LABOUR INVESTIGATION COMMITTEE
GOVERNMENT OF INDIA

REPORT

ON

LABOUR CONDITIONS IN THE SHELLAC INDUSTRY

BY

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PREFACE.

The Tripartite Labour Conference at its meeting in September 1943 recommended the setting up of machinery to investigate questions of wages and earnings, employment and housing, and social conditions generally, with a view to provide adequate materials on which to plan a policy of social security for labour. In pursuance of that resolution, the Labour Investigation Committee was appointed by the Government of India by Resolution No. L.4012, dated the 12th February 1944 to carry out the investigations. The Committee was instructed to extend its investigations generally to all industrial and semi-industrial labour covered by the Royal Commision on Labour in their Report, with the addition of certain other categories. The Committee was asked by the Government of India to decide in each case the most suitable manner of conducting the enquiry. The Government, however, considered that the method of enquiry should not merely consist of sending out questionnaires to Government agencies and Employers' and Workers' Associations, but should also comprise specific enquiries in individual concerns based on representative sampling.

2. In India, in spite of the quite comprehensive enquiries made by the Royal Commission on Labour and a few Committees appointed by the Provincial Governments, there have remained large lacunae in regard to information on labour conditions in several industries. In particular, broadly speaking, the method of direct enquiry on the spot has not been adopted on a sufficiently wide scale so as to cover the entire industrial structure. Moreover, certain industries, like cotton textiles and coal mining, have received greater attention than others, and even as regards these industries, comprehensive information on an all India basis has not been available. With a view to making up this deficiency as well as to bringing the available information up to date, the Committee decided that *ad hoc* surveys should be carried out in various industries so as to secure a complete picture of labour conditions prevailing in each : The following industries were selected for the purpose :—

A. *Mining.* (1) Coal. (2) Manganese. (3) Gold. (4) Mica. (5) Iron Ore. (6) Salt.

B. *Plantations.* (7) Tea. (8) Coffee. (9) Rubber.

C. *Factory industry.* (10) Cotton. (11) Jute. (12) Silk. (13) Woollen. (14) Mineral Oil. (15) Dockyard. (16) Engineering. (17) Cement. (18) Matches. (19) Paper. (20) Carpet weaving. (21) Coir matting. (22) Tanneries and Leather Goods Manufacture. (23) Potteries. (24) Printing Presses. (25) Glass. (26) Chemical and Pharmaceutical works. (27) Shellac. (28) Bidi-making. (29) Mica Splitting. (30) Sugar. (31) Cotton Ginning and Baling. (32) Rice Mills.

D. *Transport.* (33) Transport Services (Tramways and Buses). (34) Non-gazetted Railway Staff.

E. *Other types of labour.* (35) Port Labour. (36) Municipal Labour. (37) Central P.W.D. (38) Rickshaw Pullers.

3. The main conception on which the *ad hoc* surveys have been based is that information should be collected on the spot by direct enquiry conducted with the help of the Committee's own staff and that this information should, as far as possible, conform to the sampling methods widely adopted in such work. Owing to great variations in the character of the different industries, however, there could not be a complete uniformity in regard to the methods which had to be adopted to suit the peculiarities of particular industries and centres. For instance while there are only a few centres and units in certain industries such as potteries, mineral oil, gold, etc., in other industries, such as

textiles, engineering, transport services, plantations tanneries, bidi-making, etc., a very large number of centres and units in different provinces (and even States) had to be covered. Moreover, some of the industries are modern industries of the large-scale type, wherein factory legislation applies more or less entirely, while others are indigenous handicrafts or small-scale industries, where factory legislation is either inapplicable or partially applicable. Thus, information has not been uniformly available in advance as regards the size, location and ownership of industrial units, such as is necessary before decisions for sampling are taken. Consequently, the technique of representative sampling had to be modified and supplemented so as to obtain whatever information of a reliable character was available. As far as possible, however, in all industries important centres were covered. In each of these centres units were chosen on a sample basis, but it was possible in a few centres to cover all units. The final lists of centres of survey and individual establishments were made out in the light of the impressions gathered during the course of the preliminary tour and in consultation with local authorities. The guiding principle in the selection of centres of survey was to make the survey regionally representative so as to discover differences in the conditions of labour in the same industry in different parts of the country. The selection of individual concerns was generally based on considerations, in order of importance of (a) size, (b) ownership (private or limited) and (c) whether subject to statutory regulation or not. In this connection it may be stated that the Committee were greatly handicapped in sampling the units owing to the lack of complete information regarding location and number of units in the selected industries. Unfortunately there are no all-India employers' organisations in some of the organised industries, nor are the statistics maintained by the Central and Provincial Governments at all complete. Moreover, in certain unorganised industries, such as shellac, carpet-weaving, bidi-making, etc., owing to their very nature, no such information could have been readily available in advance. In certain cases, therefore, owing to these difficulties as well as transport difficulties and other exigencies, the sampling could not be fully adhered to. Nevertheless, the Committee have been anxious to gather in the maximum possible information in the limited time at their disposal and with a view to this, they have cast their net as wide as possible. The main instruments of *ad hoc* survey were the Questionnaires. These were of two kinds :—(2) the main *ad hoc* survey questionnaire on points likely to be common to all the industries surveyed, (b) supplementary and special questionnaires in respect of certain industries, such as plantations, mines, railways, rickshaw pullers, port labour, municipal labour, glass, shellac, mica, etc. The main questionnaire was accompanied by a tabular form for entering wage data and this was used wherever possible. In the case of certain surveys, however, such as salt, paper, cotton, woollen and jute textiles, dockyards, silk, cement and gold mining, it was possible to conduct a wage survey on a sample basis. The chief method of collection of data was by personal investigation of industrial establishments, examination of their records and contact with labour in factories and homes. The information thus collected was suplemented and checked with replies to the Questionnaires received.

4. For the purposes of conducting enquiries, a sufficiently large field staff, consisting of 16 Supervisors and 45 Investigators, was appointed. Before the commencement of field work, all the Supervisors (with the exception of those working in Bengal) were called to the Committee's headquarters at Simla and given detailed instructions on the technique and scope of the enquiries to be conducted by them, the manner in which they were to submit their data, and the centres and units which they were to investigate. In addition, both Supervisors and Investigators were provided with written instructions regarding the

use of questionnaires, sampling of concerns (where this could not be done in advance), filling of the wage forms, etc. In particular, they were asked not only to collect information on the spot but also to draw upon every other possible source of information. In doing so, they were required to distribute copies of the questionnaires in the centres assigned to them not only amongst the sampled units but also amongst Employers' and Workers' associations in the industry and such other associations and individuals as were likely to be interested in the subject. They were also asked to get into touch with officials of Central and Provincial Governments connected with labour and obtain such facilities as might be necessary in doing their work.

5. As far as the field work in Bengal was concerned it was done by the staff of the Committee under the guidance and supervision of the Labour Commissioner, Bengal, and his subordinate officers. Members, however, paid visits to selected centres and units in Bengal to obtain first-hand knowledge of local labour conditions.

6. The Committee's survey covered all Provinces with the exception of the North-West Frontier Province where none of the Industries selected for survey was sufficiently important. It extended to many of the Indian States also, such as Kashmir, Patiala, Gwalior, Baroda, Mysore, Sandur, Travancore, Cochin, Bundi, Indore and some of the States of the Eastern States Agency. No survey was undertaken in the Hyderabad State as that State preferred to appoint a Labour Investigation Committee with terms of reference identical to those of this Committee, for enquiry into local labour conditions.

7. In dealing with the *ad hoc* survey work, several courses were open to the Committee :—(i) that the Committee, as a whole, to study each industry, (ii) that the surveys to be distributed region-wise and each Member put into charge of a region, and (iii) that each Member to be entrusted with a few surveys throughout India. With a view to speedy and efficient work, the third course was actually adopted. This departure from the usual procedure of the Committee as a whole dealing with the work was necessary in view of the immensity of the task and the necessity of maintaining an all-India perspective. Moreover, it was felt that this procedure would enable Members to make a specialised study of labour conditions in individual industries in different parts of the country. It was also felt that the peculiar problems of industrial labour had more an industry-wise than a region-wise dispersion and that the procedure would be helpful to future legislation which has to take into consideration the diversified conditions of each industry. It will be seen, however, that in the Reports the factual material has been presented both on an all-India and on a regional basis.

8. Thanks and acknowledgments are due to provincial Governments, State Authorities, Labour Commissioners (and particularly the Labour Commissioner, Bengal), Directors of Industries, Chief Inspectors of Factories, Port Authorities, local bodies, employers' and workers' associations, managements of the units surveyed and all others who rendered help in the collection of the data presented in these Reports.

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NOTE.

The views embodied in this report are those of the Labour Investigation Committee and the Government of India accept no responsibility for the opinions expressed therein.

Chapter I.—Introduction.

Economic Background.—India holds a virtual monopoly in the production of lac—a res nous substance secreted by the insect *Laccifer lacca* on the branches of certain trees which are called its "hosts." The most common hosts of the insect are *Kusum, Ber* and *Palas,* and it is the encrustations scraped from the branches of these hosts which form the stick lac of commerce. Seedlac is obtained by grinding and washing stick lac, and shellac is made by melting or extracting the resin from seedlac. The main lac producing regions in India are certain districts of Bihar, the Central Provinces, the United Provinces, Bengal and Assam, and the Central India and Eastern States. The average production during the five years ending 1938-39 was about 18 thousand tons, of which Bihar alone accounted for 32 thousand tons. The following table shows the distribution of stick lac production according to different regions :—

TABLE 1.

Stick-lac Production.

(Annual average 1934-39).

Region.	Tons.	% of total.
Bihar	32,468	68
Central Provinces and Central India	8,286	17·4
Assam	1,231	2·6
Other areas	5,765	12·0
Total ..	47,750	100·0

References to the exports of lac-dye and lac and shellac from India are found in the literature of the early Christian era, but the first recorded export of lac to Europe took place about 1607 A. D. By 1868-69 exports of lac and lac-dye amounted to about 900 tons but these ceased altogether by 1900 owing to the competition of synthetic dyes. In early days it was the dye which made up the bulk of exports, but in recent years the resin of lac has commanded a growing international market, as will be seen from the table below :—

TABLE 2.

Export Trade.

Varieties	Average for 1900-05.		Average for 1934-35.	
	Tons.	% of total	Tons.	% of total.
Seedlac	1945	1·8	8,698	27·1
Shellac	8,840	80·0	20,068	62·4
(other kinds including refuse lac)	2,009	18·2	3,369	10·5
Total ..	11,043	100·0	32,135	100·0

The shellac industry is of very great importance to India and it is an industry again in which somewhat like mica, the country hold a monopolistic position. The industries into which its products enter are many and varied. This is due to the thermal, mechanical, electrical and solvent properties of lac and to its excellent gloss and resistance to scratch, abrasion, water and electric currents. The most important consumer of shellac is the gramophone industry which absorbs about 30 or 40 per cent. of the annual output,—while the electrical and paint and varnish industries utilise about 35 per cent., the rest being

used in the hatting trade, sealing-wax manufacture, photography, confectionery, munitions and fireworks, micanite, ornaments, bangle-making, toy-making, etc. During the last few years, owing to dislocation of supplies of rival materials, new uses of lac have come to the fore, such as moulding powders for compression and injection mouldings, varnishes for making antigas fabrics, oil-cloth, water-proof bookbinding cloth, sound-recording discs, laminated boards and plywood. Vigorous attempts to replace shellac by synthetic resins are in evidence, but as yet shellac is most exclusively used in certain industries like the gramophone industry. The synthetic substitutes, however, have not been an unmixed evil. "In recent years there has been an extended use of the natural product (shellac) in combination with synthetic resins and there is, therefore, every possibility that shellac will find an increasing outlet in this direction. To summarise, synthetic resins have made inroads into fields where the natural product was originally supreme, and at the same time have opened out new fields of use in which lac and shellac may find an extended application. Synthetics have helped to stabilise the price of shellac also by providing an upper limit beyond which it cannot go economically[1]."

The consumption of shellac had been confined in the beginning to the highly industrialised countries of Europe and America, but immediately before the war Japan and Russia were importing large quantities of shellac and allied products. The following table shows the dependence of different countries upon exports from India :—

TABLE 3.

Total Exports of all forms of Lac to various Countries.

(Tons)

Countries.	Average for 1909-14.	Average for 1929—34	Average for 1934—39
United Kingdom	5,358 (24·9%)	8,156 (29·0%)	7,817 (24·3%)
United State of America	8,949 (41·6%)	10,131 (36·1%)	12,518 (39·0%)
Germany	4,158 (19·3%)	3,863 (13·8%)	3,319 (10·3%)
Other countries	3,059 (14·2%)	5,943 (21·1%)	8,482 (26·4%)
Total	21,524 (100%)	28,093 (100%)	32,136 (100%)

It will be observed that the United States of America occupies the first position among India's customers of lac, and this dependence of that country on India can be compared with a similar dependence in the case of mica. In recent years, there has been a great increase of exports of seedlac rather than shellac, and for this the United States has been largely responsible. It is stated that the United States' preference for seedlac over shellac is due to the fact that manufacturers there find seedlac, which is cheaper than shellac, more suitable for some of their requirements. This preference has considerably affected the shellac industry as will be seen from the regional surveys in subsequent Chapters. The resin extracted in a purer form is even now widely demanded, but its relative importance in the foreign trade is definitely on the decline. As a consequence, unemployment has been caused in certain centres of the trade, and instances have been recorded in which the shellac workers have actually participated in riots to prevent the export of seedlac instead of shellac from the factory centres. The relative movement of the

[1] *Lac and the Indian Lac Research Institute*, by Dorothy Narris and Others, (1934), p.12.

figures for export trade in the different varieties of lac can be seen from the following table :—

TABLE 4.

Relative Movement of Exports of Varieties of Lac.

Variety	Average for 1909-14. Tons.	%	Average for 1929-34. Tons.	%	Average for 1934-39. Tons.	%
Stick lac	.. 274	1·3	240	0·9	182	0·6
Seedlac	.. 333	1·5	5,440	19·4	8,698	27.1
Shellac	.. 17,785	82·7	19,525	69·5	20,068	62·4
Button lac ..	.. 1,728	8·0	1,025	3·6	1,224	3·8
Other kinds ..	.. 1,404	6·5	1,863	6·6	1,964	6·1
Total	.. 21,524	100	28,093	100	32,136	100

The above table clearly shows that the relative importance of exports of seedlac is steadily growing as compared to those of shellac, although the absolute figures for the latter show some increase. Apart from increase in exports of seedlac, the growing use of machinery, especially in Calcutta and Jhalda, may also be responsible for some of the unemployment in the shellac industry in recent years.

On the whole, however, the shellac industry is still largely on a cottage basis Owing to its small scale, initial capital investment is extremely small and there are hardly any overheads, so that employers are not substantially affected if they have to close down factories. Moreover, most of the employers are also dealers in seedlac and stick lac as well as other commodities, and some carry on moneylending. Thus, the prospect of occasional closing down does not harm their interest. The other important thing to be noted about this industry is that it is not perennial, in the sense that factories are open and working on all working days ; nor is it seasonal, if we mean by that word that they are busy in a particular season and are closed for the rest of the year. Stick lac and seedlac, the raw materials, can be and are often stored up, especially by the bigger owners, and in some cases continuous work is feasible ; but a majority of the owners prefer to run their concerns according to the availability of the raw materials. There are four lac crops in a year : *Jethua* and *Aghani* (*kusmi*) from the *Kusum* hosts, and *Baisakhi* and *Katki* from other hosts. *Baisakhi* is the biggest and most important of the four crops and is harvested between April and July. *Katki* is cut in October-November ; *Aghani* between November and February : and *Jethua* (which is a small crop) in June-July. The relative importance of these crops can be judged from the fact that *Baisakhi* accounted for 56 per cent. of the total production during 1934-39 ; *Katki*, 26 per cent. ; *Aghani* or *Kusmi*, 14 per cent. ; and *Jethua*, 4 per cent. The importance of the four crops varies in different regions in the country, but normally speaking, sufficient supplies of stick lac are available throughout the years, and there are also considerable imports from Burma and Malaya. This enables the concerns to work off and on throughout the year ; and the continuity of work varies according to the financial strength of the concern.

Location of the Industry.—The location of the industry can be seen from the table furnished in Appendix I. The total number of factories is 362 and that of *bhatias* in the factories nearly 5,000. Bihar easily leads, claiming about 70 per cent. of the total number of *bhatias*, while the United Provinces, Bengal and the Central Provinces follow in a descending order of importance The principal centres in Bihar are Jhalda, Purulia, Chandil and Balrampur in Manbhum District ; Chaibasa and Chakradharpur in Singhbhum District ;

Ranchi, Thulin, Murhu and Bundu in Ranchi District ; Daltonganj, Gharwa, Latehar, and Chandwa-Tori in Palamau District ; Pakur and Kotalpakur in the Santhal Parghanas ; and Raniganj, Imamganj and Sherghati in Gaya District. In the Central Provinces and Berar, the principal centres are Gondia in Bhandara District ; Kota, Pendra and Champa in Bilaspur District ; Dhamtari and Naila in Raipur District ; Jubbulpore and Katni in Jubbulpore District ; Burhanpur in Nimar District ; and Seoni in Chindwara District. In the United Provinces, the main centre is Mirzapur, while Cawnpore has also a little production to its credit. In Bengal, the principal centres are Calcutta (where there are two big modern factories and few old-style ones), Malda, Dhulian and Nimtita. In the Punjab, Amritsar and Hoshiarpur are the main centres. Umaria in Rewa State and Rairangpur in Mayurbhanj State are important centres in State India.

From Appendix I, it will be seen that the major part of the industry is located in Bihar, which also is the main area for lac cultivation.

Structure of the Industry.—The principal stages through which lac passes are three : (a) the raw material stage including the cultivation and harvesting of lac, and making of stick lac, (b) the manufacture stage, including the production of seedlac, shellac, button lac, etc., and (c) marketing the products.

The cultivation of lac is carried on by first introducing the lac insects to lac hosts, the process being called " infection " or " inoculation," and then harvesting the crop by cutting branches on which lac encrustations have been formed. Infection can be artificial as well as natural, but in the main lac growing areas, like Bihar and Orissa, the infection is artificial. The host trees are often given periodical rest and there is systematic rotation amongst them. The crop is collected by cutting the branches and twigs on which lac encrustations are found to have been formed. Lac is collected in the form of sticks, but the stick lac so called is generally scarped from the sticks, unless the encrustation is thick and sticky, in which case the twigs are cut into short pieces 1 to 3 inches long. This stick lack is the raw material of the shellac industry.

Stick lack is converted into seedlac, and seedlac into shellac and other refined forms. The processes involved and the types of labour engaged will be described later.

Marketing includes the marketing of both stick lac and the finished products. For the former, there are three types of markets,—the primary markets, or *hats*, which play quite an important role in the marketing of stick lac ; the secondary markets or the middlemen's shops, where lac is brought by producers and *paikars* (hawkers) ; and the terminal market, Calcutta, which is the terminal market for all kinds of lac and its by-products. Finally, the different types of lac are exported from Calcutta to foreign countries.

PART II.

Chapter II.—Survey of Labour Conditions—General.

Labour conditions in the shellac manufacturing industry broadly illustrate the position of labour in cottage industries relying upon hand processes but at the same time employing a number of workers in the workshops. It is often imagined that labour conditions in such handicrafts are better than those in the large-scale factory industries, but that this is not always so can be proved not only by reference to the shellac industry, but also to bidi-making, carpet-weaving, glass and bangle manufacture, etc. True, the environments of city life coupled with the din and dust of factory work are injurious

to the health of the industrial worker, but the large-scale factories are subject more often than not (barring inadequate enforcement of labour laws) to severe restrictions, while in the case of the small-scale cottage industries, even if village or small-town life is in some ways more congenial to health and welfare, there is a greater element of sweating, of underpayment, of arbitrary dealing, and of general insecurity of work and rights. This is so because the workers are poor, illiterate and hopelessly unorganised. In the shellac industry all these evils are manifest to a greater or less extent.

Labour Legislation and its applicability.—The Factories Act applies to such factories as use power-driven machinery. In 1942, there were only 21 factories thus covered by the Factories Act, of which Bengal claimed 4 and the U.P. 17 ; in the same year, the total number of workers employed in these factories was only 1,798 (Bengal, 728 and the U.P. 1,070). A vast majority of workers, however, were not subject to the Factories Act, as will be seen from the fact that the total number of factories is estimated at 350 for the country as a whole (excluding States). In the Central Provinces, the C. P. Unregulated Factories Act applies to even cottage factories not using power, provided the total number of workers is greater than 50 (special notification, 25), but only 17 factories are covered out of 28 or more. Apart from these, the Employment of Children (Amendment) Act, 1939, applies to all shellac factories, though as will be seen below its administration has been extremely defective.

The Factories Act.—Barring a few cases, the provisions of the Factories Act are not being strictly enforced, mainly owing to the fact that inspectorate in the two Provinces concerned is not very adequate. In particular, Section 76(2)—requiring display of notices of periods of work,—Sections 50, 51 and 52, restricting employment of child and adolescent labour, and Section 33, requiring the occupier to build shelters for rest, were disregarded in Bihar. Apart from the inspectorate, the arrangement under which the sub-Divisional Officers are made part-time Inspectors of Factories is not very satisfactory, as the hands of these officers are too full for such work. One consequence of the Factories Act being made applicable only to those concerns which have adopted power-driven machinery has been that many factories employing as many as 150 labourers are unwilling to employ any power-driven machinery lest the Act will be made applicable. One would not have minded perhaps this preference for older methods of production but the owners of such factories find it very convenient not to have to spend anything on repairs or whitewashing. It was stated by workers that during rains the showers of rain were heavier within the sheds than outside ! There is no regulation of working hours in these establishments and work is started and finished at all sorts of odd hours. Women were found working in several factories in Jhalda up till 8 p.m. No registers of employment or payment of wages are maintained in most places, and irregularities and inequities are frequent. The interior as well as the exterior of most factories is extremely insanitary. Water used for washing the lac is allowed to stagnate for days, emitting foul smell. In brief, there is complete chaos so far as enforcement of any law is concerned in the case of regulated factories, while in that of unregulated factories, the position is as bad as ever. The Bihar Labour Enquiry Committee (Report, p. 240) suggested that the Factories Act should be made applicable to shellac (and other similar) factories employing more than 40 workers. Applications of the Act however, for reasons stated earlier by itself would not be enough. Enforcement is the crux of the matter.

Payment of Wages Act.—This Act is not observed by the factories even as to its main provisions. Employers state that it is impossible to observe the

Act, as the workers are irregular in their attendance and different wage-periods are in vogue. Moreover, the arrangement under which in the case of melters, wages are paid in the first instance to the *karigar*, who pays in turn to the *halwaya* and *pherwaya* is not, according to them conducive to correct observance. Very often, the helpers of the *karigar* are replaced by substitutes whose names are not even known to the employers. Irregularities, therefore, are rampant. Thus, if employers are annoyed by the conduct of particular workers, they withhold payment of wages altogether. Illegal deductions, such as *dasturi*, *goshala*, *dharamdan* or *thakurbari*, are quite common. These deductions vary between 1 pice and 1 anna in the rupee. The workers strongly object to these illegal and compulsory deductions, while employers plead that it has been an age long custom with them. Enforcement of the Payment of Wages Act in the case of registered factories and the extension of some of its provisions to the unregulated concerns is highly necessary to check these evils.

Workmen's Compensation Act.—In the bigger registered factories, the Act is properly working, but this is not so in the smaller registered factories. Here the position is the same as in other industries. The employers in the case of such factories stated that the Act was working satisfactorily, but always added that there was no accident at all, worth reporting about ! In the smaller unregulated workshops, the chances of accidents are somewhat remote. The only possibility is of getting burns while working near the *bhattas*. In some cases, these can be severe. These workshops are subject to the Act, where more than 50 persons are employed, but no cases of accidents are ever reported. The workers, on their part, do not appear to be aware of their rights. As regards occupational diseases, it was alleged by the Secretary of the Chapra Mazdoor Sabha at Balrampur that the *karigars* turned blind in late life, while their hands become as hard as stone. The *rankariyas* who wash the stick lac and seedlac with their feet in tubs get sores on their feet owing to pricking of thorns and bits of stick lac, and these lead to lameness. There is a disease called *gorkhul* which prevents the worker from placing his feet straight on the ground. Such diseases are not, however, covered by the Act, and no question of compensation even arises.

Maternity Benefit Acts.—No maternity benefit is paid either in regulated or in unregulated concerns, and the main loophole available is that the factories are seasonal in the sense that continuous employment is not possible and workers including women are employed according to needs on a daily basis.

Employment of children (Amendment) Act, 1939.—This Act is observed more in its breach than otherwise. In the bigger registered factories, the position is not bad, and in their case the Factories Act, Section 50, also applies. The Amendment Act was specially passed to cover unregulated shellac factories along with some other classes of factories. But it is a sad commentary again on the adequacy of Provincial inspectorates and on the enforcement of the law that children of tender age continue to be employed in shellac factories. The children are no doubt employed in light work, but this becomes irksome if they have to work for long hours. Mostly children work as *pherwayas*, helping their parents, and in the nature of the case, there is no direct employment in their case by the employers. When inspectors or similar other persons visit the factory, the children are just asked by owners to run away by the back door. Obviously the parents of the children are accomplices in the affair and hence there is little or no outcry against this evil. The case is almost similar to that of the mica-splitting factories, where also the same Act applies but is openly disregarded.

The U. P. Unregulated Factories Act, 1937.—A summary of this Act is given in Appendix II at the end of the Report. As will be seen from remarks

in Chapter V later, the Act has not been successful. The provisions of the Act are seldom observed, and inspections are unfortunately too few. The Chief Inspector of Factories, C.P. gave us the following brief note on this subject :—

" The total number of factories subject to the provisions of the Unregulated Factories Act was 130 which includes 17 shellac factories, in which the average daily number of workers employed was 4,346. The Act continued to be in force in the districts of Nagpur, Jubbulpore, Bilaspur, Bhandra, Nimar, and Akola. A policy of graduainess has been adopted in the matter of administration of these Acts and no prosecutions were instituted thereunder during the year. It is, however, noticed that the workers themselves are more reluctant to behave, within the Act as regards working of hours, overcrowding, sanitation, bringing their children, etc. The department has tried to enforce the Act but there is initital handicap due to shortage of departmental staff to devote intensively to this work. If the Act is enforced strictly the inspecting staff of this Inspectorate will have to be increased five times to put an end to the abuses of the Act.".

Processes of Manufacture and Types of Workers.—There are two main processes in the old-fashioned shellac factories, viz., conversion of stick lac into seedlac, and conversion of seedlac into shellac. The two processes are so well described in the *Report on the Marketing of Lac in India* (pp. 30-33) that we can do no better than cite the relevant passages in a portmanteau quotation :—

" Stick lac is passed through sieves to separate smaller grains and dust from the bigger pieces. The latter are then either ground in a hand *chakki* (stone-mill) or crushed in roler corn crushers, specially in the case of *kusmi* stick lac which is often received without being scraped. The crushers are usually operated by manual power but in some of the large factories they are driven by mechanical power. The space between the rollers is so adjusted that lac is broken from the sticks. Pieces of sticks which pass with the lac are separated by subsequent shifting and winnowing. The crushed and shifted stick lac, which is in the form of granular fragments, is known as *kachcha chowri*. *Kachcha chowri* is then washed in cup shaped stone or cement pots commonly known as *nands*. They are about 2½ feet in height and diameter. The inside surface of a *nand* is specially made rough to facilitate rubbing of crushed lac against its sides. About 40 lb. of crushed lac is placed in each *nand* and water added. A labourer known as *ghasandar* enters the *nand* and leaning on a support rubs the lac against the rough sides of the *nand* with his feet for nearly half an hour. The rubbing operation crushes the lac cells, releases the lac dye and separates the dirt from the resin. The water is then allowed to stand for a time and the surface scum consisting of pieces of wood and dead bodies of insects is removed. After this, the coloured water is scooped out and filtered through a cloth to recover the suspended lac. The coloured water is allowed to run off and fresh water is again added. The process is repeated three or four times till the lac dye, dirt and other impurities are removed. In the case of inferior and old stick lac, diluted solution of commercial washing soda is used to facilitate the removal of the dye. After the final washing, the washed material known as *chowri, i.e.*, the seedlac of commerce, is removed from the *nands* and spread out on cement floors for drying. It is stirred by means of rakes to avoid the foundation of compact blocks. After it is dry, it is winnowed to separate the lac grains from fine, particles of dust and other impurities. In some of the large factories, large power-driven steel drums fitted with agitating arrangements are used instead of *nands* for washing purposes.

" Shellac may be prepared from seedlac either by melting or by extraction with suitable solvents. The former method is most commonly used in India.

Different qualities of seedlac are mixed together according to the trade requirements or the views of the manufacturer and the mixture is filled in cloth bags about 30 feet long and 2-5 inches in diameter. For the manufacture of high quality shellac double bags are employed. The melting is done over charcoal fire in a Dutch oven-shaped fireplace (locally known as *bhatta*) about 2½ to 4 feet long, 1½ feet high and 12 to 16 inches deep. At one end of this *bhatta* sits the melter known as *karigar* holding one end of the long bag just near enough the glowing fire to melt the lac resin. The other end of the bag is fixed on to a wooden wheel which is rotated by a boy known as *pherwaya*. The object of rotating the bag is to apply uniform heat to it, and the *karigar* asks the *pherwaya* to rotate the bag slowly or quickly as need be. The *karigar* gives a twist opposite to that given by the *pherwaya*. The lac melts with the heat and begins to ooze out. This is worked up with a large iron spatula to ensure thorough mixing of lac resin and wax. Overheating is prevented by an occasional sprinkling of cold water on the molten lac. When sufficient quantity of such molten lac is collected outside the bag, it is rapidly transferred to the glazed porcelain surface of a horizontal hot water cylinder about 2½ feet long and 10 inches in diameter. An assistant known as *belwaya* spreads the molten mass evenly over the cylinder by means of a palm leaf. After spreading it, he takes the sheet and warms it before the fire to keep it plastic and then stretches it by thick edges and the portions showing hard knots, dirt specks and air bubbles are removed and the remaining sheet is broken up into small pieces (flakes) which form the shellac of commerce. For the manufacture of button lac, the stretching process is dispensed with and the molten lac is dropped on to the cool flat surface of a stone or commonly on a metallic sheet. The lac spreads into circular button shaped cakes of 3 ins. to 4 ins. diameter and 1/8 ins. to 1/4 ins. thickness. These are usually stamped with the manufacturer's or shipper's mark before they become hard. The method of preparing shellac described above is essentially the same throughout the country except for few minor differences in some localities."

Apart from the workers mentioned in the above quotation there are some other workers engaged on minor intermediate processes. The men engaged in crushing the lac are called *bhangandars* (in Bihar) ; elsewhere there is no special name. *Kamins* or women workers or engaged in sieving, winnowing and cleaning the seedlac, as also in the capacity of *pherwayas*, *Khalifas* are the tailors who make the cloth bags in which seedlac is melted before the ovens. Finally, there is the *parkhiya* or *chapriha* whose work is to test the shellac sheets made by the melters. Reference may be made to Appendix IV, giving a glossary of Indian terms. It will appear that different names are current sometimes for the same type of workers in different places.

The foregoing paragraphs give an idea as to the indigenous processes. As stated earlier, a few factories in Calcutta and Jhalda have adopted mechanical processes. The chief advantages of the mechanical over the manual processes are that shellac can be turned out more rapidly and in much larger quantities and it is cleaner and more uniform. Moreover, all the available lac is extracted from the stick lac. On the other hand, mechanical shellac is not suitable for all purposes ; in some uses the hand-made shellac is preferred by the customers abroad ; moreover, the machinery employed is expensive and hence, if the stick lac supply is short and the machines cannot work regularly, the capital charges become excessive. Crushing, washing, and extraction can all be done by machinery. The registered factories at Jhalda do only the crushing and washing by machinery and combine the *bhatta* method of melting with this. Alcohol solvents are generally used in the mechanical process of extraction of shellac, but little detailed information is available regarding the actual

processes employed, which are in the nature of trade secrets. The apparatus consists of a mixer, an evaporator and a condenser. Washed grain lac is placed in the mixer, sufficient alcohol added and the whole agitated and heated until dissolved. The hot solution is passed through a filter cloth into the evaporator, where the alcohol is separated. The clean molten shellac is then drawn off and made into garnet lac or shellac as required.[1]

Employment and future of the industry.—The total employment in the seedlac and shellac industry can be estimated at between 25,000 and 30,000, as may be seen from Appendix V. But it must be remembered that this employment is subject to great fluctuations according to market demand. Shellac is a key material of industry and external trade is dependent upon cyclical vagaries including temporary spurts due to war, which affect both prices and employment. The position of the shellac industry after the war has been a subject of speculation and enquiry at the Indian Lac Research Institute, which more than any other body has done a great deal of work in furthering its interests, although credit is also due to the Indian Lac Cess Committee, the Board of Scientific and Industrial Research and the Indian Institute Science, Bangalore, for encouraging and carrying out researches which have resulted in the establishment of several new industries in the country using shellac. The internal consumption of shellac has, it is claimed by some authorities, risen to as much as 33 per cent. of the total consumption. The question of an economic price level for shellac is probably one of the most important to keep the industry going. The following table shows the great fluctuations in prices which have taken place in recent years :—

TABLE 5.

Exports of Lac (Crude and Refined) from India.

Year.	Weight.	Value (Rupees in thousands).	Calculated price per cwt.
	Cwt.	Rs.	Rs. A. P.
Pre-war average—			
1909-10 to 1913-14	434,351	22,015	54 1 9
War average—			
1914-15 to 1918-19	345,376	25,706	74 6 9
Post-war years—			
1921-22	434,934	79,158	198 11 3
1922-23	476,011	102,562	242 0 7
1923-24	485,671	90,627	203 3 0
1924-25	427,017	75,506	191 3 4
1925-26	539,924	69,010	138 5 3
1926-27	592,030	54,724	101 12 3
1927-28	543,584	69,886	140 9 9
1928-29	743,403	86,426	128 6 10
1929-30	668,014	69,672	113 13 10
1930-31	547,151	31,374	62 6 5
1931-32	463,724	18,394	43 11 6
1932-33	418,300	12,424	31 13 6
1933-34	730,545	24,624	33 11 2
1934-35	585,194	33,110	56 9 3
1935-36	487,801	15,828	32 7 2
1936-37	836,405	23,494	28 1 5
1937-38	665,525	16,198	24 5 5
1938-39	642,054	12,639	19 10 10
1939-40	760,399	19,119	25 2 3
1940-41	597,864	22,543	37 1 1
1941-42	766,707	49,208	64 2 10

[1] Cf. Lindsay and Harlow, *Report on Lac and Shellac*, (Indian Forest Records), 1921, pp. 64-65.

The fall in prices is mainly due to the competition of synthetic resins. So far, the cheaper synthetic resins have been priced at about 9 d. to 1 s. per pound, or Rs. 30 to 40 per maund. Before the war the price of shellac reached a level as low as Rs. 14 per maund, but increased production of shellac at a price between Rs. 30 and Rs. 40 per maund should not be difficult, and with the growing use of shellac both independently and in combination with other resins in the plastics and other industries, the future of Indian shellac appears to be not at all dark.

Chapter III.—Bihar.

Bihar is the home of the shellac industry in India, for it easily leads in the production of lac as well as that of shellac. Whereas the Province claims 60 per cent. of the production of the former the number of *bhattas* in it is 70 per cent. of the total number of *bhattas* throughout India. Bihar predominance here can be compared with its predominance in the case of the mica industry, and it is a fact of great industrial interest that the two industries are very much affiliated in their technological ramifications. Another point of comparison is that both mica-splitting and shellac-making are in the main cottage industries, using little or no mechanical power, though shellac yields itself to mechanical process while mica does not, except in regard to its by-products. In Bihar itself the number of factories using power does not exceed a dozen and even then power-driven machinery is used only for crushing and sieving of seedlac. As in the parallel case of mica, here also production is often carried on in the home of the worker. In Bihar, the lac cultivation area starts at the extreme southern end of the Gaya district and extends to all the districts of Chhota Nagpur (namely, Palamau, Hazaribagh, Ranchi, Manbhum and Singhbhum) and the Santhal Parganas. The important centre of the shellac industry is the Jhalda sub-division of the Manbhum district, but the industry flourishes in various other places in the districts of Ranchi, Palamau, the Santhal Parghanas, Gaya and Singhbhum. According to the *Report on the Marketing of Lac* (p. 161), the total umber of registered and unregistered factories in Bihar was 274, and the total number of *bhattas* in them was estimated to be 3,448. The number of registered factories in Bihar was 17 in 1942 and all these were seasonal in character ; the total number of workers employed in these registered factories was 1,347. The figures have been almost stationary for several years. For investigation in the Bihar Province, two main and typical centres were selected, one *viz.*, Jhalda, noted for its modernised shellac factories as well as *bhattas,* and Balrampur, the biggest centre of the cottage industry section. At the former centre, there are some factories owned by Armenian Jews, while at the latter the ownership is largely in the hands of Marwaris.

Employment.—The average daily number of workers employed by the 17 unregulated workshops at Balrampur and 5 unregulated workshops at Jhalda and the four factories governed by the Factories Act at Jhalda, was found to be 1,062. in the month of November 1944. The total average number of daily workers at these two centres, *viz.*, Balrampur and Jhalda, when work is in full swing, can go up to 5,000 or more ; for according to a list supplied by the Chief Inspector of Factories, Bihar, it was 5,057 during the peak season in 1943. The average daily number of workers employed in all shellac factories and workshops, whether governed by the Factories Act or not, comes to 12,794. Out of these, 16 registered factories claim 1,457 workers. In all probability, these figures exclude children employed, for their names are not entered in the so-called muster-rolls. In the factories investigated at Jhalda and Balrampur,

the proportion of time to piece workers and of male to female workers was as below :—

TABLE 6.

Distribution according to Sex and Mode of Payment.

Average daily Number.		Time workers.	Piece workers.	Males.	Females.
1,962	Number	797	265	786	276
	Percentage	75	25	74	26

Pre-war employment figures were not available in all concerns but only in four factories and two workshops. Some employers said that they did not maintain employment registers before, and some said the books were sent to their native places in Marwar and Mirzapur. In August 1939, the average number of workers employed in the 4 factories and 2 workshops was 732, out of whom the numbers of time and piece workers and of male and female workers were as given in the table below :—

TABLE 7.

Employment in 1939 *and* 1944.

Class of workes.	1939		1944		Absolute increase	Percentage increase
	Number	%	Number	%		
Piece-rate	449	76	583	80	134	30
Time-rate	138	24	149	20	11	8
Total ..	587	100	723	100	145	25
Males	473	74	544	74	107	24
Females	150	26	188	26	38	25
Total ..	587	100	732	100	145	25

The figures show an apparent general increase, but this increase took place mainly in factories registered under the Factories Act. In unregulated concerns, there has been a falling tendency of late. This has been partly due to the fact that in this region there was failure of the *Kusmi* crop recently and the raw material, stick lac, is not available readily. On the other hand, the figures show that factories employing machinery, being financially stronger, have been working more vigorously in response to the war demand, relying on stocks of raw material already laid up.

There is no contract system here. All workers are employed and paid directly by the employer. In a few cases, there are *Jamadars* and *Munims* employed to supervise the work only. In unregulated *bhattas*, employers themselves supervise work and pay wages.

No information was available regarding the length of service of operatives. Broadly speaking, however, at the unregulated *bhattas* at Balrampur, there is hardly a worker who has been working for more than one year at a stretch. Workers change their masters every now and then even in the same season. At Jhalda, in the registered factories, however, the position is better and a majority of workers have been in service for more than 10 years. Thus security of employment is available in the factories only but not in *bhattas*, for in the latter employer are never sure when there will be work. There are no standing orders or service rules governing the relations between employers and workers. There is no classification as permanent and temporary workers

for this reason. At the unregulated *bhattas*, all workers are temporary and go home when the season is over or wander about in search of employment.

Employers recruit their labour direct at factory gates. Whenever there is any shortage, workers themselves bring their friends and relatives and put them to work. There is no difficulty felt in recruiting labour, because this is available in abundance in the locality.

No detailed figures for labour turnover or absenteeism were available, as registers did not record this properly and in some cases, registers were highly defective. In view of the seasonal nature of the industry, moreover, labour turnover and absenteeism are both exaggerated. It was stated that 75 to 80 per cent. of the workers owned plots (generally small) of land. They go back to fields in July and August. Others go as agricultural labour. Absenteeism is very great during these months, as also in November and December which is the harvesting period. In these two seasons, absenteeism is very high, from 50 per cent. to 75 per cent. Big factories at Jhalda manage to run because their labour is less migratory and more stabilised. Apart from these two seasons, as elsewhere absenteeism is high after the pay day, when the workers get drunk for a day or so. On festival days, likewise, absenteeism is high. In the big factories at Jhalda, there is a weekly holiday ; so absenteeism is less. This holiday has had a good effect on the worker's efficiency and morale.

For the rest, the industry continues to maintain its rural traditions. There is no provision for the training of apprentices. Boys working as *pherwayas*, somehow pick up the work of *belwayas* and *karigars* in course of time. There is no system of incremental or graded promotions, no holidays with pay, no forced leave, and no fines.

Wages and Earnings.—Here there are four main categories of workers to be dealt with from the viewpoint of payment of wages : *viz.*, (1) Melters, (2) Washers and Crushers, (3) Coolies, (4) *Kamins* and (5) Tailors. " Melters " include the *karigar*, the *belwaya* and the *pherwaya*. " Washers " include *manjandars*, *i.e.*, those who do washing exclusively, and " Crushers " include *bhangandars*, *i.e.*, those who do crushing exclusively. " *Kamins* " are the workwomen engaged in various processes. Tailors or *khalifas* make the cloth bags.

(1) *Melters.*—At both the centres of investigation, Jhalda and Balrampur, the system of joint payment of wages to melters prevails. The employers simply pay to the *karigars* and often do not even know who the *belwayas* and *pherwayas* are, and they simply take down the names of *karigars* who represent the particular *bhattas*. At Balrampur, the joint wages of the three *bhatta* workers or melters ruling in November 1944, were Rs. 3-2-0 per maund, which has been a standard rate recently. In seventeen workshops, which were visited, this same rate was found prevailing. Out of Rs. 3-2-0, the *karigar* got Rs. 1-8-0, the *belwaya* Rs. 1-2-0, and the *pherwaya*, as. 8 only. Thus, the share of the *karigar* was 48 per cent., that of the *belwaya* 36 per cent., and that of the *pherwaya* 16 per cent. Joint wages of the melters were Rs. 1-4-0 per maund in 1939. The figures given below give an idea of the wage increases during recent years.

TABLE 8.

Wages at Balrampur (1939-1944).

Occupation.	Wages in 1939	Wages in 1944	Increase %
	Rs. A. P.	Rs. A. P.	
.. ..	0 9 6	1 8 0	153%
.. ..	0 7 0	1 2 0	157%
.. ..	0 3 6	0 8 0	129%
Total—Joint.	1 4 0	3 2 0	150%

This shows a substantial increase in the melters' wages, though it is not equal in the case of the three types of melters.

There is illegal deduction, called *dasturi* and *goshala,* prevalent at Balrampur. Out of the Rs. 3-2-0, 0-1-6 is deducted ; in other words the net rate is Rs. 3-0-6. The deduction is shared between the *karigar,* the *belwaya* and the *pherwaya* in the ratio of 3 : 2 : 1.

At Jhalda, the wages of melters are lower. There the joint rate varies from Rs. 2-6-0 to Rs. 2-8-0 for factories as well as workshops. The table below shows the distribution of these amounts as between the three types of melters :—

TABLE 9.

Wages at Jhalda (1944).

Occupation.	Share.	Percentage.	Share.	Percentage.
	Rs. A. P.		Rs. A. P.	
Karigar	1 4 0	50	1 2 0	47
Belwaya	0 14 0	35	0 14 0	37
Pherwaya	0 6 0	15	0 6 0	16
Total ..	2 8 0	100	2 7 0	100

The wages prevalent earlier in 1939 at Jhalda were peculiarly disparate. In the unregulated workshops, they were Rs. 1-0-6 per maund ; in some factories, they were Rs. 1-2-0 ; while in others, Rs. 1-6-0 and Rs. 1-8-0. Thus, in the same centre, there was considerable variation of wage rates. In 1939, moreover, wages were generally lower at Balrampur than at Jhalda. On the other hand, the increase in recent years has been so great in Jhalda as in Balrampur. On an average, this was 95 per cent. in Jhalda and 150 per cent. at Balrampur. The main reasons for this disparate position are as follows : (i) In the first place, workers at Jhalda are not organised, while at Balrampur, the Mazdoor Sabha has been able to make its voice effective. (ii) Secondly, the workers at Jhalda are mostly local and are not influenced by ideas at different places, and, moreover, they do not possess sufficient land to refused factory employment. At Balrampur, on the other hand, there has been some influx of labour from Mirzapur, Gondia and Burdwan and the workers are influenced by outside sentiments. Also they possess land mostly and are independent to some extent.

As stated already, the wage rates are piece rates per maund. The piece rates, however, have automatically become the daily time rates. The workers get a maund of seedlac and have got to manufacture shellac from that ; so these earnings have become just like their daily wages, as the workers do not go home unless they have finished that one maund. Going through the registers, it was found that melters had invariably finished their one maund every day. At Balrampur, the melters melt one maund of seedlac, but at Jhalda they have to melt 1 md. 5 srs. In 1939, at Jhalda they had to melt 1 md., but now-a-days they have to melt 45 seers. The basis of payment is obviously the weighment of seedlac. At Jhalda, especially in factories, the employers ask the workers themselves to do the weighment in their presence ; but at Balrampur in the unregulated workshops, employers themselves do the weighment, often arbitrarily, though in some places workers are allowed to do it themselves. Time taken in melting the seedlac varies from 6 to 9 hours according to quality. No allowance for quality is, however, made.

2. *Washers and Crushers.*—These comprise the *manjandars* and the *bhanjandars. Manjandars, i.e.,* those who do the work of washing crushed lac exclusively, are paid on a piece-rate basis, which varies from As. 2 to As. 3 per

jhuri (basket). If the quality of stick lac is very fine and high-quality shellac has got to be prepared, the *manjandars* are paid at the rate of As. 3, otherwise less. In 1939, the rates varied from 1 anna to 1½ annas per *jhuri*, which shows that there has been an increase of 100 per cent. in the wage rates.

Bhangandars (crushers) also are paid by the piece in a few factories and in others by the time. The rate for crushing varies according to the quality of stick lac, as will be seen from the table below :—

TABLE 10.

Wage Rates for Crushing.

Quality of stick lac.	Rate			Quantity.
	Rs.	A.	P.	
Kusmi	0	5	0	1 md. 30 srs.
Baisakhi	0	4	0	Do.
Ghonghi	0	2	6	Do.

(*Note.*—Ghonghi is the blocky lac which has to be crushed for a second time.)

Bhangandars generally crush 3 mds. of stick lac per day, and in the case of *ghonghi* even up to 5 mds. Thus their earnings come to about 8 as. to 10 as. Those who work on time rate get 10 as. per day. Thus, earnings are almost equal in the piece and time systems. At some places *bhangandars* do both crushing and washing in pairs. Thus, if there are four men, two of them do the crushing and the other two do the washing. Here also earnings come to between 8 as. and 10 as. There is no fixed system, however. It was found that in the same week, the same worker would be paid at both rates, piece as well as time, according to the nature of work or contract.

(3) *Coolies.*—These are known as *munis*, and have no specific duties to perform but are put on all kinds of odd jobs. They crush stick lac with the hand driven machine, bring water from a distant tank or well for washing, and often do the washing also. Their wages vary from 10 as. to 12 as. per day and they are paid on a time basis. Formerly, in 1939, the time rate for coolies was only 3 as. a day ; thus the wages show a very big increase in their case. In the case of *manjandars* and *bhangandars*, however, the prewar rate used to come to about 4 as. per day, but now they get only 8 or 10 as.

The above classification obtains mainly at Balrampur. At Jhalda, there are no sub-divisions like this. *Manjandars, bhangandars* and *munis* are merely called " washers " at the Armenian factories, and *ghansandars* at the Indian-owned factories and workshops. They are all paid on a time basis. Here also the wages vary from 8 as. to 10 as. In 1939, the wages of washers amounted to 3½ as. or 4½ as. Now the prevalent rate is 8 as. or 9 as. The increase, therefore, is of the order of 100 per cent. In the case of the unregulated workshops, however, the present rate is 10 as. a day, which shows an increase of 150 per cent. The lower rate in registered factories is compensated by the fact that the workers in such factories are permanent and their rates are standardised

(4) *Kamins.*—These are the female workers, whose work mainly consists of sieving the seedlac and taking out impurities from it, although they are often employed as *pherwayas* in the place of their sons or husbands. Their wages are lower. At some workshops at Jhalda, they are paid on a piece-rate basis, while at others they are paid on a time-rate basis. In both cases, however, the wages amount to about 5 as. a day. The piece rate is 1 anna 3 pies per *jhuri* (basket) of seedlac, and in one day a *kamin* can manage to do only 4 *jhuris*. Before the war, the wages used to amount to about 3 as. everywhere in

Jhalda, but in 1939, the rate was standardised so as to enable the *kamin* to earn 5 as. At Balrampur, the wages are bit higher, ranging from 5 as. to 6 as per day, though in 1939 they were about 2½ as. per day. There has been, therefore, a greater increase in wages at Balrampur than at Jhalda, as in the case of the male workers.

(5) *Khalifas* (*tailors*).—These do not work for one factory or workshop but for many on a piece-rate basis. For making each bag enough to contain one maund of seedlac, they are paid at 2½ as. They are generally able to make 4 or 5 such bags in a day, so that their earnings amount to 10 or 12½ as. In 1939, the rate was only 1 anna per bag, thus there has been an increase of 150 per cent. since the war began.

From the foregoing statements of wages, it would appear that the wages are generally based upon the efficiency and category of the worker, the more skilful work (like that of the *karigar*) being better paid. No allowances or bonuses are paid anywhere ; nor are there any concessions. At Jhalda, workers neither work overtime nor are asked to do so by employers. At Balrampur women workers sometimes work overtime and are paid at the rate of 1 anna per hour for such overtime.

The wage-period is a week in some cases, but mostly the workers are paid daily. At Jhalda the employers in factories pay *bhatta* workers daily and others weekly. The week commences on a Wednesday and ends on the next Tuesday, when wages are paid. Tuesday is also the market day both at Jhalda and Balrampur. Unregulated workshops at Jhalda pay wages weekly. At Balrampur the week is from Tuesday to Monday and wages are paid on Tuesday after the week is over. On Tuesday afternoons, workshops are generally closed to facilitate the workers' marketing. Registered factories start work on Wednesdays and work up to the following Monday, and Tuesday is a holiday ; in their case also wages are paid on Tuesday or any subsequent day.

Working Conditions.—The shellac industry in Bihar is still mainly a cottage industry and there is no system about the working conditions in factories and *bhattas*. There are no regular shifts or hours of work and no particular groups of workers working at stated hours. As the work is mainly piece work, workers come and go according to convenience and degree of pressure of work. There is no overtime, because the hours themselves are not exactly fixed and the spread-over, if any, extends over the whole day from daybreak to dusk. *Bhatta* workers in registered factories generally come between 6 a.m. and 7 a.m. and leave for recess after having melted a maund of seedlac in about 4 hours. After having their mid-day meals and rest, they again start work within an hour or so. If seedlac is fine, they might finish the work by 2 p.m. or 2-30 p.m. ; if it is bad, it may take more hours. In any case, the work will be over by 4 p.m. At Balrampur, in unregulated workshops, *bhatta* work is started at about 8 a.m. and finished by 5 or 6 p.m. with a break for recess. Workers other than those engaged on *bhatta* work, work generally between 9-30 and 6-30 p.m., one hour at noon being spared for food and rest. Sometimes, in winter, however, their work commences at 11 a.m. and finishes at 6-30 or 7 p.m. At Balrampur a few *kamins* come for work at 10 a.m. and work up to 7 p.m. Roughly speaking, the total spreadover for all workers is 12 hours, 7 a.m. to 7 p.m. Factories work for 6 days a week, Tuesdays being holidays. Unregulated concerns do not observe any holiday. They work on all seven days of the week, although the attendance is very poor on Tuesdays and Wednesdays.

There is no provision for urinals and latrines in unregulated workshops. Nor was there any such provision in the registered factories till recently, but at the instance of the Chief Inspector of Factories, the Jhalda factories have started constructing them. The employers' argument is that even if good

arrangements are made, workers prefer to go outside into the fields. The workers' preference for the fields, however must be largely due to the fact that the fields are cleaner than the latrines. Water supply is adequate in most places. There are wells everywhere for seedlac washing, from which workers get their water ; in some factories there are water taps as well. No special arrangements are made to supply cool water during summer. The wells appeared to be maintained rather unhygienically an dthe surroundings were filthy in most cases. There are no rest shelters for the workers for meals and rest ; the employers stated that the whole factory was a rest house for them !

The number of *bhattas* in each melting shed depends upon the length of the shed. Every ten feet, there is one *bhatta,* and the bhattas are arranged in two or four rows. Not all the *bhattas* in a shed run at the same time. Women do not work here, but children do as *pherwayas.* In the unregulated factories, sanitation and ventilation are extremely poor, there being only a few holes in the wall for light and air. During winter, the position is not so bad, but during summer, workers are roasted in high temperatures and suffocated for lack of ventilation. In the Armenian factories at Jhalda, ventilation was found to be better, there being a window 4 ft. × 2 ft. at every ten feet, and the height of the ceiling as high as 30 feet. In the unregulated workshops, the ceiling is rarely more than 10 feet high.

In the registered factories, water used for washing stick lac is constantly flowing out, the washing being done by machine. But in the workshops, men have to remain standing for hours in water during the washing process, and the water is not changed for a week or so. At some places, it is not changed for a fortnight, till it begins to stink horribly. The bigger factories have made good arrangements for disposal of the effluent, but in the smaller workshops, the effluent passes out through very dirty open drains and accumulates in a ditch immediately behind the walls of the workshop.

Housing.—Workers employed in shellac factories are mostly local people. They come from their own homes in the locality. But some of the registered factories for their own convenience have built " coolie lines " so as to stabilise labour. In one case, where the total strength of workers is 225, there are 30 rooms available in the lines, but workers prefer to live outside the factory precincts and only 5 rooms are occupied, although no rent is charged. The rooms are constructed in two lines, back to back with brick walls and tiled roofs. The floors are *kutcha.* There are no bath rooms ; water from wells is available nearby ; and ventilation is tolerable. The quarters are generally situated within a furlong or two of the factories, while other conveniences such as market, post-office, etc., are also nearby. There are no facilities for workers to build their own houses. A few workers, belonging to the unregulated workshops, were found living in hired rooms in private houses, which were very insanitary and congested. In one room, measuring 8 ft. × 6 ft. a worker, his wife, two grown-up daughters and three children were found living. The rent paid was Re. 1 per month. In such cases, it was common for the inmates to sleep in the room by turns or in shifts. The floors were damp and the inmates slept on those using dry leaves or straw as beds.

Migration.—The workers are mostly drawn locally, and only a negligible proportion might be migratory. Amongst the outsiders, there are mostly *karigars* from Mirzapur and *rankariyas* from Burdwan, and some of these have settled permanently at Balrampur and Jhalda. On the other hand, there is considerable seasonal migration of labour into agriculture and from one *bhatta* to another according to availability of work. There is very slight migration between different centres. Stabilisation of the labour force in the shellac industry presupposes some action to ensure a very regular supply of the main

raw materials of the industry, *viz.*, stick lac and seedlac, and fuel. There is also need of better regulation of labour conditions not only in the factories but in the workshops, where conditions were found to be horrible. It is often claimed that cottage industries are more favourable to labour welfare. This was not our impression of the shellac industry conducted on a cottage basis.

Indebtedness.—An overwhelmingly large majority of the workers were found indebted. The main causes of indebtedness were, firstly, the fact that the industry is seasonal and the incidence of unemployment is frequently high ; secondly, the extravagant habits and vices of the workers themselves ; and thirdly, the lack of spare time employment, agricultural work often corresponding in time with the peak of shellac season. At Balrampur, it was reported that *Kabulis* did considerable moneylending business. Their rate of interest is often as high as As. 8 per Re. per month, or roughly 600 per cent ! At this rate the worker is never able to get rid of the debt, because the interest exceeds capital in a short time. The interest is collected when wages are paid, and if the money is borrowed during the off season, it is recovered during the lac season. Workers also borrow casually from the employers, who do not charge interest, but such cases are rare and the amounts are trifling. Some employers were found running their own grocery shops, from which workers were asked to buy foodstuffs (often at high prices) instead of borrowing money.

Welfare Activities.—There are no welfare activities in either of the two centres investigated, Jhalda and Balrampur, whether in the factories or in the workshops. There are no canteens, or creches, or entertainments, or educational facilities, or vocational training. Such things do not appear to have been heard of here. In the midst of one of the most industrially active areas of the country, these centres of shellac industry appear to be lying somnolent for ages.

Chapter IV.—Bengal.

The history of the shellac industry in the province of Bengal dates from the establishment of " Gala Kuthi " or the factory of the Angelo Brothers Ltd., at Cossipore in the year 1863. It appears as the only factory registered in the list of factories as shellac factory from 1865 to 1917. Since the opening of trade in seedlac with Burma, Indo-China and Siam early in the 20th century, and Calcutta being the importing port, however, a number of small factories of the cottage industry type sprang up roundabout Calcutta in two distinct areas, *viz.*, Ultadanga and Cossipore. These factories were owned generally be merchants who were engaged in the import trade from Burma and export trade with the West, and these were started with a view to cut down the cost of transporting lac to and from the United Provinces and Bihar. But the bulk of the imports still continued to be sent by rail to Jhalda and Mirzapore and a mere trickle found its way to the small factories of Ultadanga and Cossipore. As most of the small units of the type mentioned above did not have the resources to tide over the difficulties caused by features trading and by violent fluctuations in the price of shellac in the Calcutta market, the local factories were not very successful. The growth of the industry in Bengal has been steady on the whole, for whereas in 1917 there were only 2 factories in existence, by 1939 there were altogether 7 factories. With the exception of one or two factories, all are perennial factories working throughout the year, though there is often variation in their output from season to season. The number of registered factories at the beginning of 1944 was 4, and the survey among these revealed that only one, *viz.*, the Angelo Bros. Ltd., was working in full swing. With the loss of Burma and the Straits, the import of stick

lac was stopped, and most of the factories depending on these sources of supply of stick lac had to be closed down in 1943. In Bankura there is some small-scale cultivation of stick lac and the growers manufacture seedlac at their homes employing little or no hired labour. These establishments are small both in regard the number employed and the quantity of seedlac produced. They have, therefore, been excluded from our survey. The Angelo Bros. Ltd., which occupies a central position in the history of growth of the shellac industry in Bengal if not India, is, however, not a true representative of the industry, which in the country as a whole is of the indigenous type and which manufactures shellac by melting the raw lac in open *bhattas*.

Employment.—The average daily number of workers employed in the four factories covered was 669 during 1939, of whom 86 per cent. were time-rate workers and 14 per cent. piece-rate workers ; and of whom 87 per cent. were males and 13 per cent. females. Women workers are employed in cleaning the seed and stick lac, men being employed in stripping, grinding, sieving, melting and stretching. In two of the factories, boys mostly of the statutory age have also been employed in melting. Contract labour is also employed in one factory for loading and unloading work. As stated earlier, the outbreak of the present war adversely affected the industry in Bengal and small factories depending on imported lac from Burma and the Straits had virtually to stop work. The daily average attendance figures consequently declined from 669 in August 1939 to 573 in January 1944. How important the question of supply of the raw material from Burma and the East was to these factories can be seen from the table below, showing the total number of days worked in the four factories year by year between 1939 and 1942.

TABLE 11.

Total Days worked in 4 Factories.

Year.	Total days.	Index.	Remarks.
1939	1,289	100	1939 figure is taken equivalent to 100.
1940	1,276	99	
1941	1,186	98	
1942	791	61	

The following table indicates the change in the daily number of workers in the registered shellac factories in Bengal from 1914 to 1942.

TABLE 12.

Employment in Registered Shellac Factories (Bengal).

Year.	Average daily number of workers.	Year.	Average daily number of workers.
1914	462	1929	952
1915	794	1930	739
1916	639	1931	564
1917	664	1932	437
1918	737	1933	452
1919	682	1934	490
1920	620	1935	611
1921	544	1936	756
1922	571	1937	892
1923	640	1938	779
1924	785	1939	1,012
1925	725	1940	878
1926	765	1941	880
1928	702		

From the above table it is clear that from the outbreak of the first war to the outbreak of the second war, the industry had been steadily expanding and the number of workers employed in the industry more than doubled though there have been variations in the intervening years.

Recruitment of labour.—Unlike the Textile industry, where the workers are mostly recruited through *sardars*, in the shellac industry they are recruited by the managers themselves from amongst those who offer themselves for work at the factory gates every day. No labour officers are employed for this or any other purpose by any of the factories.

Labour Turnover.—It is not possible to present figures of labour turnover from 1939 to 1944 as comparative figures were available from the four factories for 1939 only. The total number of workers whose names were struck off the muster rolls and replaced in the four factories investigated were 393 in 1939, i.e., 33 per month throughout the year on the average. The average number on the muster rolls of the factories in 1939 was 669 which gives a *monthly* labour turnover of 5 per cent. for 1939. These figures include those replaced due to dismissal and voluntary resignations. The records, insufficient though they were, suggested that in 1943 and 1944 the labour turnover was much higher than this, mainly due to expansion of the scope of available employment under military contractors. Nowhere in the records was any attempt made to study the causes of turnover and absenteeism. An interesting light is thrown on the uncertainty of employment in the shellac industry by an analysis of the length of service of the operatives. All the four factories have been in existence for more than ten years and the total number of operatives was 573 in January 1944.

TABLE 13.

Length of Service of Operatives.

Period.	No. of Workers.	Percent.
Between 0 and 1 year	374	65%
„ 1 and 5 years	80	14%
„ 5 and 10 years	37	6%
10 years and over	82	15%
Total ..	573	100%

The attendance registers, except in the case of the Angelo Bros., were everywhere found to have been maintained with extreme carelessness and in a slipshod manner. The employers tried to explain this away by showing the high turnover figures, shortage of clerical staff, etc. It is clear, however, that the question of wage payment and its proof is involved here.

Absenteeism.—Absenteeism, on the whole, was low, but it has increased considerably during the last few years as will be seen from the table below :—

TABLE 14.

Absenteeism in Bengal Factories.

(1939 and 1943).

No. of Factory.	Scheduled man-days to be worked.	Man-days lost due to absenteeism	Percentage of absenteeism.
1939—			
1	143,528	12,600	9
2	13,246	673	5
3	30,975	1,444	4
4	16,520	887	5
Weighted average for all factories ..			7

No. of Factory.	Scheduled man-days to be worked.	Man-days lost due to absenteeism.	Percentage of absenteeism.
1943—			
1	157,472	26,572	17
2	132	21	16
3	21,245	1,248	6
4	6,500	190	3
Weighted average for all factories ..			15

The above table shows a very great increase in absenteeism as between the pre-war year 1939 and 1944. This may be to a certain extent due to subsidiary employment for one or two days a week on higher remuneration, but it is difficult to assign definite reasons for this increase, as it has been found that even when workers offered themselves for employment they could not be provided with work for shortage of fuel or raw materials and in such cases they have been marked absent.

Wages and Earnings.—The wages in these factories are fixed according to the customary level and there seems to be some tacit understanding amongst employers. Cost accounting is not the basis of wage fixation and such wages are offered as would bring in the requisite number of labourers. Wages are paid both on piece and on time basis. Joint wages are paid to the *bhatta* workers on a piece basis. Of the total wages paid to the *bhatta* workers, the bulk goes to the *karigar*, while the *pherwaya* gets the least. In most of the factories, employers appeared to be a little unwilling to give information about the method of sharing out of the wages among the helpers and the *karigars*. The usual plea was that the *mistry* (i.e., *karigar*) was their employee. They paid him and did not bother how the money was distributed amongst the helpers. It appeared, however, that the amount of Rs. 2|14|- paid for melting and stretching one maund of seedlac was shared out as follows : *karigar*, Rs. 1|2|- ; *belwaya*, 0|15|- ; and *pherwaya*, -|13|-. This was corroborated by the workers of one factory. It was admitted, however, that these proportions were not observed everywhere, and usually the *belwaya* and *pherwaya* are paid much less. As no record of payment made by the *karigar* to his men is kept, it is difficult to check up figures. The helpers were generally found substantiating the *karigar's* statement, but it was apparent that the latter exercised much control over the helpers. This control was strengthened by the occasional advances against wages paid to helpers by the *karigar*. In some cases, the *karigars* were both employers and *mahajans* (moneylenders) of these helpers.

The following table gives an idea as to the time-rate and earnings of three important categories of workers in the industry before the war and now.

TABLE 15.

Earnings of Important Categories of labour.

Category.	Pre-war earnings.	Present earnings.	Percentage increase.
	Rs. A. P.	Rs. A. P.	
Melters	1 5 0 per maund.	2 14 0 per maund.	119%
Seed-cleaners	0 5 2 per day.	0 8 2 per day.	58%
Coolies	0 8 11 per day.	0 14 11 per day.	67%

From the above table, it would appear that the increase in the basic earnings of workers as between the pre-war and present periods has not been uniform for the three main categories of workers.

The following table shows the average monthly earnings per worker in the shellac industry from 1938 to 1942.

TABLE 16.

Average Monthly Earnings per head.

Year.	Rs.	As.	Ps.
1938	17	13	0
1939	17	6	0
1940	15	4	0
1941	17	8	0
1942	35	8	0

It is apparent that the earnings of shellac workers as a whole have almost doubled between 1941 and 1942. This is due mostly to the grant of dearness allowances and wage increases in 1942. The wage increases granted in two factories were with a view to help workers to meet the increased cost of living and in all probability will be cancelled with the return of normal times. The same two firms have granted no dearness allowance. In the other two firms, only dearness allowance has been granted from 1942. It has been raised from -|3|4 per head per month in 1942, to between Rs. 5|8|- and Rs. 12 per month per head in 1943-44.

Besides the dearness allowances, which are a purely temporary feature, annual profit, bonus, equivalent to one month's basic wage, payable in two half-yearly instalments, has been introduced as a regular feature since the outbreak of war in one of the factories. This bonus is given to those workers who have completed a minimum of 6 months' service under the Company. There are no efficiency or attendance bonuses anywhere.

(For further details regarding wages, please refer to Appendix III.)

Wage Periods.—There is no uniformity in the period of wage payment which varies from unit to unit and even within the same unit. Of the four factories surveyed, payment in two is made weekly (wage period being Monday to Saturday), and in the other two it is made monthly (wage period being the calendar month). In one of the factories, where wages are paid on a weekly basis, a class of workers is paid on a fortnightly basis ; likewise, in another where the monthly basis prevails, some workers were found paid on a weekly basis. In the case of weekly payment, wages are paid within 2 or 3 days from the date of expiry of the wage period. Where fortnightly payments are made, wages are paid within 5 days from the end of the wage period and in the case of monthly payments, wages for the preceding month are paid within 5 or 7 days of the completion of the month.

Overtime.—Overtime work is generally not compulsory and in three out of the four factories, overtime has not been worked. In the Angelo Bros. Ltd., where overtime is usually worked, it is calculated and paid according to the provisions of the Factories Act. It has been found that the company keeps a separate record of the overtime work of each worker in his individual card, where normal and overtime hours of work are recorded by means of punching machines. These cards are available to workers for checking of overtime work and wages.

Holidays.—Sundays and gazetted holidays are the usual closing days of the factories. When workers are required to work on these holidays (which is compulsory in the case of workers of the Angelo Bros. Ltd., owing to its

being a continuous-process factory) they are paid double the normal rates. It was admitted, however, by the manager of one factory that occasionally men have to work on Sundays, but for this no extra pay is given.

Fines and Deductions.—In three out of the four factories, there has been no fine or deduction from the workers' wages. But in one case fines are imposed for insubordination, laziness or relaxation, damage of materials, etc., and the amount varies from -|2|- to -|8|- per individual worker. The fine fund in this factory, which is directly controlled by the manager himself, is meant for the medical expenses and similar purposes beneficial to workers. Deduction from wages on account of subscription to a Provident Fund is made in one concern (Angelo Bros.). Details of the Provident Fund are given later.

Working Conditions, Hours of Work and Shifts.—Of the four factories, three work only one shift a day, and the remaining one, which is a continuous-process concern, works daily three shifts each of 8 hours' duration. Normally, workmen employed in the shifts are interchanged every week, but in certain cases, the change-over is made once a fortnight. The three shifts commence and end as follows :—

Shift.	Time of Commencement and Ending.
A	6 A.M. to 2P.M.
B	2 P.M. to 10 P.M.
C	10 P.M. to 6 A.M.

In case of the single shift which obtains in three factories, the Daily hours of work are 8 in 2 factories and 9 in the third. The commencing hour is 6 a.m., 7 a.m. and 8 a.m. in the case of the single-shift factories, but the closing hour is 5 p.m. in all of them. The daily rest interval, however, varies correspondingly, being 1 or 2 hours in the case of the single shift factories and 1|2 hour in the cases of the three-shift factory. Where the rest interval is 2 hours, it is divided into two intervals of 1 hour each.

Ventilation, Congestion, etc.—In the *bhatta* sheds and machine-rooms, most of which have concrete floors and tiled and corrugated roofs, ventilation is on the whole not very unsatisfactory as they are open on three sides and those that are not open are provided with a number of windows which admit light and air. But the godowns in all the factories, where stick lac is stored and where most of the coolies have to work throughout the day are ill-ventilated and ill-lighted. In one factory it was found that the floor of the godown was at a much lower level than the ground level and as a result it was very dark there even during day-time. Congestion in all the factories was found to exceed the prescribed limit under the Factories Act. In none of the factories, there was provision of shelters for use during rest intervals.

The general sanitary conditions in and about the factories are far from satisfactory. Open drains running from the washing room and passing over the adjoining land empty into the municipal drains whereby effluent is disposed of. Piles of refuse are sometimes dumped into the pits adjoining the factories. The factory premises themselves are mostly unclean. Washing pits, tubs and drains are not properly cleaned at regular intervals. The same water is used for washing over and over again for a week or more, and is allowed to stagnate for a period before it is drained off. The stench from the washing tubs and drains is horrible. From an examination of Factory Inspection books maintained at two out of the four factories, it was seen that most of the offences committed were under sections dealing with the cleanliness of the factory, lime-washing, non-maintenance of hygrometers, improper drainage arrangements, inadequacy and uncleanliness of the latrines, and inadequate

guards for the driving belts. Though 3 or 4 latrines are provided separately for male and female workers at the factories, lack of proper seating arrangement, absence of regular service for cleaning etc., are the main defects which need to be remedied.

Welfare Activities.—With the exception of the Angelo Bros. Ltd., none of the concerns has a dispensary or hospital for medical aid. The Angelo Bros. Ltd., maintains its own dispensary within the factory compound, which is daily attended for an hour by an M.B. doctor who renders medical aid to the sick workers. The medical expenses of workers are wholly borne by the company. One of the other factories maintains an M. B. doctor to whom sick workers are sent out for medical advice and help. Periodical medical examination is not held anywhere. Though cases of occupational diseases have not been reported by any of the factories, there is evidence as to contamination of the skin when damaged seed lac is washed by feet in the tubs. Sores, burns and cuts from machines are the common types of accidents in these factories. There was evidence that at least at one factory workmen's compensation was promptly paid to workers. Canteens or refreshment rooms for supply of tea, drinks, etc., are conspicuous by their absence in these factories. Moreover, there are no grain shops etc., except at the factory of the Angelo Bros. Ltd., where fixed quotas permitted under rationing of rice, *dal*, sugar, *atta* and salt are supplied to workers at subsidised rates.

Housing.—Housing accommodation is not provided by any of the employers. Workers mostly live in the adjoining private *bustees*, the monthly rent varying from 8 annas to Rs. 2 per room. These *bustees* are invariably congested. The *bustees* consist of groups of mud huts with tiled roof, bamboo wall and *kutcha* floor. These huts are extremely dirty with open drains passing between two rows of huts which neither properly drain the waste and dirty water, nor are cleaned, for months. Common latrines and taps are the usual features and fights at the water taps are a daily occurrence. Congestion in these ill-ventilated, insanitary and unclean huts in the *bustees* affects the health of the workers, who are thus compelled to absent themselves from work for ill-health and disease for a few days every month thus causing loss both to themselves and the Company in the shape of reduced earnings and lower output and profit. The benefit that employers and employees may get from the erection of model working-class quarters can hardly be over-estimated

Industrial Relations.—Workers in the shellac industry are wholly unorganised and there is no union of workers. There were two major strikes in the factory of Angelo Bros., in 1929 lasting for 5 weeks and another in 1936 lasting for 3 months. On both these occasions, the strikes were unsuccessful, as the workers, most of whom were illiterate and unorganised, could not formulate any specific grievances for striking work. Since 1937 there has not been any strike.

Provident Fund and Pensions.—The Angelo Bros., Ltd., alone has a Provident Fund. Formerly the concern had also a system of pensions for aged workers. The Provident Fund is managed by a Trust. All factory employees of the company who have completed 3 years' continuous service with the company are eligible and are required to subscribe to the Fund. The workers' contribution is 6-1/4 per cent. of his monthly earnings and the employer makes an annual contribution equal to the total annual subscription. On retirement or resignation the worker is entitled to receive the employer's share provided he has put in "approved and continuous service of not less than 15 years", except in the case of death before 15 years. As regards pensions, there was no regular scheme, but the old workers who worked in the company for 20 or 25 years were generally given a monthly pension of Rs. 20 or so at the discretion of the management.

Chapter V.—Central Provinces—Gondia.

Gondia is the most important centre in the lac trade and manufacture in the Central Provinces. It gets its lac from the Bhandara, Balaghat and Chanda districts of the Central Provinces. It has 13 factories, the estimated production of shellac being 40,000 maunds a year. The total number of persons employed in the shellac industry in Gondia when factories are fully working is estimated at 2,000. Out of 13 factories, 6 were investigated at Gondia. Their names are given below.

TABLE 17.

Factories investigated at Gondia.

Name.	No. of persons employed at the time of investigation.
1. Haridas Balramdas Lac Factory	138
2. Chedilal Mehalal Lac Factory	93
3. Ramakrishna Mundra Lac Factory	58
4. Sheolal Mahadev Lac Factory	50
5. Surajmal Sitaram Lac Factory	45
6. Niwalal Siwalal Lac Factory	45

General Description of Factories.—The factories are constructed in a square fashion with four halls usually with verandahs on either side, and a large open space between them. Either the whole of the open space or a large part of it is paved or covered with stone-slabs to serve as a drying floor. Generally, the grinding of lac into dust is carried out on one of the inside verandahs by the use of grinding machines. The washing room with a number of stone tubs is arranged either in one corner of the open space or in one of the sheds. The water necessary for washing is drawn from a well either inside or just outside the factory premises. The effluent (water used for washing) is led out by drains outside the premises, and usually stagnates into a foul-smelling pool. In a few cases water has been found to stagnate in the washing room emitting a foul smell. One of the four halls in the square structure, is used, as the furnace room or *bhattagar*. The hall is supported on brick pillars and has a tiled roof. The floor is in most cases earthen but in a few cases covered with stone slabs. Except in one case of an exceptionally well constructed factory, the furnace room is not well ventilated, but there is usually ample space and distance between one furnace and another to enable free movement and work by the *bhatta* workers. The raw material as well as the finished products are separately stored in a store room.

Employment.—The workers employed in the factories investigated are classified in the following table.

TABLE 18.

Number of Workers in each Category.

No. of.	Karigars.	Belwayas.	Pherwayas	Rakariyas.	Stitchers.	Man coolies.	Women coolies.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	20	20	20	15	2	10	50	137
2	20	20	20	8	2	..	25	95
3	9	9	9	5	2	2	22	58
4	8	8	8	8	1	4	12	49
5	7	7	7	3	1	4	15	44
6	7	7	7	4	1	..	20	46
								429

The volume of employment depends partly on the number of *bhattas* the factory has and partly on the amount of lac available. Even in the working season, there seems to be considerable fluctuations of employment mainly due to the non-avilability of seed lac. The reason put forward for this by the employers is that the seed lac is being directly purchased by Calcutta merchants for manufacture in a mechanized lac factory recently set up there, or for export to be used after semi-purification. The consequence is that an adequate quantity of seed lac has not been available of late, resulting in irregular working of factories and diminution of employment. There are two main seasons for the manufacture of shellac here : *Baisakhi* and *Katki.* The first extends over the months of May, June and July and probably also the month of August. The second extends over the months of December, January and February and also the month of March. The months of active working could thus be calculated as six, out of which the working days, due to irregular working, would amount to about 120. Of the labourers employed in the industry, all the skilled workers like the *karigars* and *belwayas,* the tailors who stitch the sacks, as well as some of the *rankariyas* come from outside the province, particularly Mirzapur in the U.P. Out of a total of 429 persons employed in the concerns investigated, 187 have come from outside the province. Most of the outsiders are people who come for the working season without their family and return to their homes during the slack season. A few stay away, particularly if they have brought their families, and do nothing in the slack season. The local workers engage themselves in agricultural occupations, or any other casual work that may be available in the slack season. There are no records of service ; there is nothing like permanency. In one or two cases, there are a few instances of people sticking on to the same employer over 7 or 8 years. But in most cases, as employment is offered only when work is available, people change from employer to employer particularly when they go home for the slack season and return to work later. The workers themselves come and offer themselves for employment ; hence there is no employment or recruitment through contractors or middlemen.

No statistics of absenteeism or turnover could be collected as the employment in the industry is highly irregular and the labour force is seasonal. Different categories of workers are employed for a different number of days in the month. There is no system of apprenticeship. As almost all payments (except for women coolies) are on the piece-rate system, there are no promotions either by time scale or according to efficiency. The rates are also uniform as between all the establishments and hence there is no movement from concern to concern due to differences in wages.

Children are not found employed in the factories as a rule. There are no cases of children pledged or even certified by doctors for working in factories. It appears it is permissible for a worker to send a substitute if he is absent, and, only in one place, a small child of 7 or 8 was found working as a substitute *pherwaya* for rotating the wheel. Apart from this, there was no employment of children. The reason why employment of children is not prevalent here was probably that in the local *bidi* factories there was a greater demand for child labour, and also that children could do the *bidi* work at home, which is less irksome than working at the *bhattas.*

Much of the work done in grinding, screening, washing and winnowing of raw lac for the preparation of seed lac could be mechanised. This would no doubt immediately lead to diminution of employment, but if as the owners complain, mechanisation leads to a lowering of costs enabling the Calcutta firm to buy raw lac at high prices, it should be possible to provide a greater employment in melting etc., by retaining a large amount of raw lac in the area.

Mechanisation would take over the most offensive parts of this work of grinding and washing out of the hands of manual labour.

Wages and Earnings.—Most of the workers, excepting men and women coolies employed for grinding, screening and winnowing lac, are paid on a piece-rate basis. The *bhatta* workers, namely *karigar, belwaya* and *pherwaya,* are paid jointly at the rate of Rs. 3|4|6 per maund of seed lac for preparation of shellac. For the preparat on of button lac, they are paid Rs. 3|8|- per maund. These joint wages are divided among the three workers as follows :—

TABLE 19.

Respective Shares of Melters.

	Shellac.		Button Lac.	
	Rs. As. Ps.		Rs. As. Ps.	
Karigar	1 8 6	47%	1 10 3	47%
Belwaya	1 4 0	38%	1 5 3	38%
Pherwaya	0 8 0	15%	0 8 6	15%
Total ..	3 4 6	100%	3 8 0	100%

It will be seen from the above table that the respective shares of the three types of workers are the same for shellac as for button lac. The only allowance made for quality in determining payment to workers is the difference between the rates of sheet and button lac. The rates of wages were uniform in all concerns investigated. The *bhattas* work generally from about 8 a.m. to 2 or 3 p.m., i.e., till the stock of lac with which they started is entirely turned into shellac. It is roughly estimated that 1-1|2 maunds of raw material is turned into finished product during this time. The washing of one maund of seed lac takes 1-1|2 to 2 hours. Melting one maund of seed lac takes about 7 hours. According to this, the daily earnings of a *karigar* would be Rs. 2|4|9, of a *belwaya* Rs. 1|14|- and of *pherwaya* As. 12, but actual earnings are often less as will be seen below. The men engaged in washing lac (*rankariyas*) are paid at the rate of As. 7 or 8 per maund or As. 3-1|2 per basket. The amount that is washed per day varies between 10 and 12 baskets. Thus the daily earnings of *rankariyas* vary between Rs. 2|3|- and Rs. 2|8|- a day, but they get work for only 3 or 4 days for week. The men and women coolies are paid at the rate of As. 8 to 10 and As. 7 to 9 per day respectively.

The actual average daily earnings of these different categories of workers for two weeks in only one concern which maintains the pay roll according to individual payments are noted below. In this concern, the employer himself distributes the wages of the three types of joint workers. The figures relate to the first and second week of December 1944.

TABLE 20.

Actual Earnings of certain Types of Workers in a Gondia Factory.

Category of worker.	Maximum.	Minimum.	Average.
	Rs. As. Ps.	Rs. As. Ps.	Rs. As. Ps.
Karigar	2 0 0	0 13 6	1 8 1
Belwaya	1 8 8	1 3 9	1 2 1
Pherwaya	0 9 6	0 5 3	0 7 6
Rankariya	2 3 11	0 10 4	1 8 10
Stitcher	1 11 7	0 12 8	1 4 6

The pre-war rates of wages are furnished in the Report of the Industrial Survey Committee, C.P. (1939), Part I, Vol. II, Section ii, and are juxtaposed below with the rates prevailing at present :—

TABLE 21.

Comparison of Pre-war and Present Rates.

Category of worker.	Present.	Pre-war.	Percentage increase.
	Rs. as. ps.	Rs. as. ps.	
Karigar	0 13 6	1 8 6	82%
Belwaya	0 10 6	1 4 0	90%
Pherwaya	0 4 0	0 8 0	100%
Total ..	1 12 0	3 4 6	88%
Rankariya	As. 2 per basket ..	As. 3½ per basket ..	75%
Men coolies	As. 4 per day ..	As. 8 to 10 per day ..	100—150%
Women coolies	As. 3 per day ..	As. 7 to 9 per day ..	133—200%

From this, it appears that there has been a considerable rise in the rates of wages during the early years of the war. But workers and their representatives complained that the rise in wages had not kept pace either with the rise in the price of shellac or with the cost of living. There are no dearness or other allowances. The *bhatta* workers who come from outside places complain that their conditions have deteriorated, as they were formerly being given free lodging, one blanket, free fuel ; kerosene and railway fare to and fro once in six months, whereas these privileges are now discontinued in most cases. There are no fines. Only one case of deduction (*dasturi*) by the employer of 1|2 anna per basket of chowry washed by the *rankariyas* for charitable purposes has been mentioned. Weighment is done correctly and malpractices formerly prevalent have now disappeared.

Periods of Payment.—All workers are paid once a week. Payment is made on each Monday and the factories are closed on each Tuesday as it is the local market day.

Working Conditions.—There are no shifts. Work is done only during the day time. The daily-rated workers work usually from 9 or 9-30 a.m. to 1 or 1-30 p.m. and again from 2 to 7 p.m. The daily number of working hours being 9, the total spreadover works out at ten hours. Usually the conditions of ventilation in most of the factories are bad. Only in one of the factories the conditions were satisfactory, this being at one time the most prosperous concern employing about 250 persons. The flooring in the furnace room is mostly earthen, though in a few factories it is either of cement or stone slabs. The floor space in most of the factories is ample, particularly in the furnace room. The furnace room is also a tiled shed, with verandahs on either side and brick pillars in the middle. The *bhattas* are arranged on either side of the shed, with a distance of about 15 to 20 feet between every two *bhattas*. The width of the *bhattagar* is in most cases about 40 feet, the length varying from 60 to 200 feet according to the number of *bhattas*. The height of the ceiling is about 15 feet in the middle, and 6 to 8 feet at the sides. Excepting in the smallest concerns, the rules made under the C.P. Unregulated Factories Act requiring 25 square feet and 500 c. ft. of breathing space per worker in

the furnace room of a shellac factory are satisfied. The conditions in the washing room in most of the factories are very unhealthy and repelling. A certain amount of wash-water accumulates there and emits foul smell. In one or two units, the conditions of sanitation were found to be very bad, particularly in Unit 6, where the entire place was foul-smelling. The grinding room in this unit was a very small place, 10 ft. by 8 ft., and there were three grinding machines and two screens in this room. In most other factories, grinding and screening are done in spacious verandahs and hence the dust nuisance is somewhat minimised. The *rankariyas* or persons who wash the seed lac have to stand in water and press the lac with their feet. The wash-water is not repeatedly used over and over again, but changed after being used once. The special diseases from which these lac workers suffer are said to be the following. The fingers of the *bhatta* workers get cramped, the eye-sight of *karigars* gets affected by constantly sitting before the furnace, and they cannot easily bear to see sunlight. They are also said to suffer largely from chest complaints. The feet of the *rankariyas* get affected and become tender. They cannot walk easily. A general deterioration in the health of these workers due to the dust nuisance and insanitary conditions prevailing in and about the factories is alleged.

Welfare Activities.—These are totally absent. Though the Unregulated Factories Act requires that latrines and urinals should be provided, only one factory has provided them. Drinking water is not separately arranged for, it has to be drawn from the wells which are not protected. The only medical facility available is that of the general Government Hospital at Gondia. No Special educational facilities are available apart from those of the public schools of the place.

Housing.—A few of the factories provide lodgings for the workers who come from outside. These are single rooms, provided in a row on one side of the factory premises. The dimensions of a room are 10 ft. by 10 ft. in the case of one good factory (No. 3) and 6 ft. × 6 ft. in the case of another. At present these rooms are each used by one person, as the number of workers has considerably gone down in all concerns. But at times when there were more workers employed, we were told, even 4 or 5 persons had to live in a single room. The rooms have only one door and no other opening, and there is a very small verandah with earthen floor attached. In the rainy season, the whole area outside becomes muddy and water-logged and sometimes water enters even into the rooms. Some of the rooms provided in one or two factories are in a dilapidated condition. In two of the small concerns, we found that the *bhatta* workers were living in the furnace room itself. All the workers cook their food on the furnace itself and they take their food in the furnace room. The local workers live either in their own houses or rented quarters. These are mostly sheds, low-lying, standing on wooden posts and having a tiled roof with mud walls or bamboo *tatties* plastered with mud. Generally they consist only of one small room and a small verandah for each family.

Trade Unions.—There is a registered trade union known as the Chapra Mazdoor Sabha. At present only the *bhatta* workers have joined ; the number of members being 21. The funds of the Union are derived from an initial subscription of Rs. 2 or Rs. 3 per *bhatta* and a contribution of -|-|3 per rupee of their earnings. The Union has an accumulated fund of Rs. 400. The Union has a small, neat office in the house of the Secretary. There is an executive committee drawn from workers in different factories. The activities of the Union at present consist of organizing meetings and lectures. There have been no strikes so far.

Inspection.—Some of these factories (employing more than 50 persons) are regulated by the Unregulated Factories Act[1], (1937) of the C.P. Government. But the Act is not being enforced successfully. Only two factories out of the six investigated have ever been visited by an Inspector of Factories. In these two concerns the remarks entered into the Inspection book mainly referred to directions regarding the main provisions of the Act, the display of notices, provision of latrines and urinals, the lime washing of these, the keeping of registers, etc. One factory which was the leading one formerly was visited thrice during 1939 and once in each year during 1940, 1941 and 1942. There have been no visits after that. Another factory was visited twice in 1941. We were told at Nagpur that due to the inadequacy of the inspectorate, it was not possible to pay attention to these small industries coming under the Unregulated Factories Act. Most of the factories have accumulated pools of effluent near them and no action has been taken in regard to drainage.

The accidents that may take place in these concerns are mainly burns, cuts by fingers being crushed in the grinding machine, etc. No accidents for which compensation has been paid have been reported in any factory.

Indebtedness.—Few of the workers are indebted to any substantial extent, owing to the fact that no one would lend much money to them. There is no system of advances by the employers. The drink habit and the habit of taking *bhang* are prevalent among the *bhatta* workers.

General.—The employers complain that the industry which became depressed during the last depression continues in the same position today. The recent decline in the industry in Gondia is attributed by them to the fixation of a control price for shellac, while the price of raw lac is not fixed. Competitive buying by Calcutta merchants has sent up the price of raw lac, which at present ranges from Rs. 25 to Rs. 30 per maund while the control price of shellac varies according to quality from Rs. 64 to Rs. 70 or Rs. 75 a maund. Two maunds of raw lac are required for making a maund of shellac. According to one employer, the labour cost in the preparation of a maund of shellac is Rs. 6 to Rs. 8, the charcoal cost Rs. 2 and the cost of raw material Rs. 50 to Rs. 60. They point out that their margin of profit is very low and say that steps should be taken to control the price of raw lac and to see that sufficient quantity is made available in Gondia.

Chapter VI.—United Provinces—Mirzapur.

In the production of shellac and seedlac, the United Provinces enjoyed a prominent position in the past and Mirzapur was the largest centre in India. Mirzapur obtained its raw material not only in the Province itself but also imported large quantities of it from the neighbouring Provinces of Bihar and C. P. Latterly the lac-producing provinces themselves took to seedlac and shellac manufacture, and owing to their nearness to the sources of crude lac as also to the principal market for the finished product, viz., Calcutta, and the availability of cheap fuel and cheaper labour, the new centres there soon eclipsed Mirzapur. Mirzapur, however, continues to enjoy a fairly prominent position today owing to its earlier traditions and the presence of a number of trained labourers in the vicinity. Mirzapur is a constant source of supply of skilled labour even at present to the new centres in the rest of India. The United Provinces' share in the total production of stick lac throughout India is about 2 per cent. only, and this is concentrated largely in the Mirzapur District ; but its share in the total production of shellac is much larger, about

[1] A brief summary of the Act has been given in Appendix II.

10 per cent. The following table gives the exports (mainly shellac) and imports (mainly lac and seedlac) from the United Provinces during the 5 years before the war :—

TABLE 22.

Exports and Imports of Lac, Seedlac and Shellac from U. P.

Year.	Imports (mds.)	Exports (mds.)
1934-35	131,072	131,552
1935-36	49,156	53,828
1936-37	130,522	84,094
1937-38	90,688	53,708
1938-39	167,148	67,632

The centre of Mirzapur was selected for detailed *ad hoc* investigation not only because of its importance but also because of the fact that conditions there are more or less typical. Out of the 17 factories (unregistered) in Mirzapur, 5 were idle ; and out of the remaining 12, we selected 6 for the survey.

Employment.—There are about 2,000 workers employed in the various processes of the shellac industry at Mirzapur. The following table gives the exact figures of employment of men, women and children in the different sections in the factories under investigation :—

TABLE 23.

Employment in Different Sections.

Factory No.	Total Workers	Melting Section			Washing Section.			Chakrigar Danaghar Ghongighar Mukamaghar.			Miscellaneous.		
		Men.	Women.	Children.	Men	Women.	Children.	Men.	Women.	Children.	Men.	Women.	Children.
1	171	75	23	1	17	..	3	..	46	..	5	..	1
2	136	54	14	7	16	..	3	..	37	..	3	..	2
3	109	51	12	..	9	..	2	..	27	..	6	..	2
4	156	57	23	4	18	..	..	..	48	..	4	..	2
5	78	30	9	3	10	..	..	..	22	..	3	1	..
6	93	35	10	3	13	..	..	..	28	..	2	1	1
Total	743	302	91	18	83	..	8	..	208	..	23	2	8

Men are mostly employed in the melting and washing sections. The work in the washing section being rather strenuous is not done by women, but they are employed exclusively in the sieving and cleaning sections (*chakrighar, danaghar* and *ghongighar*). Children are employed either in the melting section or rarely in the washing section. Of the total strength of workers in the six factories, 55 per cent. were men, 40.5 per cent. women and 4.5 per cent. children. The workers were all directly employed and there was no contract labour.

Really speaking shellac factories are neither seasonal nor perennial ; they work irregularly throughout the year according to availability of raw material. Though accurate statistics of the actual number of days worked were not available, it appears that the factories work for about 200 to 250 days in the year. The factories are closed if the supply of raw material is not received in time or if the factory owner does not want to run a factory for a few days.

The capital outlay is insignificant nor are there any overhead charges to worry about, while labour is employed mainly on piece-rate basis. So closing of factories does not lead to any serious loss to employers, but it is of course of serious consequence to the workers. During war time, owing to transport difficulties fuel and raw material have not been readily available and a large element of compulsory unemployment has been caused. Workers have been compelled, now as ever, to move from factory to factory in search for work. Ordinarily some decasualisation of labour should be possible by agreement between employers, but this has never been attempted. The entire labour force in the shellac factories is temporary and liable to dismissal at short notice. In a very few factories, a microscopic proportion of the labour force enjoys some sort of permanent status and this is monthly-rated. This mainly consists of the relatives and friends of employers who are entrusted with work in the stores or with supervision.

Labour Turnover and Absenteeism.—No records of either labour turnover or of absenteeism were available at these factories. There is nothing in the nature of perennial work in this industry here and there is wholesale movement of labour from one factory to another, according to demand for labour. This movement takes place particularly when factories suspend work, but when they are running, workers have little incentive to leave ; for wages of different classes of workers throughout Mirzapur are fixed by agreement between employers and the local trade union, and, moreover, working conditions are equally bad in all the factories and there is nothing much to choose between them. Finally, in some shellac factories there is a system of advances paid by employers to the workers in anticipation of wages. As regards absenteeism, an attempt was made to ascertain the position from the attendance registers crude as they were, but it was found that every worker was marked on every day of the working period. On enquiry it was learnt that where substitutes were appointed in the place of any workers, the latter are marked present and the former's wages are paid through the accounts of the latter. In the melting section, for example, the names of two assistants of the principal workers were not given and they were at liberty to choose their own assistants as they pleased. Naturally, the figures of absenteeism, in respect of *belwayas* and *pherwayas* were thus not available. In one factory only there was some sort of system in the maintenance of attendance registers and the figures collected there are presented in the table below.

TABLE 24.

Absenteeism in a Mirzapur Factory.

Months.	Average No. of workers on roll.	No. of working. days.	Total Possible man-days.	Total monthly absence (man-days.)	Percentage of absenteeism.
Nov. 1943	61	6	366	162	44·3
Dec. 1943	82	25	2,050	396	19·3
Jan. 1944	87	28	2,436	141	5·8
Feb. 1944	89	24	2,136	95	4·4
March 1944	82	23	1,886	440	23·3
April 1944	86	27	2,322	329	42·5
May 1944	82	24	1,968	481	24·4
June 1944	82	27	2,214	510	23·0
July 1944	86	24	2,064	275	25·8
Aug. 1944	86	26	2,236	229	10·2
Sep. 1944	83	26	2,158	195	9·0
Eleven months	..	..	21,856	3,253	14·9

It is very difficult to generalise on the basis of the scanty data available, but it appears that absenteeism is generally high during the hot season and at the time of harvesting and sowing in the fields. As the workers are largely cultivators themselves or drawn from the class of landless labourers, they go to the villages for agricultural operations. This enables them to supplement their meagre incomes as also to recoup their health after a spell of strenuous work in the factories.

Recruitment.—There is a trained labour force always available in Mirzapur and this does not get full employment throughout the year. No difficulty is, therefore, felt in recruiting the workers. Each factory employs a salaried *jamadar* who manages and supervises the labourers. As and when workers are required, he goes out and gets them. Women and unskilled labourers also gather near the factory gates and the *jamadar* makes his selection for casual daily employment. In the melting section, where the workers work in a team, if any of the assistants of the *karigar*, is absent, he himself is responsible for getting a substitute. The *jamadar* in addition to his salary gets a small fee from each worker employed at the rate of one pice per day ; this is called the *dasturi*.

Wages and Earnings.—The wage rates for different categories of workers have been fixed by agreement with the Trade Union in conciliation proceedings and are based on the piece system in all the three main sections, i.e., melting, washing and grinding. In the melting section (*bhattaghar*), the *karigar*, the *belwaya* and the *pherwaya* get a joint wage of Rs. 3|-|6 per maund of seedlac turned into shellac. The wages are paid to the *karigar*, who pays out to his assistants. The sharing is as follows : *karigar*, Rs 1|6|- ; *belwaya*, Rs. 1|2|- ; and *pherwaya*, -|8|-. The balance of 6 pies is distributed equally between the Trade Union and the *jamadar*. The workers in the washing section are paid at the rate of -|10|9 per " 4 ghans " of lac washed by them, while in the grinding section, the rate is -|5|4-1|2 per 1-1|4 sack (ghans) of stick lac given for grinding. The question of increase in wage rates has been the subject-matter of several industrial disputes and strikes at Mirzapur and there have been roughly speaking three increases since the war started. The following table shows the increases in wage rates.

TABLE 25.

Changes in Wage Rates (1939—42).

Section or Department	Quantity of work	August 1939	6th April 1940	19th July 1941	14th Nov. 1942	%Increase over 1939
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
A. Melting Section :—For melting one maund of chauri		1 8 0	1 12 0	2 9 0	3 0 0	
1. Karigar's share		0 11 0	0 13 0	1 3 0	1 6 0	100%
2. Belwaya's share		0 9 0	0 10 0	0 15 0	1 2 0	100%
3. Pherwaya's share		0 4 0	0 5 0	0 7 0	0 8 0	100%
Total		1 8 0	1 12 0	2 9 0	3 0 0	
B. Washing Section	4 *ghans*	0 6 0	0 7 0	0 9 0	0 10 9	79·2%
C. Grinding Section	1¼ sack	0 3 0	0 3 6	0 4 6	0 5 4½	79·2%

There have been no changes in the wage rates since 1942. It will be seen from the above table that whereas in the melting section wages have gone up by 100 per cent. during the period, in the other two sections, they have gone up by 79.2 per cent.

Principles of Wage Fixation.—There are no fixed principles of wage determination in the shellac factories here. In 1939 these were more or less based upon local custom and prevailing rates in other industries, allowance perhaps being made for the extra strain involved in shellac manufacture. In particular, the wage rates prevailing in the *bidi*, brass utensil and carpet factories in Mirzapur have influenced wages in the shellac factories. Small children can earn from 8 to 10 annas per day in carpet factories, while adults earn up to 12 annas ; they are not, therefore, willing to work for less, and in fact, as work is strenuous in shellac factories, they demand more. The shellac factories recently have been producing for the Supply Department and the prices for various kinds and grades of shellac are fixed officially. The wage rates have some relation to these prices. From the foregoing table it will be seen that wages are paid by reference mainly to the weight of the raw material. It was the complaint of workers that the weighment is not always correct, and that especially women workers employed in the cleaning section suffered as employers were in the habit of arbitrarily allowing excess weight up to about 4 seers per maund. It takes about 5-1|2 hours to wash one maund of seedlac, and about 10 or 11 hours to melt one maund of washed lac.

Average Earnings.—The methods of wage assessment and accounting are different in different factories. There is nothing like a common wage period. Some observe the month of the Christian calendar ; some the Hindu calendar ; while others the Muslim Hijri calendar ! There is no complete record of payments anywhere, as the Payment of Wages Act does not apply here. Some direct queries, therefore, were addressed to workers themselves and the answers were checked in the light of the piece-rates paid. (i) *Melting section* : In this section, the melters somehow finished one maund of *chauri* in a day. Thus, on the basis of an average working number of 24 days in a month, the *karigar's* wage would amount to Rs. 33 ; the *belwaya's* Rs. 27 ; and the *pherwaya's* Rs. 12. (ii) *Washing section* : In this section, the *rankariyas* could on the average wash 4 *ghans* of seedlac and can earn -|10|9 per day. In some cases, extraordinarily strong persons could do 5 or 6 *ghans* per day. On the basis of 24 days per month, the average earnings, however, seldom exceed Rs. 16 or Rs. 17. Some children also work in this section and get about 5 as. per day or about Rs. 8 per month. (iii) *Women* : Sometimes women help their husbands in the melting section as *pherwaya* and earn -|8|- per day or about Rs. 12 per month. But women are generally employed in the *chakrighar*, the *danaghar*, the *ghongighar*, and the *molammaghar* and get -|5|4-1|2 per day or about Rs. 8 per month. In the grinding section (*chakrighar*) women are generally required to break 1-1|4 sacks (weighing 1 md. 35 srs.) of hard compressed block of stick lac and grind it in the handmill. Usually 3 or 4 women work in combination and finish the work. Women in the *danaghar* (sieving section) are required to winnow 2 parwanas ($= 2 \times 27$ srs. $= 54$ seers) and are paid the same rate of -|5|4½ for the work. Mostly a woman takes a whole day to finish that much. Similarly, women employed to pick up small pieces of wood from the stick lac before it is sent out for washing also get about the same wage daily. (iv) *Tester* : When the shellac is ready, the tester or the *parkhaiya* or *chapriha* beats the sheets with thin bamboo sticks and separates the thick portions by winnowing them, getting -|1|4½ per *tahi* (a packet of sheets). He can finish 7 to 8 *tahis* in a day and thus manage to earn 9 or 10 annas per day or Rs. 13 to 15 per month.

Deductions.—Deductions from wages are not generally made, except the *dasturi* of 3 pies to the *jamadar* and the trade union fee of 3 pies. The quantity of shellac returned by the *parkhiya* as not properly stretched has

to be re-melted by the melters and stretched again. In almost all the factories, workers obtain advances (*kharcha*) for daily expenses ; these advances are adjusted at the time of wage payment.

Working Conditions.—Work inside the shellac factories is taxing and unbearable for the human constitution. Especially in the warm seasons, to work near the *bhattas* for hours together without any of the usual amenities available in some of the other industries (such as humidification and cooling) is an unenviable task. Low roofs and smoky bhattas make the factories so stuffy that workers often faint due to heat and congestion. The melting sheds in all the factories have doors, windows, skylights and other openings and in some factories there is also cross ventilation. But in most factories the doors and windows are often kept closed, especially in the cold season. The cold winter wind is supposed to be bad for shellac because it lowers the temperature of the room and the fuel cost of manufacturing rises and it is also stated the quality of shellac suffers. Ordinarily the factories have only one door for exit and entrance, and if there are other doors they are blocked with mud to prevent air entering in the cold season, although during the hot season they are opened up. The light in most sheds is natural light only, and in some cases the *bhattas* are located in dingy corners. Out of 33 sheds looked up, 22 had tiled roofs ; 8 had stone roofs ; and 3 tin roofs. Stone and tin roofs were not favoured by workers as causing more heat than tiled roofs. The floor was found to be generally *kachcha*, though in two cases, it was stone-paved. Women and children were both found working in the melting sheds. Out of 411 persons, enumerated in a hurried census, 91 were women and 18 children. This gives an average of 22 per cent. for women and 4.5 per cent. for children.

There are two particularly dirty places inside the shellac factories. Firstly, the washing shed and the dye-pit ; and secondly, the place where the *thaili* or cloth bag is squeezed out after shellac is extracted. In both these places, the smell is extremely foul. In the washing shed, water is filled once in 24 hours generally. The *rankariyas* have to stand in the *nands* (tubs) for hours at a stretch, crushing the seedlac with their feet, which develop sores consequently. The coloured water from the tubs is taken to a tank where it is allowed to stagnate for days ; this tank or dye-pit is one of the dirtiest places in the factory. No proper arrangements exist for disposal of the effluent. In three factories, it was passed on into the municipal drain ; in others it was allowed to flow into the neighbourhood.

The general sanitary conditions are very poor. The walls are seldom whitewashed ; the floors are not swept regularly ; the roofs (especially in the melting sheds) were covered with soot and dust. The whole atmosphere is filthy. There are seldom any latrines or urinals, in spite of the fact that women are employed. In one factory, there was only one latrine with a single seat for 150 workers, including women. Naturally, the workers never use it. Men preferred to go out into the fields ; female workers, on the other hand, cannot do this and were put to much inconvenience. There were hardly any arrangements for drinking water, and the workers helped themselves at the water taps meant for the tubs which were not very clean. The same taps are often used for bathing by workers. Barring one factory (which had a small enclosed space, 6 ft. × 9 ft.) there were no shelters for rest ; nor any creches for the children of working mothers. The exterior of the factories is as bad and unhealthy as the interior, the neighbouring space being often covered by refuse from the factory, while the municipal drains nearby are used for urination by workers and others and gave out stinking smell. The local

medical authorities or the municipality did not seem to give much attention to this state of affairs.

Hours of work.—There are no fixed hours of work anywhere ; nor are employers keen on punctuality, as the system of payment is piece-rate. Work in the melting section generally starts earlier than in the other sections, because it is more comfortable to work in the morning hours before the *bhattas*. The melters get one maund of seedlac in the morning and they go on working till this is finished. It takes between 6-1|2 and 8 hours to do this. The usual working hours thus are from 7 a.m. to 2 or 3 p.m. in winter and from 6 a.m. to 1 or 2 p.m. in summer. Workers generally cook their food in the factories, while the work is going on, and when this is ready, they relax for half an hour to eat it and to smoke the *hukkah*. In the washing section, the usual working hours are between 10 a.m. and 5 or 6 p.m. In the grinding section, where women are employed, the work begins at 10 or 11 a.m. and finishes by 6 or 7 p.m. There is rest interval as and when the worker needs it.

Welfare Activities.—There are no welfare amenities of any kind for the workers. The Labour Department of the U. P. Government have recently opened up a B-class Welfare Centre at Laldiggi, which possesses a library, a reading-room and a radio set and a homeopathic dispensary. There is also a Child Welfare Centre, where children are bathed and massaged, and are also medically treated when necessary and given free milk. Midwives under the supervision of a lady health visitor attend to delivery cases and give both prenatal and post-natal treatment. The Centre arranges picnic parties, musical concerts etc., as well. But the workers appeared to make little use of the facilities offered, probably because of the fact that the centre was located far away from the working-class quarters.

Housing.—There is not much housing provision at Mirzapur for the shellac workers who lived in the town *busties* and were also scattered in the neighbouring villages. The rents appeared to be lower than at Cawnpore, and single-room tenements are let out for Rs. 2 or 3 per month. The structure and sanitary conditions of these houses in Mirzapur are like those of houses in any other small town in North India and need no special description.

Trade Unions and Strikes.—There is a very strong trade union here called the Chapra Mazdoor Sabha which is affiliated to the Trade Union Congress. The membership is about 1,000, with a female membership of 175. The subscription is at the rate of 3 pies per Re. of the workers earnings, and in addition the Union gets 3 pies per *bhatta* working per day. The Union runs a small library and reading-room, and has a *Bikar Fund* (loan fund) for the benefit of sick and unemployed workers. It represents the workers at conciliation proceedings. In January 1941, the question of *dasturi* payment to the *jamadar* was settled and in October 1941 a *panchayat* board was established for settlement of disputes between the Union and employers. In March 1942, the question of fixation of wages was decided, and it was agreed that there should be two holidays (*ekadasi*) every month in addition to 13 days per annum for religious festivals. There have been several strikes, and generally the result has been favourable to workers.

PART III.

Chapter VII.—Summary and Conclusions.

India holds a virtual monopoly in the production of lac which is a resinous substance secreted by an insect on the branches of certain trees which are called its " hosts ". Stick lac, seedlac and shellac are successive stages in the

utilisation of this resin. The main lac-producing regions are Bihar, the C.P., the U. P., Bengal and Assam, and certain States. The manufacturing industry is also located in the same areas. Bihar produces 68 per cent. of the total stick lac. C. P. and Central India about 17 per cent., Assam 3 per cent., and other areas 12 per cent. As regards shellac production, Bihar again leads, while the U.P., Bengal and C.P. follow in a descending order of importance. The shellac industry is of very great importance to India, in view of the monopoly which she holds and also in view of the extensive use of the material in plastics and other industries.

Labour conditions in the shellac manufacturing industry broadly illustrate the position of labour in medium-scale, unorganised cottage industries. The conditions are not so commendable as often imagined. Barring a few of the power using factories of Calcutta, it can be roundly stated that no labour law is properly respected in this industry ; nor have the relevant Acts been enforced to a desirable extent. In particular, the Employment of Children (Amendment) Act, 1939, which applies to all shellac factories, whether regulated or unregulated, is openly infringed in most places. The main difficulty here as elsewhere appears to be that the inspection staff of Provincial Governments is wholly inadequate for enforcing labour laws. Even in the Central Provinces where a special Unregulated Factories Act has been passed to deal *inter alia* with shellac factories, enforcement appears to be poor owing to this reason.

The total employment in the seedlac and shellac industry is estimated at between 25,000 and 30,000, but this is subject to violent fluctuations. Shellac is a key material of industry, and external demand is dependent upon cyclical vagaries and temporary spurts due to war. The great problem of the industry is to stabilize prices, employment and trade.

In Bihar, the principal producing province, the average daily number of workers engaged in the factories and *bhattas* was about 12,000 to 13,000. The concerns are not perennial in the sense that they work throughout the year, nor seasonal in the sense that they work in a particular season. They simply work as and when stick lac and seedlac are available. There is no difficulty in recruiting labour which is available at the gate. There are no records or registers of employment in the smaller workshops ; even in the registered factories at Jhalda the records were found defective. Both labour turnover and absenteeism are high mainly because of the unorganised and seasonal nature of the industry. The industry generally maintains its rural traditions ; there is no training of apprentices, no system of graded promotions, no holidays with pay, no leave and no fines. Wages have risen by as much as 150 per cent. at Balrampur and by about 95 per cent. at Jhalda. The Karigar and his helpers are paid jointly, about Rs. 3 per day, and the wages are shared by them roughly in the proportion of 50 (karigar) : 35 (betwaya) : 15 (pherwaya). In washing and crushing sections also, wages have gone up considerably. Coolies and women labour is, however, still quite cheap, the wage-level ranging from 5 as. to 12 as. per day, in spite of a rise in the cost of living.

In Bengal, the industry is mainly large-scale factory industry and the factory of the Angelo Bros. Ltd., is the biggest of its kind in India. The number of factories in 1939 was 7, but at the time of investigation only 4 were working, employing about 1,000 workers. Production of shellac in these factories is by means of both mechanical and manual processes. Recruitment of labour is through *sardars*. Labour turnover and absenteeism are on the whole low, but owing to war time conditions, there has been a tendency for

both to go up. The joint wages of melters here are somewhat lower, Rs. 2-14-0 per maund of seedlac. The increase has, however, been 119 per cent. since the war, though it is much lower, about 60 per cent., in the case of seed-cleaners and coolies. Barring one factory, where the plant is a continuous-process plant, and where there are three straight shifts of 8 hours each, the ruling system is that of signal shifts of 8 or 9 hours. Sanitary conditions in the smaller factories are far from satisfactory. The Angelo Bros. Ltd. has its own dispensary and a Provident Fund but barring this, welfare activities are conspicuously absent. No housing accommodation is provided.

Gondia is the most important centre in the Central Provinces and employs nearly 2,000 persons. The total employment in shellac manufacture in the Province as a whole should not exceed 4,000. The skilled workers have been imported from other places, particularly Mirzapur in the U. P. Here as in most other Provinces, the industry is run on cottage industry lines. Owners complained that mechanisation in Calcutta led to lowering of cost-enabling the Calcutta firms to buy raw lac at high prices and sell shellac at competitive rates. The joint wage for melters here is Rs. 3-4-6 per maund (in the case of shellac) and Rs. 3-8-0 (in that of button lac). This is divided between the three parties, *karigar*, *belwaya* and *pherwaya* in the proportion of 47 : 38 : 15. The pre-war rate for shellac was Rs. 1-12-0 per maund, which shows that wages have gone up by 88 per cent. or so. The coolie's wage rate has gone up more from As. -|4|- to As. -|8|- or -|10|-, i.e., by 100 to 150 per cent. Working conditions are not very satisfactory in these factories, ventilation and sanitation being extremely poor. There are hardly any welfare activities, but housing has been provided by a few of the employers in the form of single rooms provided in a row on one side of factories. There is a registered trade union, which is quite active, though there have been no strikes so far. The C. P. Unregulated Factories Act which applies to shellac factories is not being properly enforced or respected.

The industry in the United Provinces is mainly located at Mirzapur, which has a long history behind it. Here about 2,000 workers are employed. Recruitment is made through salaried *jamadars* who also get their *dasturi* at 3 pies deducted from wages of workers. The joint wage (net) is Rs. 3 which is divided as follows : *karigar*, Rs. 1-6-0, *belwaya*, Rs. 1-2-0 ; and *pherwaya* As. -|8|-. The pre-war rate was Rs. 1|8|- (joint) which shows that there has been an increase of 100 per cent. since 1939. This increase has been brought about in three stages by the action of a trade union which is functioning quite successfully. Other wage rates have also gone up correspondingly. Extreme heat, lack of ventilation and insanitary conditions make work inside the factories very taxing and tedious. There are no fixed hours of work, no housing and no welfare amenities except that the U. P., Government have recently opened up a B-class Welfare Centre in the neighbourhood for labour in general. There is a powerful trade union functioning.

To conclude, it may be stated that labour conditions in the shellac industry are at present as unsatisfactory as they have been all along and the passing of legislation, whether general or particular, has had no effect worth mentioning on the industry. There is no doubt that some sort of factory legislation along the lines of the C. P. Unregulated Factories Act is essential, but more important than this, it is necessary to enforce it properly and this implies the establishment of full-strength inspectorates in the Provinces. The future of the industry is quite bright, but State action designed to establish shellac-using industries in India would hasten prospects of employment and welfare.

B. P. ADARKAR.

SIMLA,
The 11th May 1945.

Appendix I.

Number and location of factories and bhattas.

Province	District	Important Manufacturing Centres	Total No. of factories	Total No. of *Bhattas*
Bihar ..	Manbhum ..	Jhalda, Purulia, Chandil, Balrampur	111	1,339
,, ..	Singhbhum ..	Chaibasa, Chakradharpur	10	163
,, ..	Ranchi ..	Ranchi, Thulin, Murhu, Bundu	68	712
,, ..	Palamau ..	Daltonganj, Gharwa, Latehar, Chandwa Tori	27	479
,, ..	Santhal Parganas.	Pakur Kotalpakur	34	604
,, ..	Gaya ..	Raniganj Imamganj, Sherghati ..	24	151
Central Provinces and Berar	Bhandara ..	Gondia	9	
,, ..	Bilaspur ..	Kota	7	
		Pendra	5	
		Champa	2	
,, ..	Raipur ..	Dhamtari	1	175
		Naila	1	
,, ..	Jubbulpore ..	Jubbulpore	2	
		Katni	1	
,, ..	Nimar ..	Burhanpur	1	
,, ..	Chhindwara ..	Seoni	2	
nited Provinces	Mirzapur ..	Mirzapur	20	725
,, ..	Cawnpore	Cawnpore	1	25
Bengal ..	Murshidabad	Dhulian		
		Nimtita	6	75
,, ..	Malda ..	Malda		
,, ..	Calcutta ..	Calcutta	10	400
Punjab ..	Amritsar ..	Amritsar	8	60
		Hoshiarpur and others		
Central India ..	Rewa States ..	Umaria	1	45
Eastern States ..	Mayurbhanj State.	Rairangpur	1	40
		Total ..	352	4,993

From the *Report on Marketing of Lac in India, p. 161).*

Appendix II.

Main Provisions of the Central Provinces Unregulated Factories Act of 1937 *and of Rules thereunder.*

This Act is intended to provide for the welfare of labour in factories to which the Factories Act of 1934 does not apply and to regulate the labour of women and children in the Central Provinces. According to this, an " unregulated factory " means any place wherein fifty or more workers are employed or were employed on any day of the preceding twelve months, and wherein bidi-making, *shellac manufacture*, or leather-tanning is carried out. Mines are exempted from its provisions. The Provincial Government may also by notification declare any place or class of places carrying on a manufacturing process or handicraft and where not less than 25 persons are or were employed on any day during the twelve months previous to the notification, to be unregulated factories under this Act.

The Provincial Government may appoint Inspectors for administering the Act for certain localities, and these officers have power to enter unregulated factories or places which are believed to be capable of being declared as such, and examine the place or any registers kept there, or take the evidence of any persons he deems necessary for administering the Act, or exercise any other power necessary for this purpose. The Inspector has to inspect every factory within his area at least once a year, or further if necessary to satisfy himself that the provisions of the Act and of the rules and orders thereunder are being duly observed. He has to satisfy himself that the provisions and the rules made for securing the health and safety of operatives, the limits regarding hours of work and provisions for periodical stoppages of work and holidays are observed, that the children employed are duly certified, and that all registers are kept properly and up-to-date. At each inspection the defects observed have to be noted in an inspection book along with suggestions and orders for their removal, and the Inspector has to verify at subsequent inspections how far these have been rectified. A copy of the note on defects and orders for remedial action should be sent to the Chief Inspector of Factories and one to the District Magistrate. The Inspector is also expected to report to the Chief Inspector the existence of places which may be brought under the Act in his area, on which the Chief Inspector should send a notice to the occupier, placing the factory on the register of factories.

The Provincial Government may also appoint such qualified medical practitioners as it thinks fit to be certifying surgeons for the purposes of the Act within specified local limits. Such a certifying surgeon has to examine any child (i.e., a person under 14 years of age) who has completed his tenth year, at the request of the child or its parent or guardian or the Manager of a factory, and if he finds the child fit for employment in the whole or in any part of the work of the factory, grant a certificate of fitness in a prescribed form, stating the age of the child as nearly as could be ascertained. The surgeon has power to refuse the certificate, or revoke any already granted, but in such a case he has to state his reasons in writing. An Inspector can order that a child already certified and employed in a factory shall cease to be employed until he has been re-examined and found fit by the surgeon. A certifying surgeon is also vested with power to enter and examine factory premises for this purpose, and record a note in the inspection book dealing with the results of his visit, a copy each of the note being sent to the District Magistrate and to the chief Inspector of Factories. Certified children have to wear tokens while at work. The employment of children is prohibited unless they are certified according to the above provisions.

The Act lays down that factories shall be kept clean and free from effluvia, shall be ventilated according to prescribed standards, and that adequate measures be taken to prevent injury to the health of workers from gas, dust, or other impurity generated in the course of work. It also provides for prescribing the minimum cubic feet of space and floor areas necessary for workers, the number of latrines and urinals to be provided separately for men and women, the provision of water for washing and drinking and of means of escape in case of fire. It lays down that a factory should be sufficiently lighted, and that the Inspector may direct the occupier of a factory to take certain measures to light the factory properly, or to prevent danger arising to human life or safety from the condition of the factory or the nature of work carried on there. The presence of children under ten years in the factory may also be prohibited. Suitable rules have been framed prescribing the standards of provision to be made for all the above purposes.

The Act provides for the limitation of daily working hours to 10 for male adults, 7 for children and women. Children are to be employed only between 8 a.m. to 12 noon and 1 p.m. to 5 p.m., and women are not allowed to work before sunrise or after sunset. Periods of work are to be so fixed that no period shall exceed 5 hours, and that a rest interval of at least half an hour is provided after such work. A holiday has to be compulsorily given after six days of consecutive work. Children are prohibited from working in two factories on the same day, or working overtime, or taking work home after working in a factory. The other sections of the Act provide for the giving of notice before commencement of work, the maintenance of registers in a proper form, the displaying of abstracts of the Act, the submitting of periodical returns, etc. Provision is made for penalties and punishments for non-observance of the provisions of the Act or the rules thereunder, or for other offences under the Act.

According to the Rules under the Act, a minimum ventilation space of four square feet per person, a minimum floor area of 25 sq. feet in the furnace room and 12 sq. feet elsewhere in a lac factory, and a minimum space of 500 cubic feet per worker in the furnace room and 200 cubic feet elsewhere have been prescribed as necessary. Proper latrines of approved designs have to be constructed at the rate of one seat for every 50 workers or fraction thereof, and separate latrines have to be constructed for women. In addition, a urinal has to be provided for every 100 male workers or fraction thereof. The rules also prescribe the forms according to which registers are to be maintained.

Appendix III.

TABLE 1.

Wages and Earnings in a Modern Factory (Bengal).

Name of Occupation.		Piece or Time.	Basic Wage earned (Excluding Overtime)			Gross Earnings including basic wages, overtime allowances, bonuses etc			Net earnings (Gross earnings minus deductions).		
			Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average
			Rs. AS. PS	Rs. AS. PS.	Rs. AS. PS.	Rs. AS. PS.	Rs. AS. PS	Rs. AS. PS	Rs. AS. PS.	Rs. AS. PS.	Rs. AS. PS.
Mistries	Men	Time	30 10 0	19 15 0	25 12 0	49 3 6	31 12 6	39 8 6	47 3 6	29 8 0	38 4 0
Tindal	,,	,,	24 4 0	22 12 0	25 1 3	41 0 0	22 12 0	34 10 6	39 6 0	21 5 0	33 1 9
Carpenters	,,	,,	39 13 6	21 6 0	28 15 9	53 4 6	25 5 0	34 10 6	50 12 6	25 5 0	34 1 6
Welder	,,	,,	45 8 0	45 8 0	45 8 0	50 5 0	50 5 0	50 5 0	47 9 0	47 9 0	47 9 0
Turners	,,	,,	49 13 7	2 15 0	29 2 0	50 5 6	3 6 6	40 4 0	80 3 6	3 6 6	39 7 0
Machinemen	,,	,,	34 8 0	16 12 0	25 9 0	44 4 0	16 12 0	31 9 0	44 4 0	16 12 0	31 5 3
Operatives on Roller	,,	,,	25 5 0	18 6 0	20 4 0	41 4 0	28 6 0	31 8 0	39 11 0	27 14 0	30 14 3
Washing Coolies	,,	,,	23 7 0	10 10 0	18 10 0	34 11 0	14 5 6	28 0 0	33 4 0	14 5 0	27 1 0
Electricians	,,	,,	45 0 0	37 8 0	41 0 0	61 1 0	55 9 6	59 12 0	61 9 0	55 9 6	58 6 0
Cobblers	,,	,,	31 11 6	30 15 0	31 5 0	56 9 6	52 7 0	54 [illegible] 6	5 8 [illegible]	5[illegible] 8 0	52 8 0
Tinsmiths	,,	,,	34 6 0	11 10 0	23 0 0	47 1 0	17 14 0	32 8 0	44 15 0	16 15 0	30 10 0
Store Coolies	,,	,,	37 8 0	16 10 0	27 9 6	59 1 0	27 2 0	46 0 0	56 11 0	27 2 0	44 9 0
Jute Moulding Coolies	,,	,,	20 10 0	14 0 0	17 14 0	[illegible] 15 6	19 7 0	28 1 0	32 15 6	19 7 0	27 13 0
Kiree drying Coolies	,,	,,	17 1 0	16 14 0	16 15 6	29 9 6	25 3 6	27 14 0	29 9 6	25 3 6	27 14 0
Seed lac cleaning Coolies ..	,,	,,	23 7 0	17 8 0	20 8 0	35 6 0	23 13 0	30 12 0	33 15 0	2[illegible] 11 0	29 13 3
Drying Coolies	,,	,,	20 13 6	15 10 0	18 10 0	[illegible] 14 6	24 2 6	29 5 0	31 9 6	24 2 6	28 9 0
Tailors	,,	,,	16 2 0	12 7 6	14 4 9	20 14 6	17 13 6	19 6 0	19 15 [illegible]	17 1 6	18 8 6
Disintegrator Coolies	,,	,,	22 8 0	17 8 0	19 11 6	35 7 0	27 5 0	30 7 0	35 7 0	27 5 0	30 7 0
Apprentices	,,	,,	16 4 0	3 2 0	12 11 0	24 13 6	3 2 0	19 3 6	24 13 6	3 2 0	19 3 6
Jute Coating Coolies	,,	,,	18 12 0	15 7 0	17 7 0	[illegible] 10 6	22 6 6	28 7 6	[illegible] 10 6	22 6 6	20 7 6
Wax Plant Coolies	,,	,,	18 6 0	1 5 0	12 14 0	32 4 0	1 12 0	27 11 0	32 4 0	1 12 0	27 11 0
Vicemen	,,	,,	45 15 0	3 0 0	24 9 6	69 11 0	3 0 0	35 8 6	66 13 0	3 0 0	34 1 3
Boys	,,	,,	18 2 0	1 0 0	11 5 0	28 2 6	1 9 0	17 9 0	28 2 6	1 9 0	17 8 0
Main Engine Men	,,	,,	30 0 0	7 0 0	24 6 0	46 14 6	11 4 6	37 0 0	45 1 6	10 13 6	36 6 0
New Plant Coolies	,,	,,	26 4 0	11 11 0	19 10 6	40 1 0	15 13 0	30 5 0	38 13 0	15 13 0	30 1 0
Women workers (see cleaners)		Women	12 8 0	3 4 0	9 3 0	20 10 0	6 0 6	15 7 3	19 14 0	5 12 6	14 14 6
Main Engine Men	Men	,,	30 0 0	7 0 0	24 6 0	46 14 6	11 4 6	37 0 0	45 1 6	10 13 6	35 6 0
Firemen	,,	,,	20 10 0	17 13 0	20 0 0	36 3 6	27 14 6	32 12 3	36 3 6	27 14 6	32 8 6

Appendix III.

TABLE 2.

Wages and Earnings in the Smaller Units (Bengal).

Name of Occupation	Unit	Piece or Time	Basic Wage Earned			Net Earnings.			Wages refer to.
			Maximum	Minimum	Average	Maximum	Minimum	Average	
Crusher	1	Time	19 0 0	18 0 0	18 2 8	31 0 0	30 0 0	30 2 8	One month (*a*)
	2	Piece	3 4 6	3 4 6	3 4 6	3 4 6	3 4 6	3 4 6	,, fortnight (*a*)
	3	Time	19 0 0	18 0 0	15 12 0	31 0 0	30 0 0	27 4 0	,, month (*b*)
	1	Time	7 14 0	7 14 0	7 14 0	7 14 0	7 14 0	7 14 0	21 days (*c*)
Seed Cleaner	2	Time	4 11 0	3 12 0	4 4 9	4 11 0	3 12 0	4 4 9	One fortnight (*c*)
	3	Time	15 8 0	1 8 0	4 13 0	15 8 0	1 8 0	4 13 0	,, month (*c*)
Washer	2	Piece	7 7 0	2 14 9	5 15 0	7 7 0	2 14 9	5 15 0	,, fortnight (*c*)
	1	Piece	14 1 0	4 7 0	10 0 0	14 1 0	4 7 0	10 0 0	,, week (*c*)
Bhatta mistry	2	Piece	16 10 9	2 10 9	9 0 0	16 10 9	2 10 9	9 0 0	,, fortnight (*c*)
	3	Piece	14 1 0	4 7 0	10 0 0	14 1 0	4 7 0	10 0 0	,, month (*c*)

(*a*) Net earnings include bonus.
(*b*) Net earnings include a grain allowance of Rs. 12-0-0 p.m.
(*c*) No bonus or allowance paid.

Appendix IV.

A Glossary of Indian Terms.

Aghani.—Lac crop grown during the season, November-December.

Baisakhi.—Ditto during April-May.

Belwaya.—Man who spreads the molten lac on the porcelain cylinder and stretches it into thin sheets.

Bhangandar.—Man who crushes the stick lac in hand mills.

Bhatta.—An oven used for melting seedlac.

Bustee.—A slum.

Chakrighar.—The crushing section.

Chapriha.—Man who tests shellac sheets.

Danaghar.—The sieving section.

Dasturi.—An illegal deduction of a commission paid by worker to *jamadar* or to the employer.

Ghans.—A sack of seedlac.

Ghansandar.—Man who washes the lac.

Ghongi.—Blocky lac which has to be crushed twice.

Ghongighar.—Place where *ghongi* is crushed.

Jamadar.—A foreman.

Jethua.—Lac crop grown during the season, May-June.

Jhuri.—A basket.

Kamin.—A woman worker.

Karigar.—Literally, a skilled worker. Man who does the melting of seedlac in front of the *bhatta.*

Katki.—Lac crop grown during October-November.

Khalifa.—Tailor who sews the cloth bags in which seedlac is melted.

Kharcha.—An advance of money.

Kusmi.—Same as *aghani.*

Mahajan.—A money lender.

Manjandar.—Same as *ghansandar.*

Molammaghar.—Place where *molamma* (fine dust-like substance obtained from stick lac and seedlac) is prepared.

Muni.—A coolie.

Nand.—A tub in which stick lac is washed.

Parkhaiya.—Same as *chapriha.*

Pherwaya.—Worker who twists the cloth bag containing seedlac over the *bhatta* during the melting process.

Rankariya.—Same as *ghansandar* or *manjandar.*

Sardar.—A recruiting agent or supervisor.

Tahi.—A packet of shellac sheets.

Appendix V.

Total Employment in the Shellac Industry.

Figures of employment given in the *Statistics of Factories* cover only a small section of the industry which is subject to the Factories Act. As the following table shows, the total number of factories registered under the Factories Act, has been near about 20, while the employment has fluctuated between 1,658 and 2,718, during the period 1929-43.

TABLE 1.

Number of Factories and of Workers.

(covered by Factories Act).

Year.	Number of Factories					Number of Workers.				
	Bengal		Bihar		Total	Bengal		Bihar		Total
	Seasonal	Perennial	Seasonal	Perennial		Seasonal	Perennial	Seasonal	Perennial	
1929	..	4	..	15	19	..	952	..	1,432	2,384
1930	..	4	..	13	17	..	740	..	1,205	1,945
1931	..	5	..	16	21	..	564	..	1,466	2,030
1932	..	3	..	15	18	..	437	..	1,221	1,658
1933	..	3	..	15	18	..	452	..	1,213	1,665
1934	..	4	..	15	19	..	590	..	1,470	2,060
1935	1	5	13	..	19	52	611	1,255	..	1,918
1936	1	5	13	..	19	61	756	1,667	756	2,423
1937	1	6	13	..	20	195	892	1,493	..	2,580
1938	1	5	15	..	21	44	735	1,741	..	2,520
1939	..	7	15	..	22	..	1,012	1,627	..	2,633
1940	..	7	15	..	22	..	880	1,455	..	2,335
1941	..	7	18	..	25	..	921	1,797	..	2,718
1942	..	4	17	..	21	..	728	1,070	..	1,798
1943	*a*	*a*	*a*	*a*	..	..	771	1,347	..	2,118

(*a*) Not available.

A large majority of workers, however, consists of workers engaged in the cottage industry and this can only be estimated within wide margins of error. There are two main points to be remembered in this connection : one, that the industry is seasonal and many factories and *bhattas* remain idle during the off-season as well as off and on ; and two, that almost all factories produce both seedlac and shellac and often sell them separately, while much of the seedlac is exported. Proportionately shellac produced is larger in bulk but seedlac manufacture is also done on a fairly large scale—large enough to be a factor which cannot be neglected in our estimate. There may be two methods available to work out the probable figure of employment. Firstly, we may work on the basis of the number of *bhattas*, assuming three men to be employed directly in the melting process and an equal number of persons employed in the ancillary processes of making seedlac and sieving and cleaning the seedlac necessary to run one *bhatta* daily. On this basis we get an approximate total employment of $6 \times 5{,}000$ or 30,000 persons. The other method would be to work on the basis of total annual production of seedlac and shellac.

Thus, annual production of seedlace=10,000 tons.

(Cf *Report on Marketing of lac*, p. 37, which gives an annual average of 9,150 tons for the period 1934-39).

Number of workers required for producing 3 mds. of seedlac in a day .. .. =5

Number of average working days in a year .. .. =200

∴ Total number of workers engaged in seedlac manufacture

$$=10{,}000/1 \times 5/1 \times 28/3 \times 1/200=2{,}333.$$

Similarly,

Total average production of shellac .. .. =25,000 tons.

Number of workers required per day to produce 2 maunds of shellac .. =13

Average number of working days in a year .. .. =200

∴ Total number of workers engaged in shellac manufacture

$$=25{,}000/1 \times 13/1 \times 28/2 \times 1/200=22{,}750.$$

Adding another 5,000 workers for incidental processes such as coolie work, sieving and cleaning, etc., the total would be about 27,750.

We can, therefore, safely state that the probable employment in the industry lies between 25,000 and 30,000[1].

[1] I am indebted to Mr. A. K. Thakur of Lac Research Institute, Namkum, Ranchi for valuable suggestions in making the above estimates, though the responsibility for them is wholly mine.

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