating, of late, to the moffusil areas and we 
found 9 such units which produced inferior quality biscuits, 
loaves etc. consumed by the populace in the rural areas.
Investment in bakery consists of the cost of the furnace which 
is constructed with bricks and/or clay, trays and dices for 
making and baking, some containers for preprocessing Maids 
(white flour) and some furnitures for storing the manufactured 
products. Investment in capital goods ranges from Rs. 4000 
to Rs. 6000 with an average of Rs. 5000 which provides for 
direct employment to 5 persons besides engagement of 3 persons 
as hawkers who sell the products on commission basis at the 
consumers' doors. Working capital needed is about Rs. 2000 
for initial purchase of raw materials like Maids, sugar, 
vegetable ghee etc. which roll over every day by way of sale 
proceeds.

Repairing services

Bicycle repairing units need a small capital 
investment in tools and appliances like pliers, wrenches, 
tongs, iron scissors, clamps etc. of various size and the 
amount does not exceed Rs. 1000 including the value of some 
furnitures. Repairing shops need working capital investment 
in stocks of spare parts like rims, spokes, axles, chain
wheels, tubes and tyres etc. and the more is the varieties (of different brand names of manufacturing companies), the better is the servicing demand from customers. The value of the stores in our case studies was around Rs. 1000 and employment was 2 persons per unit.

In radio receiver repairing units, fixed investment amounts to about Rs. 700 in one or two electric meters, 1/2 soldering irons and a few simple tools like tongs and nose, iron scissors, screw drivers etc. But the workshops also need, like bicycle servicing units some stores of spare parts like transistors, capacitors, resistors, coils etc. and investment in working capital in our 4 single-man units does not exceed Rs. 1000.

**Photography**

Investment in photography consists of the cost of cameras, an enlarger, light stands and fittings and show cases and furnitures. In the two units in our case study investment per unit was around Rs. 5000. Initial working capital is about Rs. 1000 required for purchase of films, photo papers and chemicals etc. The two units had provided employment to 2 persons each.
Brick kiln

In the lone hand spun brick kiln fixed capital investment of Rs. 18000 was made in a 1.5 acres plot of land for clay pit and the kiln and another amount of Rs. 2000 was reported to have been made in spades, buckets and wooden boxes used as moulds, giving a total investment of Rs. 20,000 in 1972. Working capital in 1980-81 was Rs. 32000 consisting of Rs. 24000 for labour payments, Rs. 6000 spent on coal and fuel wood and miscellaneous expenditure of Rs. 2000. The kiln employs 16 labours seasonally for four months (December to March) on contract of per thousand bricks and another labour-cum-showkider throughout the year besides the owner manager. It produced bricks worth Rs. 75000.

Saw Mills

The two saw mills had invested two different amounts at two different times with almost the same daily sawn capacity of 250 to 300 cft. While one had two 15 H.P. and one 2 H.P. machines with an investment of Rs. 45000 in 1965, the other unit had invested Rs. 55,000 towards the end of 1980 in one 15 H.P. and another 10 H.P. machines. Both the units employ 10 to 12 labours on daily wage basis besides a family member of the owners working in the management. The mills reported not to have investment in logs which are supplied by contractors or dealers for sawing timbers at a fixed of 0.75 paisa per cft and the mills simply issued chalans for lifting
the timbers. The working capital they need, therefore, consists of labour payments, expenditures on lubricants, files, saws and such other spares which may need replacement at any moment. Monthly expenditures (for 30 days) on labour payments amounted to Rs. 1400, power consumption and other expenditures were about Rs. 1000 totalling a monthly expenditure of about Rs. 2400 to Rs. 2600. The value of timber sawn per month amounted to Rs. 240,000 on the average.

Conclusions

The analysis above shows the difficulties of estimating average fixed as well as working capital investment due to wide range of differences even within the same industry group. For example while Eri spinning in the Takli fixed capital investment is only a rupee or two, in the wooden Charrika it is Rs. 150; likewise in pottery it is about Rs. 10 without the potter's wheel while with the potter's wheel it is about Rs. 150. In the handloom industry also while investment in the throw shuttle loom is about Rs. 200, in the fly shuttle loom it is about Rs. 700 without Dobbey and with Dobbey it is about Rs. 1000. Therefore the statistical averages of such industries represent an unrealistic picture despite which we summarise the data on fixed capital and employment in a tabular form below, working capital data being given inside the foregoing analysis.
Table 7.4

Fixed Capital Investment and Employment, 1980-81

<table>
<thead>
<tr>
<th>Industry</th>
<th>Total No. of units</th>
<th>Average fixed capital Rs.</th>
<th>Average employment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cottage group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Handloom units</td>
<td>2201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) No. of throw shuttle looms</td>
<td>654</td>
<td>200</td>
<td>1</td>
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<tr>
<td>(B) No. of Fly shuttle looms</td>
<td>3155</td>
<td>700</td>
<td>1.5</td>
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<tr>
<td>2. Reeling and Spinning units</td>
<td>1014</td>
<td></td>
<td></td>
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<tr>
<td>(A) Muga reeling units</td>
<td>278</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>(B) Eri spinning units</td>
<td>736</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. Brass smithy</td>
<td>99</td>
<td>600</td>
<td>1.5</td>
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<td>4. Bell Metal</td>
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<td>5. Black smithy</td>
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<td>700</td>
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<tr>
<td>6. Gold smithy</td>
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<tr>
<td>7. Tin smithy</td>
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<td>1</td>
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<td>8. Pottery</td>
<td>70</td>
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<td>9. Dairying</td>
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<td>10. Shoe Repairing</td>
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<td>100</td>
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<tr>
<td>11. Chendi</td>
<td>7</td>
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<td>12. Amber Charkha</td>
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<td>1 per Charhha</td>
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<tr>
<td><strong>Small Scale group</strong></td>
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<tr>
<td>13. Power Expeller</td>
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<td>14. Tailoring</td>
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<td>15</td>
<td>Rice Huller</td>
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<td>16000</td>
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<tr>
<td>16</td>
<td>Printing Press</td>
<td>6</td>
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<td>16</td>
<td>1500</td>
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</tr>
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<td>Bakery</td>
<td>9</td>
<td>5000</td>
<td>5</td>
</tr>
<tr>
<td>19</td>
<td>Bicycle Repairing</td>
<td>19</td>
<td>1000</td>
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<tr>
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<td>Radio Repairing</td>
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<td>700</td>
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<td>Brick Kila</td>
<td>1</td>
<td>20000</td>
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<tr>
<td>23</td>
<td>Saw Mill</td>
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<td>55000</td>
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<td>Silk Twisting Plant</td>
<td>1</td>
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</table>

Source: Field Investigation. The lone paddy husking and incense making units died during the second survey, hence excluded from analysis.

The costs of the Ambar Charkhas and Roving wheels (80 and 7 respectively at Bejo end 25 and 5 at Rawpur) end of the Twisting Machines at Smalkuchi were not available with the personnels in management at the sites. Anyway the investment data in the cottage as well as small scale industrial establishments show that they fall far below the ceiling of Rs. 2 lakhs fixed as criterion of 'Tiny' units. The problems of such units are also different, as we shall explain in the next chapter, from those of the small scale industries with investment of Rs. 35 lakhs or other Tiny units with investment of Rs. 2 lakhs.