

Growth of sericulture and its impact on silk textile industry in Uttar Pradesh

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Introduction

India has unique distinction of being the only country on the world producing all the four commercially known varieties of silk, viz, mulberry, tasar, eri and munga. India ranks fourth among the leading mulberry silk producing countries of the world accounting for more than 7 percent of the total world production (1984). While it is the second largest producer of tasar silk (next to China) accounting for about 10 percent of the total tasar silk out-put in the world. India has the world monopoly for the renowned golden yellow silk, munga, produced only in Assam.

Raw silk is the vital raw material for the weaver. The need to provide him with silk yarn at a consistant price was felt whenever a crisis developed in the industry. As the silk worms, the source of silk, feed on mulberry leaves, a well planned cultivation of mulberry is therefore, a prerequisite to an organised silk industry. Sericulture is an important labour intensive agro-based industry providing gainful occupation to unemployed/underemployed in the rural and semi-urban areas. Of late, sericulture in India has turned out to be a highly remunerative cash crop with minimum investment, but rich dividents. While the activities relating to mulberry cultivation and production of reeling cocoons are agricultural in character, the reeling of raw silk and production of hand-spun silk yarn are cottage based industries in rural and urban places employing hand/power driven appliances with skilled labour. With an agricultural base and industrial superstructure and essentially a labour intensive set up, sericulture is an effective tool for generating gainful employment the retarded sectors of the community.

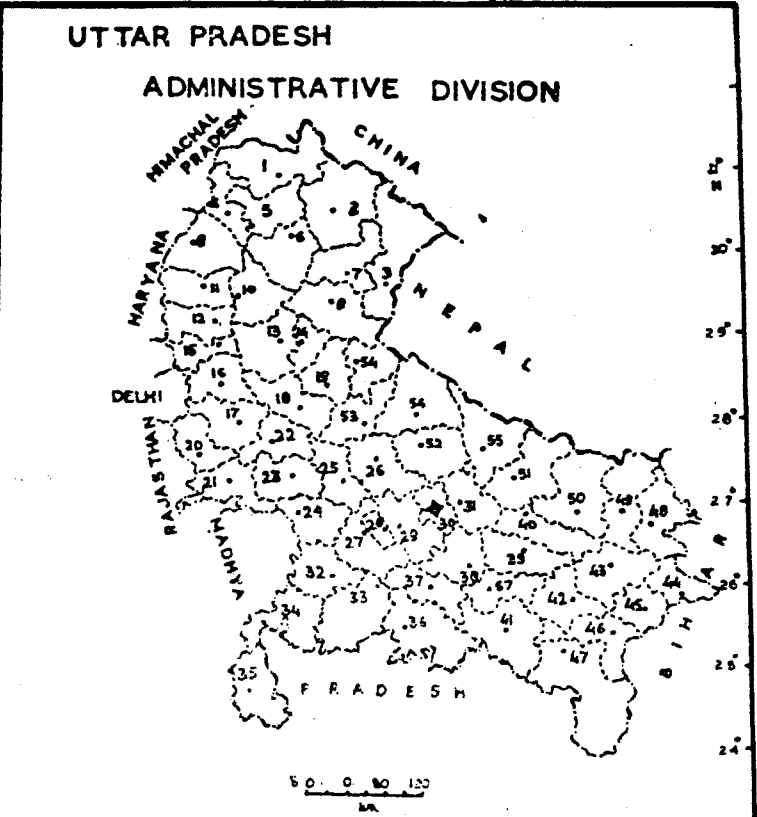
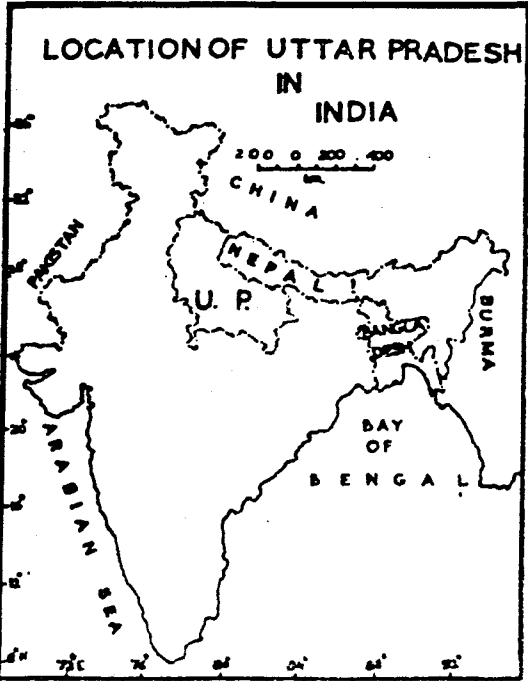
Sericulture is a state subject and as such the schemes for development of the industry are formulated and implemented by the state Governments. Although Uttar Pradesh, the fourth biggest state of the country, occupies a minor position in sericulture but it is famous for centuries for her silk clothes and silk sarees. Upto 1955 A.D., the state exports silk yarn either from other states of the country or from abroad. But at present the position has changed considerably and the state is not only in a position to fulfill its local demand of raw silk but also exports to other states of the country.

In this study the authors have discussed the development of sericulture and its overall impact on Silk Textile Industry of the state. The data used in this study has been collected from the Director of Industries Office, Kanpur, Sericulture Department of the U.P. Handloom Office, Kanpur and through the field survey of the silk textile producing centres of the state.

Study Area

Uttar Pradesh is a land-locked state situated in the middle of the northern part of the country. Its northern boundary forms the international boundary with China and Nepal, on the west lie Himachal Pradesh, Punjab, Delhi and Rajasthan, on the south Madhya Pradesh and on the east Bihar. Uttar Pradesh falls between $31^{\circ} 28'$ and $23^{\circ} 52'$ North latitudes and between $77^{\circ} 04'$ and $84^{\circ} 38'$ East longitudes. Its north-south extension is about 800 km roughly equal to its length from north-west to the south-east. The state covers an area of 294,413.00 sq. km. and occupies 9.2 percent area of the country. The density of population is 377 persons per sq. km (1981). The state is divided into the 57 districts grouped in 11 revenue divisions (Fig. 1).

The lofty Himalayas embrace the state in the north, covering about one sixth of the total area of the state. The Himalayas rise from a height of 300 metres to a magnificent series of snow clad peaks more than 6000 metres above the mean sea-level. The southern part of the state is a part of Deccan Plateau. This plateau part is highly eroded rugged and undulating. Between the Himalayas in the north and the southern plateau in the south lies a vast homogeneous alluvial plain, known as Ganga plain. The plain slopes down imperceptibly, roughly with a gradient of one metre in 5 km to wards the east. One of the most outstanding characteristics of this plain is its immense thickness and the uniformity of the alluvium throughout its entire stretch. The only noticeable features in this monotonous evenness are the ponds and lakes in the flood plains and belts of ravines and bad lands formed by gully erosion along the rivers, particularly along the lower Chambal and the river Yamuna in the western and south-western part of the state. The entire state has tropical monsoon climate. As the region is situated north of Tropic of Cancer, it is put to bear extreme cold in winters and extreme heat in summers. In the plains, the average temperature varies from a minimum of 3°C in January to a maximum average of 35°C in May and June. December and January are the coldest while May and June are the hottest months. The rainfall in the plains is heaviest in the east (150 cms) and decreases to wards north-west (75 cm). In the outer Himalayas rainfall is heavy (more than 200 cm). But both temperature and rainfall, vary considerably during the season, these however, can not be anticipated earlier. The rainy season begins from second week of June and lasts upto September. In the northern hilly part of the state the soils are generally shallow and immature and vary in texture and depth. They are sandy, porous and devoid of humus. In the 'Tarai' strip, soils are highly leached and lack fertility. The vast expanse of level ground in the



- BOUNDARIES**
- INTERNATIONAL
 - STATE
 - DISTRICT
 - STATE CAPITAL
 - DISTRICT H.Q.

FOR NAME OF THE DISTRICT SEE APPENDIX-I

FIG.1

plains is covered with alluvial soils. These soils consists of loam or 'domat' and clay or 'Matiyar'. These soils are fertile and easy to work. Mixed red and black soil is found in the south-west part of the state, while the soils of the south-eastern part are shallow red clays highly ferruginous and lateritic. The physical factors of the state are favourable of the development of sericulture industry.

Development of Sericulture

Sericulture in the state has made a long strides since the first efforts in the end of 19th century by the British Administrations in Dehradun, Sitapur and Pratapgarh, where a local land lord of Kalakankar sought to patronize it while the district officers made attempts in Deharadun district. But, anyhow both the experiments were a failure and it was left to the state Government in 1948 to introduce sericulture in the state. The place was Doiwala (Deharadun district) where land was donated for this purpose by Mr. Mahavir Tyagi. The first result was obtained in 1951 when 300 kgs of coccons was produced. In 1956 sericulture was expanded in Saharanpur and Etawah region. Saharanpur region with its headquarters at Meerut has a production of 415 kg while Etawah region has a production of 317 kg cocoons in 1957-58. Between 1958-68 period the number of districts having sericulture farms increased from 5 to 11 and the cocoons production increased during this period from 0.261 lakh kg to 1.41 lakh kg. The Tarai Sericulture Development Programme was introduced in 1978-79. The most important aspect of this scheme is that, it seeks to extend its limits from Department to a Private Planter and rearer. This scheme has completely attend to character of sericulture in U.P. Till the introduction of the Tarai Project the entire activity was confined to the activities of the Sericulture Department. But extension efforts and initial reponse has been encouraging. At present (upto March 1985) the area under mulberry plantation by sericulture department and private sector is 2362.311 and 3239.742 acres respectively.

The origin of the present sericulture industry in U.P. can be traced out to the initial experiments in mulberry cultivation and silk worm rearing conducted at Pilot Centres at Doiwala in 1948-49 which continued upto the year 1951-52, when extended in other parts of Doon Valley enlisting a few silkworm reares who took up silkworm rearing on a limited scale.

Whit the centre of activities shifted to Prem Nagar (District, Deharadun) where a well laid out Central Silk Farm was established in the year 1953, field activities the momentum. With the establisation of the sericulture industry in Doon Valley further extension to other suitable regions of the state was also taken up during the Second Five Year plan period and the scheme was implemented in five other districts (Etawah, Nainital, Saharanpur, Pauri and Goraknpur). During yearly plan period a brief account of progress and extension of sericulture activities is given as bellow:

The First Five Year Plan period was essentially a preparatory period for experimental studies in the departmental institutions and later the result of work extended in the villages for active propaganda. The field of sericulture activities at Deharadun and the progress attained under the scheme can be assessed by the gradual increase in number of silkworm rearer and the production of cocoons which stepped up from 27 rearer and 300 kg auring 1951-52 to 317 rearers and 16770 kgs during 1955-56. Under this plan the budget out lay was Rs. 6.61 lakhs against which an expenditure of Rs. 5.75 lacs which is 87 percent of the out lay.

During Second Five Year Plan period the scheme received its recognition and was inclu-

ded in the programme of development of villages and small scale industries in the state. A systematic programme was drawn up and a plan covering 23 schemes for development of different aspects of the industry was implemented with the assistance of the central silk board (Bangalore). The physical achievements registered during this period were quite encouraging. The number of rearers and cocoon production stepped upto 1562 rearers and 109976 kg which is approximately 4 times the achievements in the First Five Year Plan. Against the budget outlay of Rs. 32.80 lacs, an expenditure of Rs. 25.44 lacs was incurred which was 77.5% of the outlay.

During the Third Five Year Plan, reorientation of programmes for the development of sericulture scheme was initiated in order to bring out orderly development. Some basic requirements in the organisation, such as mulberry cultivation by rearers themselves, determination of correct cropping seasons, silkworm races for rearing were defined. The progress of physical achievement of the period is also satisfactory. Number of rearers and cocoon production during the plan period rose to 2500 and 202500 kg respectively. During this period, stress was laid on intensive mulberry cultivation and rearing of bivoltine races. A well organised seed organisation was set at Deharadun to meet the demand of entire silk worm seed for the state. A remarkable achievement during this plan period was a establishment of a modernised filature under cooperative sector. With this, there was no difficulty in consuming the entire cocoon produced in the state. Another remarkable achievement during 1961 was to develop a new breed of seedworm, which completely stopped the import of seedworms from Japan. Before 1961, seedworms had to import and this successful experiment saved the valuable foreign exchange of the country. Also, during this period the state not only became self sufficient in the production of both Bi-voltine and Multi-voltine seedworm but began to export seedworms to other states of the country such as Madhya Pradesh, Himachal Pradesh, Punjab, Jammu Kashmir and also to some other foreign countries like Burma.

To help the rearers, 37 cooperative societies were organised which were responsible for the benefits of the rearers and to purchase silkworm cocoons. On behalf of Cooperative Sangh, during fourth and fifth Five Year Plan the progress made was quite satisfactory and the cocoon production during this plan period was 3.48 lacs kg and 5.79 lacs kg, respectively. During the last plan periods the progress of sericulture in the state is given in the Table No. 1.

TABLE No. 1

Sl.No. Plan period	No. of districts	Cocoon production (lac kg)	Silkworm seed		Employment
			production (No. of DF L's in lacs)	Silk production (ooo kg)	
1. Pre Plan (2 years plan) (1949-50 to 1950-51)	1	0.002	—	—	N.A.
2. First Five Year Plan	7	0.261	0.418	—	400
3. Second Five Year Plan	11	1.09	5.278	—	1560
4. Third Five Year Plan	16	2.02	11.96	4.440	2500
5. Adhoc Plan (2 years) (1966-67 to 1968-69)	19	1.41	13.10	9.500	4000
6. Fourth Five Year Plan	21	3.48	29.38	19.582	6175
7. Fifth Five Year Plan	25	5.79	19.47	21.209	7500
8. Sixth Five Year Plan	34	9.82	37.74	36.312	12529
9. Seventh Five Year Plan	37	11.50	50.00	115.000	30000

Apart from the above since 1980-81 under Integrated Rural Development (I.R.D.) programme the sericulture industry in U.P. has also been assisted with the I.R.D. funds for the development of the infrastructure in the different district of the state to promote the sericulture industry. The amount received year wise is as follows.

TABLE No. 2

Year	Amount (in lac Rs.)
1979-80	66.70
1980-81	29.98
1981-82	
1982-83	221.00
1983-84	232.00
1984-85	310.00

To visualise the different sector under sericulture industry in the state, the present position and future plans are indicated as below:

Mulberry plantation is the most important part of the industry and its development upto first two plans period based on existing forest mulberry plantation and much had not been done in propagation of the mulberry in private sector. Bush mulberry plantation were quite unknown untill such plantation were established in Government farm and Nurseries were established for production of mulberry plants in different district and use of Chawki rearing centres but private sector were remained neglected. Although the plants were distributed to the rearers but no proper attention given in this regard. But for the progress of silk industry, it is essential that private plantation may be encouraged.

It has been established that for the development of sericulture industry, we will have to go for mulberry cultivation in private sectors, so in Sixth Five Year Plan, steps have been taken to encourage the agriculturists for mulberry plantation. To increase the area and production under sericulture development programme the following steps should be taken.

1. To undertake systematic propaganda in villages for encouraging agriculturists to have their own mulberry plantation in blocks.

To encourage planters, the plants are distributed free of cost, providing them technical know how at the spot. During the last seven year (from 1978 to March 1985) on 2175.789 acres of land private planters have planted mulberry. The planters are given subsidy (Rs. 2000/per acre) on their plantation for two years. It is worth to note that during that within seven years (March-1978 to March-1985) the private mulberry plantation has increased more than ten time.

2. Forest Department is being requested for transfer of certain selected areas for raising mulberry plantation and as such 3500 acres of forest land has been taken up for this purpose.

3. Ceiling, community and panchayat lands available in the area is being produced for mulberry plantation. Mulberry plantation in private and Government farms is being taken up with new methods of plantation as suggested by Central Silk Board.

4. With the increase of mulberry plantation in Government and private sectors, the requirement of plants is to be met by establishing nurseries in every district.

The present position (upto to March 1985) (Fig. 3) of mulberry plantation in the state is as follows:

TABLE No. 3

(a) No. of Government Farms	242
(b) Acreage under Government Farms	2362.311
(c) Acreage under Private plantation	3239.742
(d) Area under forest plantation	3520.20
(e) Area under canal side	3000.00
Total	12102.053

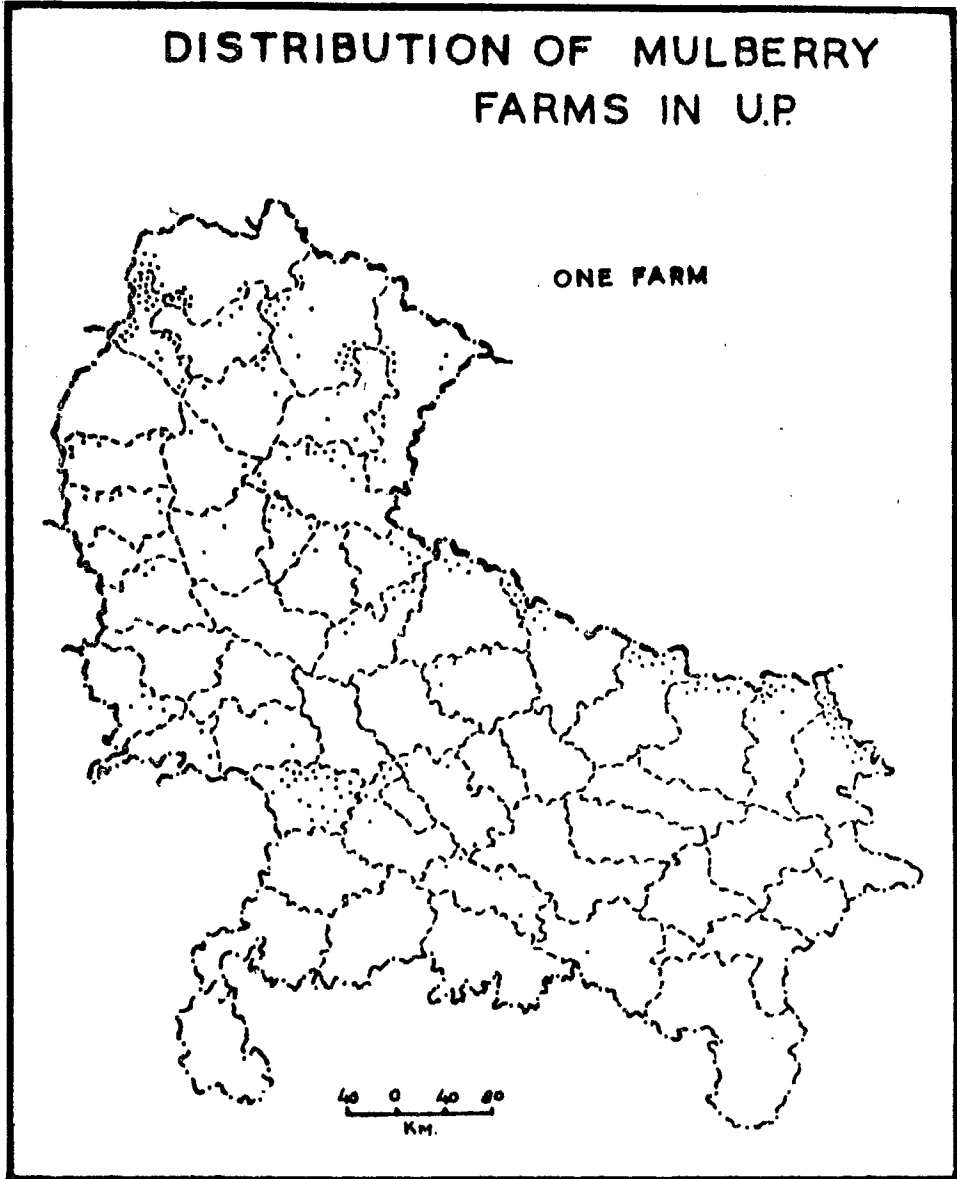


FIG. 3

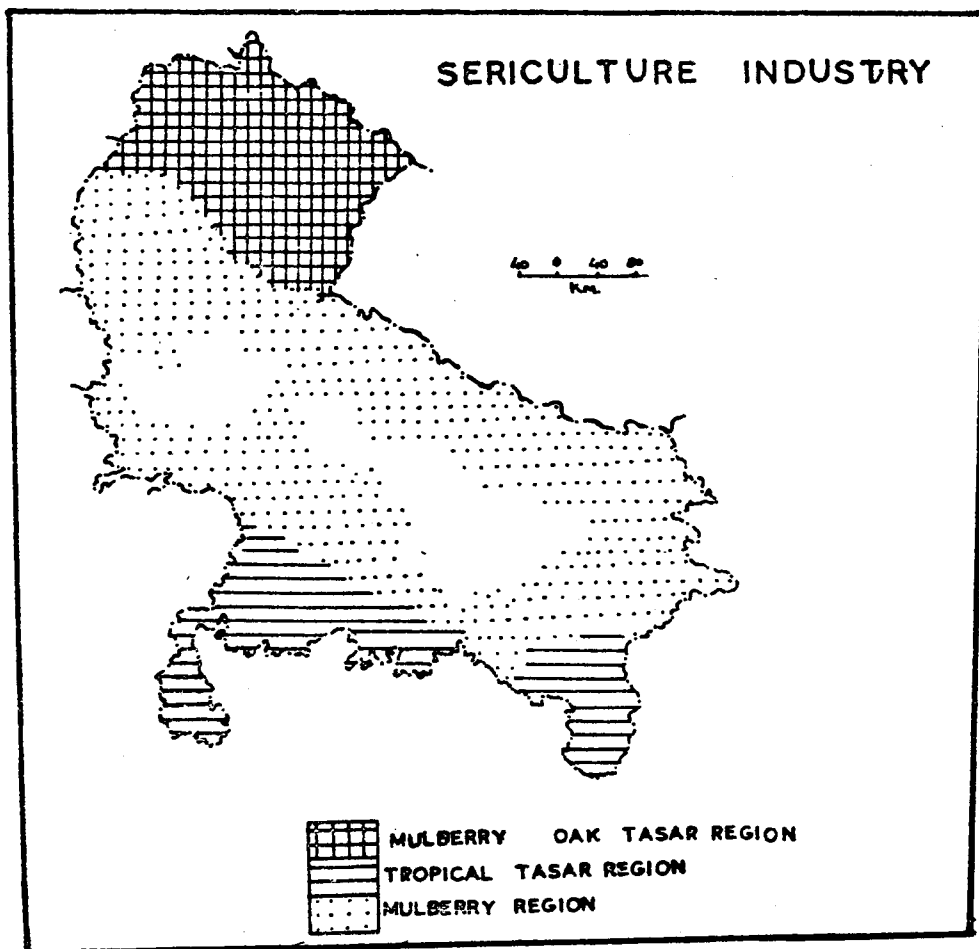


FIG. 2

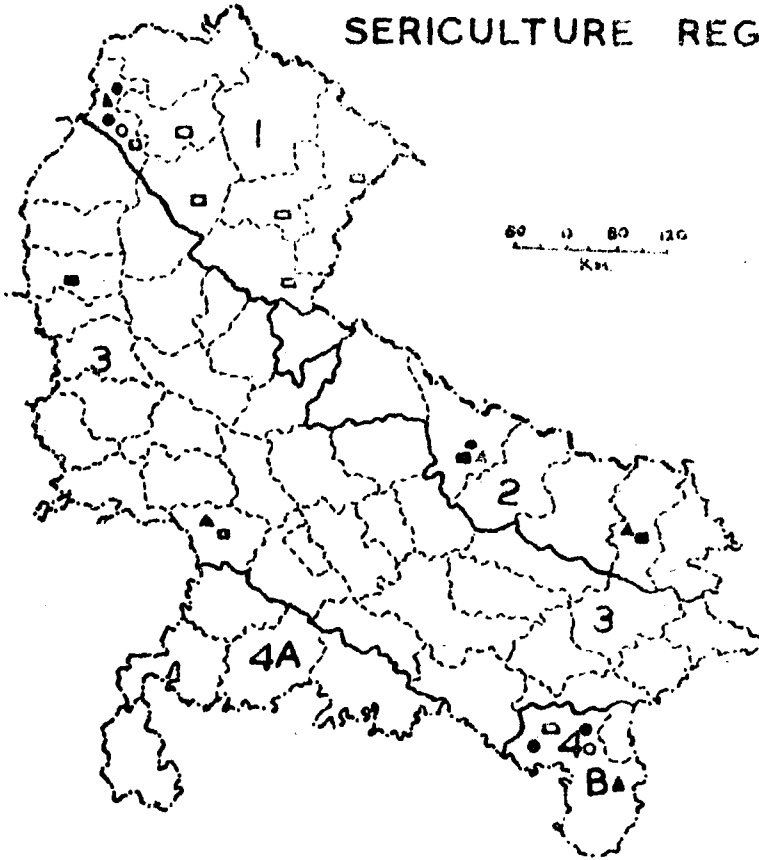
Spatial distribution

On the basis of physical and social factors the sericulture industry for its systematic and speedy development may be divided into four region (Fig. 4 and 2). (1) Hill Region; (2) Tarai Region; (3) Plain Region; (4) Southern Region.

1. The Hill Region

The Hill Region covers eight districts, viz Uttar Kashi, Chamoli, Pithoragarh, Deharadun, Tehri Garhwal, Pauri Garhwal, Almora and Nainital, having an area of 51125.00 sq. km (17.36% of the total study area). Climate and socio-economic conditions of this region is suitable for growing superior quality of exotic variety of cocoons. The silk of these cocoons is a like of to the Japanese silk. Owing to the climatic conditions this scheme was started in 1948 in Deharadun district but its systematic execution was started from the First Five Year Plan.

UTTAR PRADESH SERICULTURE REGIONS



- | | |
|-----------------------------|-------------------------|
| 1 - NORTHERN HILLY REGION | □ BIVOLTINE GRAINAGE |
| 2 - TARAI REGION | ■ MULTIVOLTINE GRAINAGE |
| 3 - PLAIN REGION | ▲ REELING UNIT |
| 4 - SOUTHERN PLATEAU REGION | ○ TRAINING CENTRE |
| ▲ S.W. PLATEAU REGION | ● SILK FILATURE |
| ● S.E. PLATEAU REGION | ● RESEARCH UNIT |

FIG. 4

From the First Five Year Plan period with the aim of the expansion of the mulberry cultivation, 94 farms having an area of 631.25 acres were established under the departmental control. These farms are being utilised for the production of mulberry leaves, which is ultimately used as the food of the silkworm during the rearing. At present this region has got 100 centres covering an area of 736.315 acres, where the silkworm reared and distributed to 5078 rearers. The cocoon production under this scheme in the year 1984-84 (upto March) was 85573 kg.

The silkworm rearing in this region is mostly dependent on the forest plantation. To increase the cocoons production, mulberry plantation was introduced in private sector in 1979, and a small area of 392 acres was planted. In this region the farmers have small holdings and to overcome this difficulty a new scheme as Model Chawki Scheme was introduced in 1981 to cover more area under plantation particularly on Gram Samaj lands. Under this scheme it was decided to cover 300 acres of land under plantation and 18 demonstration cum Chawki rearing centres were established to educate the villagers in technical know how and economics of the industry. Under this scheme 207 acres of forest land has already been taken over and the rest is under negotiation with the forest and revenue department. In the 7th Plan it is proposed that with negotiation with these two departments 1000 acres of land will be planted with mulberry as community gardens and extra employment will be provided to 1000 landless families. This plantation will be able to give an extra production of 1.00 lac Kgs of good quality cocoons and 10000 kg of raw silk in addition to the present production of 85573 kg of raw silk every year.

Silkworm seed organisation plays a vital role in harvesting good quality cocoons and stable seed organisation. Deharadun seed organisation produces 6000 Ozs of silkworm seed every year, which is sufficient for the present requirement of bivoltine seed of the state. To strengthen the seed organisation two more grainage have been established at Haldwani (Nainital district) and Srinagar (Pauri Garhwal district). These grainages will have the capacity to produce 4000 Ozs bivoltine seeds annually and will be able to fulfil the demand of the region.

With the assistance of Central Silk Board, U.P. Hills Bivoltine Project has been launched (1983) to produce 10000 kg of bivoltine cocoons and 6000 acres of land will be planted before 1990. The central Government has sanctioned a sum of Rs. 500 lacs for this purpose. This project will provide an extra employment to 11000 families.

The Sub-Himalayan areas of the region has got a large number of Oak trees on which Oak Tasar silkworms rearing is also in practice. This industry is still at the experimental stage because of the nonavailability of Oak silkworm seed and unsuitability of the food plant species '*querous-inne-cana*', which is helpful in harvesting of one crop. To set up a well net work of the seed organisation programme, another variety of Oak (*quereous serrata*) is being planted in the farms. Approximately 65000 trees have been planted at various centres and the plantation work is rapidly progressing every year. It is proposed to cover 100 acres of forest land will be taken before 1988 under this project.

As the sericulture industry have different techniques, which requires technical know-how and with keeping in view a training centre has been established at Prem Nagar (Deharadun district) to educate the silkworm rearers. This centre is, in fact, nucleus of the sericulture industry in the state.

2. Plain Region

This region is a part of vast Sind-Ganga plain comprising 36 districts and 53.74% geographical area of the state. Although, as already stated earlier, some experiments were conducted during the end of the 19th century, in Sitapur and Pratapgarh districts of the region, which proved that the climatic condition of this region is suitable for sericulture industry. Hence for the first time in 1956 sericulture was introduced in Etawah district. Later on this industry expanded rapidly in different districts of the region. In 1956 there was only one farm while at present (upto March 1985) this industry has expanded in 16 districts having 78 farms covering an area of 883.764 acres.

Considering the possibilities of expansion of the sericulture scheme in the region, some

new districts were enlisted for the expansion of sericulture industry. This Model Chawki scheme was executed in 6th Plan period and 300 acres of land was purchased or taken from Gram Samaj in different districts for the development of mulberry farms. After the establishment of these farms the cocoon production has increased from 30000 kg to 60000 kg and provided additional employment to 3500 families.

During the 7th plan period it is envisaged that a total area of 4000 acres of forest land and Gram Samaj land will be taken under mulberry plantation which would have an additional production of 4.00 lacs kg of cocoon.

I.R.D. scheme has also given an extra boon for the development of the industry, since the year 1978-79 financial assistance is provided every year to the planters to develop the infrastructure. The execution of this scheme has established mulberry plantation in 237.00 acres of land in 13 districts which are enlisted in regular sericulture development programme from 7th plan period.

This region has not climatic conditions favourably for multivoltine silkworm rearing, for which the state had to depend on Karnataka State for the purchase of silkworm eggs. The total requirement of the multivoltine seed in the state is about 5.00 lacs laying. To produce the entire requirement of the seed, two grainages one each at Etawah and Meerut has been established in 1983. The establishment of these grainages will not only improve the efficiency of the work, but also enhance the production by systematic programme of silkworm rearings.

3. Tarai Region

The seven districts situated on the foot hills of Himalayas has been included in this region. This region covers 15.07% of the total geographical area of the state. This region is the best suited for the production of mulberry silk. Mulberry plantation was done in Pilibhit district in 1965 for the first time in this region and later on (1967-68) this scheme expanded in Gonda, Baharaich and Deoria district (1969). During 1984-85, 48380 kg of cocoons have been produced in this region engaging about 4500 rearers families and 2800 acres of land have been taken under mulberry plantation in private sector. In this region two grainages one each at Gorakhpur and Baharaich have been established to meet the demand of silkworm seed. A filature centre has also been established at Baharaich to consume the production of cocoons into raw silk. During the 7th plan period, it is envisaged that 200 acres of land will be purchased to establish demonstration cum training farm by sericulture department. Apart from this 3000 acres of land will be taken from forest department and Gram Samaj for mulberry plantation. It is proposed that by the end of 7th Plan 5.50 lac kg of cocoons will be produced by adopting 7500 rearers families.

4. Southern Plateau Region

This region includes the south-western (Lalitpur, Jhansi, Banda, Hamirpur and Jalaun districts) and south-eastern (Mirzapur and Varanasi districts) plateau parts of the state. This entire region covers 13.83% of the total geographical area of the state. For the development of sericulture this region may be divided into two sub-regions viz, Bundelkhand region and South-Eastern region. Because both these regions have its own geographical and social identity.

4. (a). Bundelkhand Region: This region is situated in the south-western part of the state and its hot and dry climatic socio-economic conditions are favourable for the production of tasar cocoons. To exploit these conditions a plan was prepared and implemented in 1983-84 for the development of tasar scheme. Under this plan it has been envisaged that

2300 acres of forest land will be taken in every district for Arjun plantation and for this purpose 500 acres land in Banda and 125 acres in Hamirpur district have already been planted with the object to give an additional employment to 1000 schedule caste and schedule tribe families. The estimated cost of this project will be about 50.00 lacs Rs. for one district. The first phase of the project was started in Banda district in 1983 and it is expected that whole of the project will be completed by the end of 1988. The result of the first attempt is still awaited.

4. (b). South-eastern Region: This region includes the districts of Mirzapur and Varanasi. For the first, the Tasar Development project was introduced in the southern parts of Mirzapur and Varanasi districts in the year 1980-81. Earlier in the year 1960, Director of Industries' U.P. started tasar cocoon production in this region which continued upto 1972, but due to lack of selling system this scheme proved unsuccessful. Later on the tribal people of the region requested the state Government to restart this scheme and in 1975, a detailed survey of the region was conducted. In the year 1980-81, 5.36 lacs cocoons were harvested and 101 rearers families were employed in the Duddhi tehsil of Mirzapur district. During the year 1982-83, 33.00 lacs tasar cocoons have been produced by 800 tribal families. Tasar project in Mirzapur district has immense scope due the availability of food plants for seedworms such as 'Arjun', 'Aasan', 'Siddh' and 'Sal', etc. and socio-economic condition of the tribal families. This tasar project has set up nine grainages at Hirachak, Navgarh, Vokarakhadi, Vitamganj, Muirpur, Kon, etc. for the production of 2.0 lac disease free silkworm seed laying to fulfil the demand of the rearers. The tasar cocoons produced in the area are used for the production of raw silk, for which a reeling centre with 50 reeling machines has also been set up and 150 local boys have been trained for reeling of the cocoons. These trainees also get an estipend of Rs. 150.00 per month.

Apart from the above activities Central Silk Board, in collaboration with Swiss Government has set up a project, for intensive development of tasar culture with an out lay of Rs. 100.46 lacs and a target of 2500 acres of land for plantation, establishment of reeling cum-marketing complex, establishment of cold storage, pilot project centre etc.

Marketing Organisation & Silk Production

Uttar Pradesh being the non-traditional state for sericulture do not have any proper marketing facilities for silk cocoons and silk reeling and in this sector, the progress of sericulture in the state is not satisfactory. Marketing of cocoons and reeling of raw silk is being done by a Central Cooperative Society under the name of 'U.P. Resham Audyogik Sahakari Sangh' at Prem Nagar (Deharadun district) and this society has 47 cooperative societies as its member. At present, state has 3 filature units of 50 basins each with a capacity of producing 25000 kg of raw silk annyally by consuming approximately 175000 kg of cocoons. Rest of the cocoons production is sold to other states such as West-Bengal, Madhya Pradesh and Jammu and Kashmir. Recently some cottage basins have also been started by 'Gramodyog Mandal' in Etawah district and in private sector in Meerut district. This facility is not sufficient for marketing and regular payments to the rearers, effecting adversely on the rapid development of the industry.

To develop the post cocoon harvest facility in the 7th Plan, a sound organisation has been proposed to increase the proper marketing facilities of cocoons, strengthening of existing filature units, establishment of new filatures units with cocoons testing laboratories Etawah, Meerut, Pilibhit districts, establishment of silk testing and conditioning house,

reeling of raw silk, powerloom units for weaving and establishment of design, dyeing and printing centres in different districts of the state. In 7th plan an outlay of Rs. 150 lacs has been provided for this purpose.

Apart from this, for the development of sericulture industry in the state, the Central Silk Board has also established its centres under different project. These institutes are as follows (Fig. 4):

1. Univoltine Silkworm Research Station, Majra (Deharadun).
2. National Silkworm Seed Project, Deharadun.
3. Multivoltine Research Station, Baharaich.
4. Extension Cum-Training Centre, Dudhi (Mirzapur).

The development of sericulture industry and the ambitious plan of the State Government clearly shows that there is a wide scope for the development of this industry and in future it will certainly provide job opportunities to the unemployed/landless persons of the state. It will also be helpful for the silk textile industry of the state. On 31st August 1985, the Industries Minister of the state has announced that to develop the sericulture industry in the state, a separate department, 'Directorate of Sericulture' will be established, in the current financial year (1985-86).

Silk Textile Industry

Although the sericulture industry started very late in Uttar Pradesh but weaving of silk textile is one of the oldest industries of the state. The chief centres of the silk industry before 20th century were Varanasi, Mubarakpur (Azamgarh), Agra, Jhansi and Farrukhabad. At Agra there were only 10 weaver families while at other centres like Jhansi and Farrukhabad the number of weaver families were also very small in the year 1905. The weavers of Agra shifted to Varanasi and the weavers of Farrukhabad and Jhansi confined themselves in weaving cotton clothes, thus the silk production of these centres ended before 1930. These centres could not flourish because of non-availability of silk yarn and market. Here, upto 1930, the silk yarn was imported from Murshidabad, Maldah and Rajshahi districts of Bengal and a very small proportion of China silk imported through Bombay Port. At present there are only two centres which are the chief textile producing centres of the state, i.e. Varanasi and Mubarakpur. Both these centres are famous for their silk 'sarees', clothes etc. in the world (Fig. 5).

Varanasi is the main silk textile producing centre, with heavy concentration of weaving establishments, in the state. It is the most important household industry, employing as it does over 50 percent of the city's industrial force. The speciality of the place is a very high skill of the cottage weaver in weaving gold and silver threads with silk yarn and producing beautiful floral designs and patterns of wire tinsels in silk fabrics. Of late, however, other yarn like artificial, cotton and art silk etc. are also being used in addition to pure silk.

When and how silk industry of Varanasi was first established is altogether unknown, however, this much is certain that it was in existence in the pre-Buddha era and was in fullfledged and flourishing condition during the Buddhist period in 6th century B.C. It experienced the unbroken prosperity in the Hindu period and passed from Hindus to those of Muslims in 16th century. During the reign of Akabar (1561-1605 A.D.) with the state patronage as well as artistic skill and master craftsmanship of Muslim weavers, lifted the industry to new heights of glory in hand-loom weaving. In the British period this industry has to face a set back owing to competition from the cheap mill made product. Because

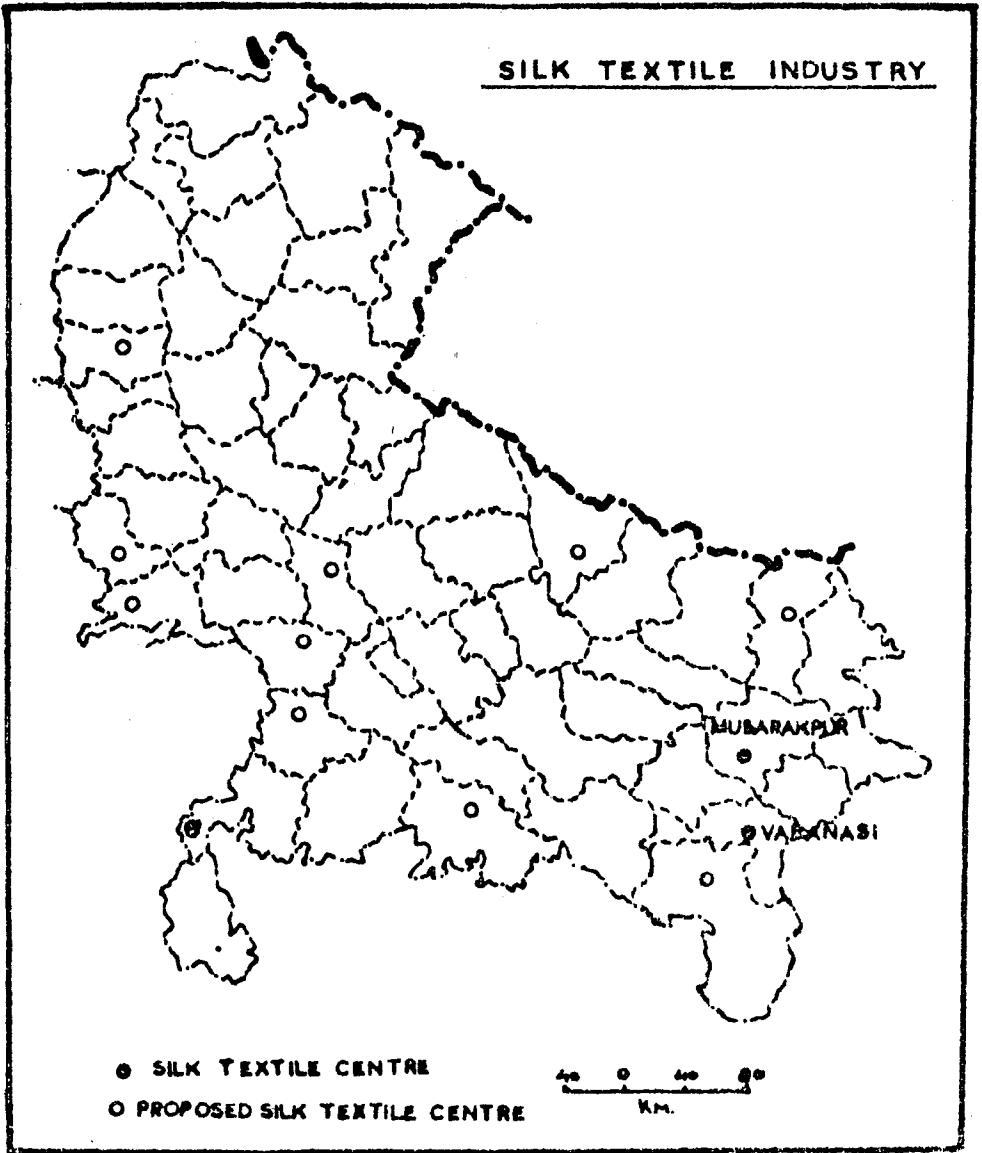


FIG. 5

of its unique characteristics, silk industry of Varanasi survived and adjusted itself to the changing circumstances. The efforts made for the purpose resulted in the introduction of plain 'Kashi silk' — a thing hitherto unknown in Varanasi.

The independence of the country brought in its wake the partition of the sub-continent. The industry had to face some very bad moments owing to communal tension and disturbances that followed, which resulted in the migration of a number of weavers to Pakistan. A second set-back which the industry had to face after independence, resulted from the abolition of the 'Princely States' and 'Zamidari System'. The nobility and the royal families of this states and 'Nawabs', 'Zagirdars' and the 'Zamindars' had been the biggest bu-

yers of costly Varanasi silk products and in their disappearance the industry lost its main buyers. Again the industry had to make the necessary adjustments in accordance with the changed circumstances. Firstly it greatly expanded the production of the cheaper cotton-mixed sarees which are within the reach of the masses. Secondly, apart from producing costlier fabrics for marriage purposes, it started catering more and more to the fashion by replacing the gaudy textures and designs with simple and modern ones. Lastly, it endeavoured to find markets in foreign countries and this has led to a certain extent to export-orientation of its production pattern. This has resulted in improvement in the quality of designs, textures and dyeing etc., and enlarged production of standardised goods.

For planned economic development, the Central Government adopted several new policies, hence this industry has also improved to a certain extent. All India Handloom Board, All India Handicrafts Board, Central Silk Board and U.P. Handlooms came into existence to look after the planned development of this country. A weaving training institute was established in First Five Year Plan to impart training to the weavers and suggested improvements in designs, looms and tools etc. after proper research. During the same period two Government dye-houses with the facilities of silk dyeing have also been opened. Quality marketing scheme has also been introduced in 1957 to ensure certain standardisation of the products. Similarly, cooperative movement has also been brought to the industry and a large number of weavers cooperatives societies have been formed. Besides this a good number of studies have been made in this respect and steps have also been suggested by the Indian & foreign expert to augment the exports of Varanasi products.

During Chinese aggression (1962) this industry faced a grave crisis when the demand of Varanasi products decreased. A large number of looms had to be closed down and many weavers were thrown out of employment. Fortunately the war ended within a fortnight and the industry again strived to make good the loss.

Because of the large and ready clientele the industry has become hereditary occupation of the weavers families, the most of whom were converted to Islam during the medieval Muslim regime. So at present, the most of workers are highly skilled and among them about 90% are Muslims. Hence this industry is naturally concentrated in Muslim community areas of Varanasi city and adjoining villages.

The second most important skill cloth producing centre in the state is Mubarakpur (district Azamgarh). It is believed that silk weaving started here before 350 years, when several Muslim weaver's families migrated from Varanasi to this place. Though cotton and silk union is the speciality of Mubarakpur but some 'satin' cloth is also manufactured in Mau, Kopa and several other villages in Azamgarh district. The fabrics usually woven at these centres are 'sangis' and 'ghaltas'. The warp is usually cotton and the weft is silk or vice versa.

Raw Material

It is significant to note that the silk yarn plays a role of greater importance in this country than the silk produced in the country. Before 20th century approximately 80% of silk yarn, required in this country was imported mainly from China & Japan and rest from Bengal and Karnataka states of the country. During the early 20th century when sericulture industry rapidly developed in Karnataka and Bengal, the use of imported silk from abroad decreased considerably. The percentage of the imported silk in this industry in 1960 was 38.2, while Indian silk shares 51.8 (Bengal & Karnataka states) and rest from the home state. In 1975 the percentage of the total imported silk reduced to 85.00 and at present ap-

proximately 40 percent of the silk yarn required to this industry is available from our own state and rest of the demand is fulfilled by imported silk. The raw material used in the silk producing centres of the state is both mulberry and tasar silk. Fortunately, the state is producing both types of silk in sufficient quantity and the dependency on imported silk of these centres is gradually decreasing.

The below given table no. 4 shows the development of silk textile industry in the state:

Year	No. of Looms	No. of weavers	Approximate silk Textile prod. (000 m.)	Export value (Crores Rs.)
1900	18325	134712	403.15	0.26
1950	32318	277630	710.99	0.80
1960	45600	400500	1078.00	1.00
1970	49780	432150	1100.00	1.50
1980	59000	680000	1350.00	3.95
1984-85	70000	700000	1540.00	5.00

The above table clearly shows the number of looms, number of weavers and silk textile production is growing rapidly since 1970. In this year there were approximately 30000 looms in Varanasi city and in its neighbouring villages, while rest of the looms were in Mubarakpur. At present in Varanasi and Mubarakpur, the number of looms is 40000 and 30000 respectively. On an average 10 weavers remains engaged on every loom. The gross value of out put of the industry to day may be put at Rs. 20.50 crores, which finds market not only throughout the country but in the whole world specially to U.S.A., U.K., U.S.S.R., Canada, France, Kenya, Nigeria and other east european countries. Variety is the key note of the Varanasi and Mubarakpur handloom fabrics. The main items of fabrics produced are 'sarees', 'scarves', dress materials and brocades. The major part of production is that of 'Zari' border sarees which are in demand within the country and also in some other countries of the world. The 'Zari' border of sarees is made by gold and silver threads and approximately 60 kg of gold and 105 kg of silver threads are used every year.

At present it is estimated that the total exports of Varanasi and Mubarakpur silk fabrics and brocades, including purchase by the foreign tourists, would be roughly amount to Rs. 5.00 crores, while in the year 1970, total export of these items was of Rs. 2.00 crore. Thus, in fact, this country is a food eaner of foreign exchange of the country and there is a good scope for its augmentation with proper planning.

Problems

There are various problems which are being faced by this industry. Some of them are given below:

1. Inadequate supply of raw material.
2. Fluctuating price of raw silk.
3. Exploitation of weavers by middleman.
4. Lack of regular employment of weavers.
5. Lack of marketing and exporting facilities.
6. Generally the weavers are weaving the traditional floral design fabrics and find them-

selves unable to changes their techniques and designs according the changing fation time to time.

7. Majority of weavers belong to low income group hence suffers from ill health, poor housing, less schooling facilities for their children and medical facilities.

Keeping in view above problems the adequate and ready supply of silk yarn at reasonable prices is necessary for the healthy growth of the industry. Approximately 40% weavers of this industry do not have their looms, hence they have to work on daily wages and when the supply of raw material is inadequate they remain idle. The average monthly income of these weavers is also very low and these weavers live in slum areas and generally they suffer from various diseases.

Therefore, it may be said, that the industry can subsist on profitable grounds only when it imbibes the spirit of constant change of perception, taste, design and size of the finished products and adjust itself to the world market situation. With these attributes and the vigorous propaganda as it is currently going on, and with better dividends to the weavers and by throwing off the large number of exploiting middleman who are engaged in the marketing of the products at various levels, the industry has good prospects even in the machine age.

Planning

The state Government alone and also with the collaboration of Central Government and Central Silk Boards have implemented various plans and proposed several plans to develop this industry, as well as economic condition of the weavers.

U.P. Sericulture Department has established three silk reeling units at Ramnagar, Baharaich and Mirzapur. The silk yarn will be given to the weavers through the U.P. Handlooms Centres located in different districts at reasonable rates.

Those weavers, who do not have their own looms, Government will give them interest free loan of Rs. 7000.00 which will be refunded on installments.

Weavers who want to establish power looms unit, will be paid Rs. 25000/ and land will also be allotted to them.

Besides this, State Government has established two training centres for weavers at Varanasi and Mirzapur and three more such centres will be opened at Lucknow, Dehradun and Meerut.

Two dyeing factories have been established at Varanasi and 200 houses for poor weavers have also been constructed by the state Government.

At present the state silk products are facing a tough competition from different Handloom Corporations of the country and the consumers are also giving preference for mixed fabrics. There is also an organized attempt of silk yarn traders against the government. Hence there is an urgent need to overcome these problems. The following steps should be taken to develop this industry in the state.

1. Government should patronise this industry and the supply of silk yarn should be under government control.
2. There are several districts such as Etawah, Meerut, Agra, Farukhabad, Jhansi, Banda, Jalaun, Mirzapur, Gorakhpur etc. in the state, having a large number of cotton textile weaver and they may be encouraged and trained for silk weaving and thus these districts may become important silk producing centres in future.
3. Silk reeling units must be established in the districts which has sericulture farms and at least one weavers training centres must be opened having free training and lodging facilities.

4. Interest free loan to the weavers through the banks should be given for the establishment of silk textile units.
5. Introduction of silk garments for different sex and age. Because in the state almost 95% weavers are engaged in making silk sarees.
6. U.P. Handloom Corporation Ltd. is a Marketing Organisation of the handloom weavers in the state and it is necessary that this department must purchase all the silk products produced by the weavers. In this way exploitation of weavers by middleman and big traders may be checked.

On 31st August 1985, the Industry Minister of the state has announced that to increase the silk textile production two separate departments —'Directorate of Sericulture' and Silk Textile Corporation— will be established before March 1986. With the collaboration of Central Silk Board, a training centre for weavers will be established at Lucknow, with a capital investment of Rs. 3 crores. Similarly two more such centres will be established at Baharaich and Meerut in near future. Insurance scheme for weavers has also been introduced (for Rs. 10000) from this year and every weaver will have to pay Rs. 25.00 per year as its premium. The above said statement of the minister clearly indicates that the state government is very interested to develop silk industry as well as to raise the economic status of the weavers.

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Appendix I

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|-------------------|-------------------|
| 1. Uttarkashi | 31. Barabanki |
| 2. Chamoli | 32. Jalaun |
| 3. Pithoragarh | 33. Hamirpur |
| 4. Dehradun | 34. Jhansi |
| 5. Tehri | 35. Lalitpur |
| 6. Garhwal | 36. Banda |
| 7. Almora | 37. Fatehpur |
| 8. Nainital | 38. Rae Bareli |
| 9. Saharanpur | 39. Sultanpur |
| 10. Bijnor | 40. Faizabad |
| 11. Mujaffernager | 41. Allahabad |
| 12. Meerut | 42. Jaunpur |
| 13. Moradabad | 43. Azamgarh |
| 14. Rampur | 44. Ballia |
| 15. Ghaziabad | 45. Ghazipur |
| 16. Bulandshahr | 46. Varanasi |
| 17. Aligarh | 47. Mirzapur |
| 18. Budaun | 48. Deoria |
| 19. Bareilly | 49. Gorakhpur |
| 20. Mathura | 50. Basti |
| 21. Agra | 51. Gonda |
| 22. Etah | 52. Sitapur |
| 23. Mainpuri | 53. Shahajahanpur |
| 24. Etawah | 54. Pilibhit |
| 25. Farrukhabad | 55. Baharaich |
| 26. Hardoi | 56. Kheri |
| 27. Kanpur Dehat | 57. Pratapgarh |
| 28. Kanpur | |
| 29. Unnao | |
| 30. Lucknow | |

El creixement de la sericultura i el seu impacte en la indústria tèxtil de U.P. Índia

Resum

L'Índia presenta com a distinció característica el fet d'ésser l'únic país productor de les quatre varietats comercialment conegudes de seda i es troba entre els quatre països capdavanters en la producció de seda en el món. La sericultura és un tasca industrial basada en l'agricultura que proveeix de feina àrees rurals sense ocupació o amb ocupació reduïda.

Encara que Uttar Pradesh, el quart estat més gran del país, ocupa una posició inferior en la sericultura i la indústria de la seda, la importància de la indústria en l'economia del país no es pot ignorar en vista de la gran demanda de tèxtils de seda tant nacional com internacional i el gran potencial d'ocupació que genera. La sericultura d'U.P. ha fet avanços des dels primers esforços duts a terme pel govern de l'estat en el Districte de Deharadun l'any 1948. El 1951, per primera vegada es van produir 300 kgs de capolls de cucs de seda i des d'aleshores aquesta indústria ha crescut ràpidament i l'any 1984 se'n van produir 200.000 kgs. Actualment existeixen 212 granges de l'Estat i privades que cobreixen una àrea de 11.805,99 acres i donen oportunitat de treball a 30.000 persones procedents, majoritàriament, dels sectors pobres de la societat.

La ciutat de Varanesi és famosa per la seva indústria tèxtil a l'Índia i a l'estranger. Durant segles, Varanesi ha estat important matèries primeres d'altres estats, però ara, U.P n'exporta a d'altres estats del país. En aquesta comunicació s'intenta analitzar el creixement espacial i temporal de la indústria de la seda així com altres aspectes, des del cultiu de la móra fins el teixit, els seus problemes, etc. Es suggereix un pla per desenvolupar la sericultura i la indústria tèxtil.

La croissance de la sériculture et son impact dans l'industrie a l'Inde

Résumé

L'Inde a la distinction d'être le seul pays qui produit les quatre variétés connues commercialement de la soie et qui se trouve entre les premiers pays producteurs de la soie dans le monde. La sériculture est une importante industrie basée en une tasque agricole intensive et qui pourvoit d'emploi à certaines zones rurales sans occupation.

Malgré que Uttar Pradesh, le quatrième état le plus grand du pays, occupe une position inférieure dans la sériculture et l'industrie textile, l'importance de l'économie dans cet état ne peut pas être ignorée, à cause de la grande demande nationale et internationale et le potentiel d'occupation qu'elle produit. La sériculture à Uttar Pradesh a expérimentée grandes avancées depuis les efforts pris par le gouvernement de l'état l'année 1948 dans le district de Deharadun. En 1951, pour la première fois, on a produit 300 kg de cocons, et après ça, cette industrie a grossi rapidement. Dans l'année 1984 on a produit 200000 Kg de cocons. Dans l'actualité il-y-a 212 fermes de l'Etat et privées qui occupent une aire de 11.805,99 acres et donnent occupation a 30.000 personnes, qui viennent souvent de la section la plus pauvre de la société.

La cité de Varanasi est connue par son industrie textile à l'Inde et ailleurs. Pendant des siècles, Varanasi a été l'importateur de matières premières procedents d'autres états, mais aujourd'hui elle exporte à d'autres états. Dans ce papier il s'agit d'analyser la croissance spatiale et temporelle de l'industrie de la soie et tous les aspects de la culture jusqu'à le tissage, ses problèmes, etc. On suggère aussi un plan pour développer la sériculture et l'industrie textile.