Directory of Completed Sericulture Projects and Sericulture Experts of India
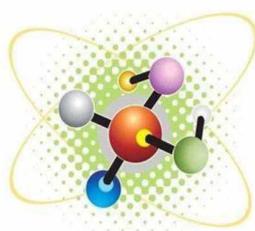
Part II
Directory of Sericulture Experts

Sponsored by

NSTMIS DIVISION
Department of Science and Technology, Government of India, New Delhi

Principal Investigator
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KARNATAKA STATE SERICULTURE RESEARCH AND DEVELOPMENT INSTITUTE
Thalaghattapura, Bangalore-560 062

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ACKNOWLEDGEMENT

FLOW CHART OF THE DIRECTORIES

Directory of Completed Sericulture Projects and Sericulture Experts of India

PART-I

Directory of Sericulture Projects
Volume I
Volume II

PART-II

Directory of Sericulture Experts

You are reading this directory

PART-III

Directory of Sericulture Technologies

PART-IV

Directory of Sericulture Publications
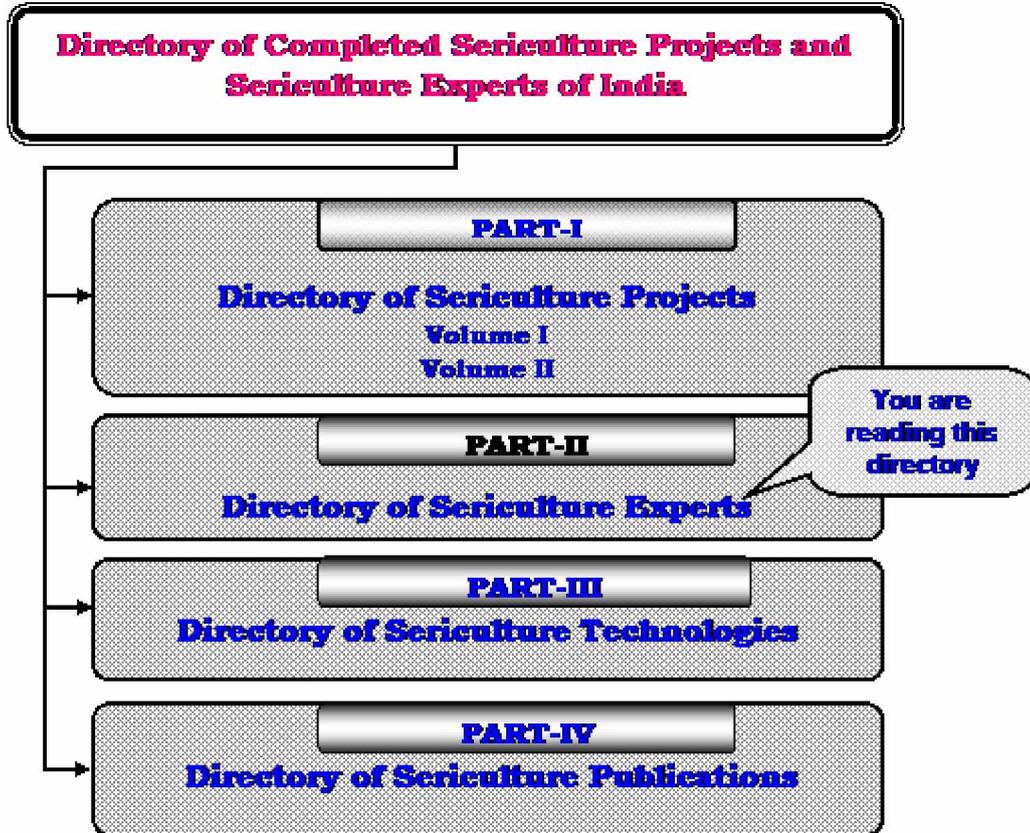
EXECUTIVE SUMMARY

A Project entitled, *'Preparation of Directory of Completed Sericulture Projects and Sericulture experts of India'*, sponsored by Department of Science and Technology, Government of India, New Delhi, was implemented at Karnataka State Sericulture Research and Development Institute, Thalaghattapura, Bangalore during 2005-2008 with an objective to bring out comprehensive directories on the Sericulture Research Projects implemented, Experts working in the field of Sericulture , Technologies Developed and Publications brought out. Periodical guidelines were sought from the Local Project Advisory Committee (LPAC) during the project period in addition to a mid term appraisal workshop. The brief outcome of the resourced information is given below.

As envisaged in the project the directories are brought out in four parts, namely ;

Part I   : Directory of Sericulture Projects (Vol. I & II)

Part II   : Directory of Sericulture Experts

Part III : Directory of Sericulture Technologies and

Part IV : Directory of Sericulture Publications

Part II : Directory of Sericulture Experts

- The directory contains the brief profile of sericulture experts who fulfill the criteria of B.Tech (Textiles)/M.Sc. with 15 years or M.Tech (Textiles)/Ph.D. with 10 years of experience for R & D Institutes and Universities and 10 years of experience for extension/administration experts who are Deputy Directors and above.

- 843 subject experts from 78 Organizations/Universities/Departments have responded with their contributions and achievements in sericulture through the questionnaire supplied. Information from 144 experts in the area of mulberry, 340 in the field of mulberry silkworm, 61 from silk technology, 87 concerned with non-mulberry, 35 from specialized fields and 10 from others have been collected through formats. In addition, information on 321 experts from their respective administrative offices and 157 addresses were gathered from secondary source.

- 75% of experts are in the age group of 45-55 years and 7% below 45 years.

- The directory gives the experts index at the end of the directory which facilitates ready access.

- The directory information will be made available in the search option CD along with hard copy of the directory and also on public domain website kssrdi.org.

CHAPTER I

INTRODUCTION

Sericulture' is an art and science of rearing of silkworms to produce cocoons and silk. This activity, apart from the rearing of silkworms, also involves growing of mulberry leaf the only feed for silkworms, reeling of silk yarn from cocoons, weaving the silk yarn and further processing it to produce the silk fabric. There are many more ancillary activities encompassing the sericulture activity such as silkworm egg production, fabrication of rearing appliances, production of organic manures, development of irrigation methods, fabrication of garden machineries, waste silk units, byproduct utilization units etc. Silk is the natural textile fiber and accounts for 0.2% of the textiles in the world. Though accounting for a meager quantity in textile sector, silk attracts the user by its glamour, elegance, richness and beauty. The production of raw silk and silk fabrics are limited to only a few countries in the world of which China occupies the first place and India, the second. Other countries such as Japan, Russia and countries of former USSR, Korea, Iran, Thailand, Vietnam, Brazil, Turkey, Bulgaria, Yugoslavia, also contribute to the world silk production. Silk goods from India are exported to major countries like USA, Germany, UK, Italy, France, Spain, Canada, Australia, Switzerland, Greece, Netherlands, UAE, Belgium, Denmark, Austria, Portugal and few others. There has been a strong market for the silk and silk goods in the International level. The demand for silk goods is expected to exist as long as the human race appreciates its wearing.

Sericulture is an important means for the socio-economic development of the rural masses and provides an ideal opportunity for developing countries having a major rural sector. It is a highly labour intensive, profit oriented, low input indoor activity that gives frequent periodicity of economic returns. It is also well suited for the women folk of rural sector. An acre of irrigated mulberry provides employment to 5 persons throughout the year and earns net returns of around Rs. 60,000/- per year which is substantial compared to other similar crops. It also provides major occupation for the moisture deficit tracts of rainfed agriculture in the tropics.

Indian sericulture industry : Sericulture in India is unique by itself producing all the four varieties of silk namely Mulberry and Vanya (Tasar, Eri and Muga) silks. Of the four varieties of silk, mulberry silk accounts for 91% and the balance is shared by other varieties. Mulberry raw silk is produced mainly in the States of Karnataka, Andhra Pradesh, Tamil Nadu in the tropical zone and West Bengal and Jammu and Kashmir in the sub-tropical and temperate zones and these are called the traditional states. These five states account for nearly 98.7% of the total mulberry raw silk production of the country. Out of the five traditional States producing mulberry raw silk, Karnataka is in the forefront contributing 56.8% to the raw silk production of the country. The second position is occupied by the state of Andhra Pradesh contributing 28.9% of raw silk.

India is producing about 15,000 metric tones of raw silk annually, creating employment to over 6 million people directly and indirectly. India is again unique in the silk consumption process. About 80% of the total production is consumed locally. The traditional pattern of dress, weaving and the raw silk consumption for manufacture of these fabrics contribute for the bulk utilization. Hence, there is sufficient domestic market for the silk produced in the country. India is earning foreign exchange of over Rs. 2000 crores annually. Further efforts are being made to produce bivoltine raw silk of export quality for transaction in the International raw silk market.

It is to be mentioned here that at the Global level, India is the only country which is steadily increasing its production of raw silk year by year. Other countries have recorded a declining trend. With this situation, the demand and supply gap will increase and thus India has a good opportunity to expand the Industry and produce more and more silk to reduce this gap and to make a dent in the world raw silk market.

Indian sericulture research : Research is a basic requirement and is a continuous process for the development of any industry and it is so for sericulture. Central and State sector Research Institutes have

largely contributed for sericultural development through several technologies evolved during the last few decades.

Major focus of research is given to labor reduction, yield and quality improvement programs in mulberry leaf production, silkworm rearing and post cocoon sectors. Continuous efforts in research have contributed for developing few high yielding mulberry varieties with improved nutrition. High productive bivoltine and multivoltine silkworm races have also been evolved to replace the old low yielding local races. Technologies related to mulberry cultivation, silkworm rearing and disease and pest management have also been vital for increased production.

Despite implementation of many research projects in sericulture, there is no compiled information on the projects and findings is lacking at the State or at the Central Govt. level as a document. This is a drawback for further planning and development of the industry. The present project is aimed at documentation of these projects details in well compiled form and hence the proposal.

A number of research and extension projects have been implemented for the development of sericulture industry in India. The research findings have contributed a great deal for sericulture development in the form of higher productivity and quality. Over the past three decades the production of cocoons/unit quantity of seed has trebled while the mulberry leaf production per hectare has doubled. All these have been made possible due to technological inputs resulted from intensive research and extension programmes/projects implemented in the country.

The progress achieved over the years in sericulture is the collective effort of the personnel working in the industry. The involvement of the personnel has been at different levels and their individual contributions are worth considering. Scientists in the R & D sector have been mainly involved in developing appropriate and need based technologies to meet the specific requirement of the industry. In addition, many people have been involved in different capacities in sericulture extension, planning, project implementation and in administration of the sericulture industry.

In addition to State and Central Government organizations various voluntary and cooperative groups, non-governmental organizations (NGO's), self help groups, corporate sectors and multinational organizations have been actively involved in sericulture related developmental programmes during the last two decades. The proposed document will be useful for such organizations to get the state of the art technical know-how from the concerned subject experts.

Sericulture related HRD programmes were taken up in large scale during the past 2-3 decades under the developmental programmes funded by World Bank and other international funding agencies both at national and state levels. As a result, universities all over India have drawn sericulture/silk textile courses at various levels like Undergraduate diploma, Bachelors degree, Post graduate/Masters' degree and Doctoral degrees. Consequently, a large number of trained manpower is generated throughout the country. In addition, international training programmes have been implemented by the Central Silk Board since 1980s thereby generating specialized as also general expertise mainly to the personnel of the sericulture industry of Afro-Asian and Latin-American developing countries. Consolidated information of the persons who have successfully completed the courses however, is not available. Further, information on trained, working and retired subject experts from different state and central Governments, universities and other organizations is not consolidated. This is a set back for the planners and administrators to draw future plan of action for the envisaged developmental programs. The proposed project is aimed at documentation of database of the sericulture experts at national level in a well compiled form and hence, the project has been proposed with the objectives given below.

About the project : The Karnataka State Sericulture Research and Development Institute, Bangalore has implemented the project, *"Preparation of Directory of Completed Sericulture Projects and Sericulture Experts of India"*, with the financial support from National Science and Technology Management Information System (NSTMIS), Department of Science and Technology, Government of India.

The need of the project : A number of Research, Development and Extension related projects have so far been implemented in India. These research findings have contributed a great deal for the development

of Sericulture Industry in India and elsewhere towards the improvement in quality and productivity. However, the details of these projects in a compiled form are not available either at the regional level or at the national level. Hence the project was envisaged with the following objectives.

Objectives:

- To compile and bring out a consolidated directory of completed sericulture projects in India with relevant details (Part-I);

- To bring out a consolidated profile of Planners, Scientists and Extension personnel involved in the national progress of sericulture industry (Part-II);

- To compile and bring out a consolidated report on the sericulture technologies evolved in India (Part-III);

- To bring out a consolidated information on the literature published on the sericulture related research work carried out in India, in the form of a directory (Part IV);

- To bring out the directory in the form of book (hard copy), in CD (soft copy) and to launch the directory in the internet (e-copy).

CHAPTER II

METHODOLOGY

To collect the information on sericulture experts, a questionnaire (Form 2a & 2b, Annexure-II) was developed based on the suggestions of the Local Project Advisory Committee (LPAC), approved by the DST. In order to resource the information from different Institutions of the country, Nodal Project Coordinators were identified with the help of Heads of Different Institutions/Departments and they were trained for collecting the information from the available sources in the respective Institutions. In addition, the printed formats for collection of data were despatched to all the agencies/experts involved in sericulture research, development and extension, along with the covering letter explaining the objective and scope of the directory with a request to return the completed format to the Investigator and to circulate the format among colleagues. Since the response was very poor initially, the formats were sent along with a request letter from Dr. Laxman Prasad, Adviser, NSTMIS, DST, New Delhi, followed by three reminders at an interval of 3 months in between to the non-respondents. The Principal Investigator travelled extensively throughout the country and met the Heads of organizations and requested them to give consent to their subordinates to send the required information. The format was made available in the KSSRDI official website www.kssrdi.org. The PI, while attending sericulture related workshops and seminars, distributed formats and pamphlets about the project with a request to provide the required information. This was followed-up through regular phone calls and email massages and visits.

Criteria fixed for experts :

a) For R & D institutes, Universities and Colleges :

- M.Sc. + 15 years experience + Publications in leading journals or Ph.D. + 10 years of experience+ Publications in leading journals.
- B.Tech. (Textile) + 15 years of experience + Publications in leading Journals or M.Tech.(Textile) with 10 years of experience + Publications in leading journal..

b) For Extension, Administration, Planning, Marketing and other related specializations
- Graduation + 10 years of experience + Deputy Director (or equivalent) and above.

Source of information :

The information was resourced from

- Central Sericulture Agencies : The CSB, and its Mulberry silk and Vanya silk related Institutes,
- State Sericulture Agencies : State Research Institutes like APSSRDI, KSRSAC, and KSSRDI
- Universities and Colleges, and
- NGO's.

Type of data :

i) Primary data : The data collected from the following sources was classified as Primary data
- Personal interaction,
- Interaction with the Organizations / Departments.

ii) Secondary data : The secondary data was collected from
- Annual reports of Research organizations and administrative reports of sericulture departments.
- Published literature

Classification of data : Sericulture experts are classified based on their expertise in different subjects and presented in the Table-1.

Table-1. Classification of experts based on the subjects.

Sl. No.	Category	No.
1	Mulberry Sericulture Experts	487
2	Non-mulberry Sericulture Experts	87
3	Silk Technology Experts	61
4	Administration, Extension, Planning, Silk Marketing and Technical Service Experts	166
5	Documentation, Economics, Engineering, Statistics and Social Scientists	35
6	Fashion Designing, Finance, Marketing and related Experts	10
7	Experts based on the Information Resourced from their Administrative Offices	321
8	Addresses only	157
	Total	1324

Salient observations : The summary of the data collected from various sources under different Organizations are given in Table-2.

846 subject experts from 79 Organizations/Universities/Departments responded in sharing their expertise for documentation (Mulberry-146, Silkworm-354, Non-mulberry-87, Silk Technology-61, Administration-166 and Others-45) and the information has been collected from primary source. In addition, information of 321 experts is added from secondary source.

This Directory information is also available in the search option CD provided along with this directory and also on public domain website www.kssrdi.org.

Table-2 : Sericulture experts of different organizations whose biodata was resourced for Experts Directory

Sl. No.	Name of the Institute/Organization	Information Resourced (No. of experts)
I level (Information collected through formats)		
1	CSB – Inservice and Rtd. Officers (Admin/ Office)	41
2	Central Muga and Eri Research and Training Institute, Jorhat	25
3	Central Sericultural Germplasm Resources Centre, Hosur	19
4	Central Sericultural Research and Training Institute, Berhampore	63
5	Central Sericultural Research and Training Institute, Mysore	131
6	Central Sericultural Research and Training Institute, Pampore	21
7	Central Silk Technological Research Institute, Bangalore	25
8	Central Tasar Research and Training Institute, Ranchi	52
9	Indian Institute of Science, Bangalore	2
10	National Silkworm Seed Organization, Bangalore	70
11	Seribiotech Research and Laboratory, Bangalore	9
12	Silkworm Seed Technology Laboratory, Bangalore	20
13	Andhra Pradesh State Sericulture Research & Development Institute, Hindupur	6
14	Karnataka State Remote Sensing Applications Centre, Bangalore	2

15	Karnataka State Sericulture Research and Development Institute, Bangalore	60
16	Universities	103
17	National Bank for Agriculture and Rural Development, Bangalore	1
18	Karnataka Silk Marketing Board, Bangalore	6
19	Department of Sericulture, Karnataka	95
20	Department of Sericulture, Other States	49
21	Others	46
II Level (Information resourced from Administrative Offices)		321
II Level (Correspondence Addresses of experts)		157
	Total	1324

CHAPTER III

ABOUT THE DIRECTORY

The directory is a repository or database of information. A directory, as opposed to a conventional database, is heavily optimized for reading.

Definitions :

The Directory : The directory is the reservoir of information about a particular subject that generally would not be considered harmful or an invasion of privacy or loss if disclosed otherwise it should be useful to a community (www.wikipedia.com).

An expert : There are various definitions available in the Internet. More or less they mean the same. (www.wikipedia.com)

- An expert is someone widely recognized as a reliable source of technique or skill whose faculty for judging or deciding rightly, justly, or wisely is accorded authority and status by their peers or the public (www.wikipedia.com).
- An expert, more generally, is a person with extensive knowledge or ability in a particular area of study. Experts are called in for advice on their respective subject, but they do not always agree on the particulars of a field of study.
- An expert can be, by virtue of training, education, profession, publication or experience, believed to have special knowledge of a subject beyond that of the average person, sufficient that others may officially (and legally) rely upon the individual's opinion.

The directory under this project "Preparation of Directory of Completed Sericulture Projects and Sericulture Experts of India", is brought out in four parts, namely,

Part-I   : Directory of Completed Sericulture Projects (Vol. I & II).
Part-II   : Directory of Sericulture Experts
Part-III : Directory of Sericulture Technologies and
Part-IV : Directory of Sericulture Publications

How to use the directory : Three levels of data are given in this directory, based on the response from the experts.

i) **Detailed information** (Fig.1) : Information is available for the experts who have responded with the details, in the given format.

ii) **Partial information** (Fig.2) : Information resourced from the respective administrative offices, websites and print source.

iii) **Only addresses** (Fig.3) : Information on the experts who have not responded/available and those communication address has been given.

Fig.1. Sample page of complete information of the experts.

Fig .2. Sample page of information of experts resourced at respective administrative offices, websites and print source.

Fig. 3. Addresses of the experts.

Name: Dr. Ahlawat VP
Designation: Director of Horticulture
Office Address: Govt. of Haryana, Sericulture Complex, Near Grain & Vegetable Mandi, Sector-21, Panchkula, Haryana

Name: Prof Ananthanarayan SR
Designation: Reader
Office Address: Department of Sericulture, Bangalore University, Jnana Bharathi Campus, Bangalore, Karnataka. - 560 056

Name: Dr. Anitha Peter
Designation: Associate Professor
Office Address: Department of Biotechnology, University of Agriculture Science, Gandi Krishi Vignana Kendra, Bangalore, Karnataka. - 560 065

Name: Mr. Ashok J
Designation: Associate Professor
Office Address: College of Agriculture, University of Agriculture Science, (D), Raichur., Karnataka.

Name: Mr. Chandrakumar SK
Designation: Deputy Director of Sericulture
Office Address: Dept. of Sericulture, GOK, South Canara Complex, Rasika Chambers, Central Market Road, Mangalore, Mangalore Dist, Karnataka

Name: Dr. Fatima S
Designation: Associate Professor
Office Address: Department of Sericulture, University of Agriculture Science, Gandi Krishi Vignana Kendra, Bangalore, Karnataka. - 560 065

Name: Dr. Gokulthe SB
Designation: Vice President
Office Address: BAIF Development Research Foundation, Central Research Station, Uruh-Kanchan, Pune, Maharastra. - 412 202.

Name: Prof. Gowda BLV
Designation: Associate Director of Research
Office Address: ZARS, University of Agriculture Science, (B), Navile, Shimoga, Karnataka.

Name: Mr. Ibrahim Basha
Designation: Research Assistant
Office Address: Andra Pradesh State Sericulture Research and Development Institute, Kotipi Road, Kirikera, Hindupur, Andra Pradesh, - 515 211

Name: Mr. Javarayee D
Designation: Deputy Director of Sericulture,
Office Address: Dept of Sericulture, GOK, Govt. Silk Filature, Santhemaralli, Chamarajanagar, Karnataka

Name: Mr. Khoda Ruja
Designation: Director of Textiles & Handicrafts
Office Address: Govt. of Arunachal Pradesh Udyog Sadan, Itanagar, Arunachal Pradesh - 791 111

Name: Prof. Likvathi
Designation: Head of the Department of Zoology
Office Address Gandhi Gramma Rural University, Gandhigram, Dindagal, Tamil Nadu. - 624 302

Name: Dr. Patil JS
Designation: Deputy Directore of Sericulture,
Office Address: Dept. of Sericulture, GOK, Zillapanchayat, Sericulture Complex, Dharwar district, Karnataka.

Name: Mr. Phani Kiran Kumar K
Designation: Research Assistant
Office Address: Andra Pradesh State Sericulture Research and Development Institute, Kotipi Road, Kirikera, Hindupur, Andra Pradesh - 515 211

Analysis

The objective of bringing out a consolidated profile of scientists, administrators, extension and related specialized field personnel involved in the progress of sericulture industry at the national level has been addressed in the directory of sericulture experts,.

The primary and secondary data, obtained through various sources are documented, analyzed and presented in this chapter.

1. Classification of data based on information resourced : As detailed in Table-1, the data of experts is resourced at 3 levels. In the I level, information was received through the prescribed formats. The number of experts with the specified criteria responded through the prescribed format are, 846, out of which 736 (87%) were males and 110 (13%) were females (Fig.1).

Table-1: Gender-wise experts information

Data Source		Male		Female		Total
		No.	%	No.	%	No.
I Level	Resourced through formats	736	87	110	13	846
II Level	Resourced from Offices	296	92	25	8	321
III Level	Address only	146	93	11	7	157
Total		1178	89	146	11	1324

The II level data of 321 experts was collected from the respective administrative offices of Institutions/Departments, out of which 296 (92%) were males and 25 (8%) were females.

The III level data consists only of addresses and this was collected from various sources such as publications, literature, cross references etc. Since the II and III level data consisted of bare minimum information, they could not be used for most of the analysis work and data from I level were only used.

Fig -1: Gender-wise experts information
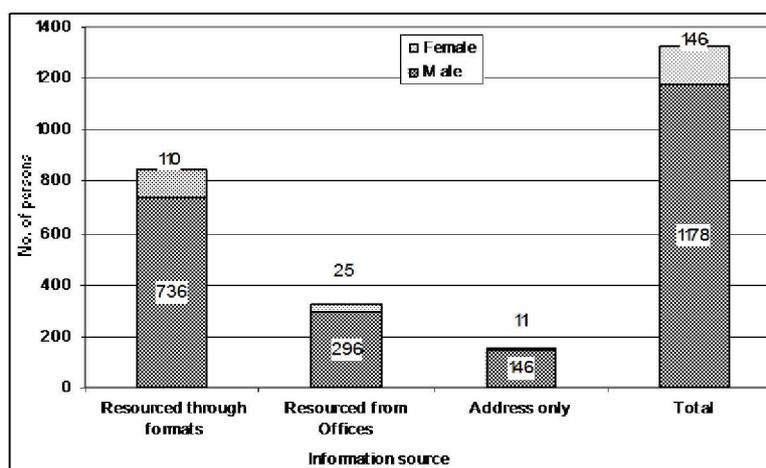
2. Classification of experts based on field of expertise : The data of I-level experts is classified discipline wise and presented in Table-2.

The analysis is based on the data provided by the experts in prescribed formats (846 experts). Maximum of 487 experts were found to be involved in the field of Mulberry Sericulture (408 males and 79 females) (Table-2, Fig-2) followed by those working in Administration i.e., 166 experts (163 males and 3 females). In Non-mulberry sector (Eri, Tasar and Muga), 87 experts (77 males and 10 females) were involved, while in Silk Technology of both mulberry as well as non-mulberry sectors, 61 experts (58 males and 3 females) were found to be working. In the other fields which are detailed in the following paragraphs,45 experts (28 males and 17 females) were engaged.

Table-2 : Details of the experts in different fields of sericulture

Sl. No	Field of Expertise	Male		Female		Total
		No.	%	No.	%	
1	Mulberry Sericulture	408	84	79	16	487
2	Non-Mulberry	77	89	10	11	87
3	Silk Technology	58	95	3	5	61
4	Administration	163	98	3	2	166
5	Other Fields	28	62	17	38	45
	Total	734	87	112	13	846

Fig-2. Gender-wise classification based on expertise
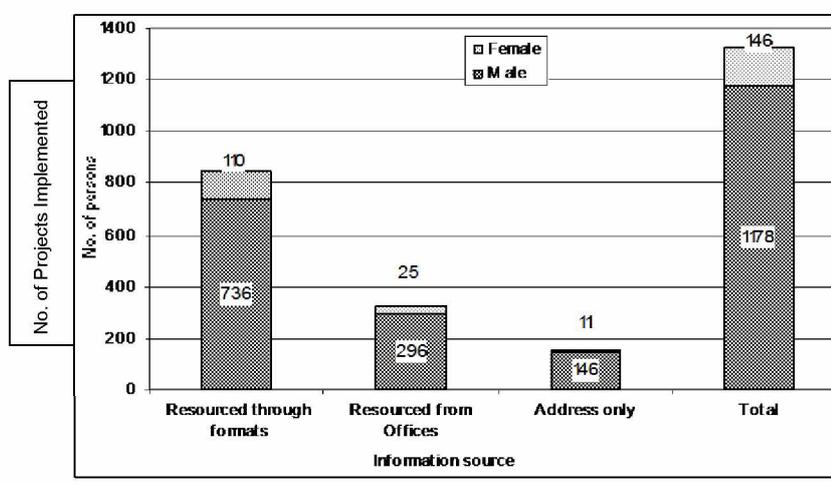
Details of gender and service status of the experts related to Mulberry sericulture is given in Table-11 at the end of this chapter. Table-3 gives the summary of the gender-wise classification of experts in the field of Mulberry sericulture under moriculture and sericulture division.

a. In Moriculture sector, (Table-3) out of 13 Central Institutions (as detailed in Table-11 at the end of this chapter), 93 male and 15 female experts (total of 108) have been serving. In the 3 State level Institutes APSSRDI, KSSRDI and KSRSAC, 17 male and 2 female experts (Total of 19) have been working. 1 male scientist has been working in a Private Research foundation. In the 36 Colleges and Universities, 11 male and 7 female experts (Total of 18) have been working. Totally in Moriculture field 146 persons (122 males and 24 females) are working.

Table-3. Gender-wise classification of experts in the field of mulberry sericulture.

Sl. No.	Organizations/Universities/ Colleges	Moriculture			Sericulture			Grand Total
		Male	Female	Total	Male	Female	Total	
1	Central R & D Institutions (13)	93	15	108	183	32	215	323
2	State R & D Institutes (3)	17	2	19	31	7	38	57
3	Research Foundations (3)	1	---	1	3	---	3	4
4	Universities and Colleges (36)	11	7	18	69	16	85	103
	Total	122	24	146	286	55	341	487

b. In Sericulture sector (Table-3), in 13 Central Institutions, 183 male and 32 female (Total 215) experts have been working. In the 3 State level Institutes, 31 male and 7 female (Total of 38) experts have been serving. In the 3 Private Research foundations, 3 male scientists are working. In the 36 Colleges and Universities, 69 male and 16 female experts have been working (Total of 83 persons). A total of 341 experts (286 males and 55 females) were found to be involved in the field.

Table-4 gives the details of the experts working in Non-Mulberry sector - 87 experts, of whom 77 are males and 10 are females have been working in 4 Institutions. Table-5 gives the details of the experts working in the field of Silk Technology. Silk Technology consists of 61 experts working both in the Mulberry sector as well as in Non-mulberry sector in 13 Institutions (58 males and 3 females). 166 experts (163 males and 3 females) in 19 Departments of Sericulture of different States and related Institutions have been found to be involved in administration. (Table-6) of which 55 persons have retired as of March 2008.

Table-4 : Gender-wise experts in the field of non-mulberry sericulture.

Sl. No	Organizations/Universities/Colleges	Male	Female	Total
1	Central Tasar Research & Training Institute, Ranchi	42	6	48
2	Central Muga, Eri Research & Training Institute, Jorhat	23	2	25
3	National Silkworm Seed Organization, Bangalore	10	2	12
4	Regional Research Laboratory, Jorhat	2	---	2
	Total	77	10	87

Table-5. Gender-wise classification of experts in the field of silk technology

Sl. No	Organizations/Universities/Colleges	Male	Female	Total
1	Central Institutes (8)	35	2	37
2	State Institutes (2)	7	1	8
3	Colleges (3)	16		16
	Total	58	3	61

Table-6. Gender-wise classification of experts in the field of administration/extension

Sl. No.	States/ Organizations	Gender		Service		Total
		Male	Female	Retired	In-service	
1	Central Govt. (2)	14	-	-	14	14
2	State Govt. (16)	149	3	55	97	152
	Total (19)	163	3	55	111	166

In addition to the above, information on 45 (28 Males and 17 Females) experts in related field has been documented in the directory and the details are given in Table-12 at the end of this chapter.

3. Subject background of experts : The subject background of the I Level experts is given in the Table-7 and Fig. 3

Table-7. Qualification of I level experts

Sl. No.	Subject Specialization	Ph. D	Masters degree	Bachelors degree	Total
1	Mulberry	337	149	1	487
2	Non-Mulberry	50	37	---	87
3	Silk Technology	15	29	17	61
4	Administration	14	62	90	166
5	Specialized fields	11	21	3	35
6	Others	1	1	8	10
	Total	428	299	119	846

Fig -3 : Qualification of I level sericulture experts
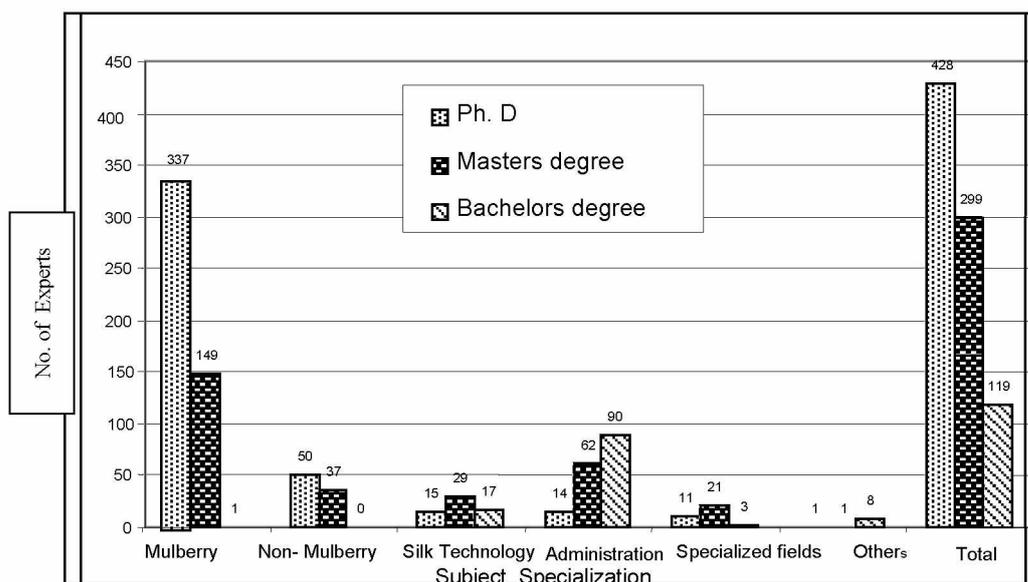
Fig - 4 : Qualification of II and III level sericulture experts
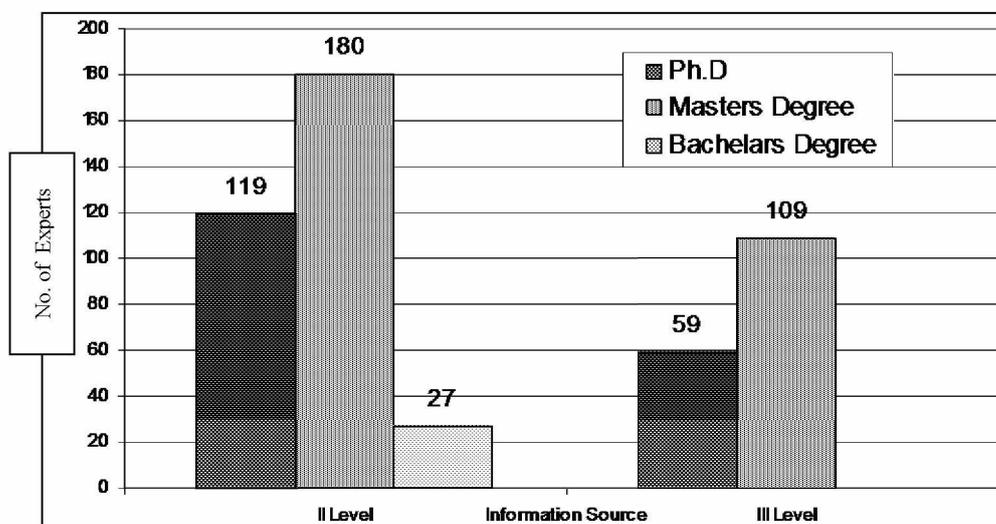
Table -8 : Subject specialization of sericulture experts of India

Sl No.	Subject	I level	II level	Total	%
1	Zoology	262	151	413	35.4
2	Botany	126	73	199	17.1
3	Sericulture	97	---	97	8.3
4	Agriculture	55	---	55	4.7
5	Textiles	48	12	60	5.2
6	Others	258	85	343	29.4
	Total	846	321	1167	---

Note: III level experts' subject specialization information is not available

The data of I and II level experts indicates that, of the 1167 experts, 413 experts (35.44%) studied Zoology in their post-graduate studies while 199 experts (17.08%) studied Botany. 97 experts (8.28%) are

with the background of Sericulture. 55 are (4.70%) with Agriculture subject background. 60 (5.21%) are with Textiles degree and 343 (29.29%) are with other Master/Bachelors degrees. (Fig-5).

Fig-5. Subject background of the experts
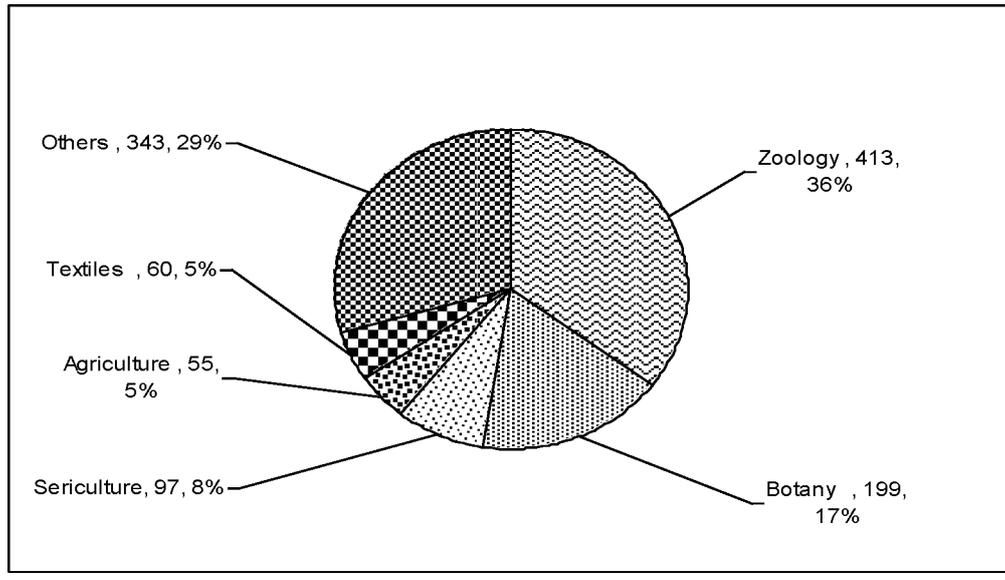
4. Classification based on age : Age-frequency distribution of experts as on 2008 is detailed in Table-9 and Fig-6. Out of 846 experts (I level), 84.58% of the experts (783) were under the age group of 39-63. 137 experts belonging to the age group of 59-98 (17%) have retired from service. 208 experts in the age group of 54-58 (25%) will retire in a couple of years. In total 498 experts are in the age group below 53 years and will have considerable duration of fruitful service. However, more number of experts will be added to the list, who have not been included in this directory because of the criteria limitations. Assistant Directors and below ranks in various State Government Sericulture Departments, as also some scientists in the Institutions will join the list.

Table-9 Age based distribution of experts as on 2008.

Age	Mulberry	Non-mulberry	Silk Technology	Admin istration	Others	Total	%
34-43	48	9	11	---	8	76	9.01
44-48	102	16	25	5	9	160	18.91
49-53	165	33	16	39	12	265	31.43
54-58	104	22	3	67	12	208	24.67
59-63	40	7	2	31	3	83	9.86
64-98	25	---	4	24	1	54	6.41
Total	484	87	61	166	45	846	100

Fig-6: Distribution of experts based on age and specialization as on 2008.
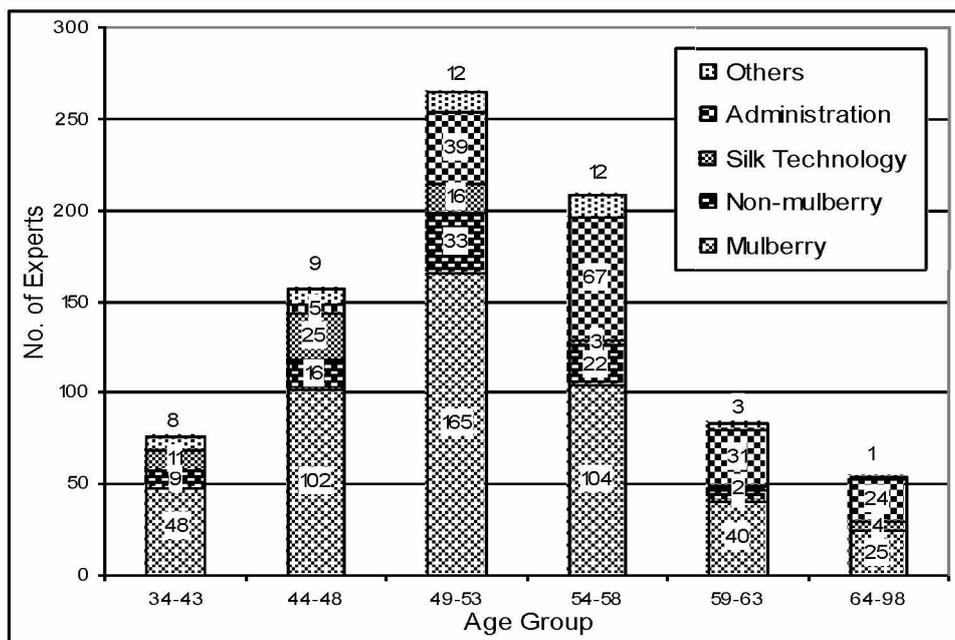
In total 498 experts are in the age group below 53 years and will have considerable duration of fruitful service. However, more number of experts will be added to the list, who have been not included in this directory because of the criteria limitations. Assistant Directors and below ranks in various State Government Sericulture Departments, as also some scientists in the Institutions will join the list.

5. Experts who have handled research projects : This information has been culled from the Part-I of the Directory: Directory of Completed Sericulture Research Projects of India. Number of projects handled by experts varies from 1 to 113. 26 persons have handled more than 50 projects.

6. Experts who have guided Ph.D. students : Fig-8 gives the details of the number and percentage of experts who have guided Ph.D. students. Of the 846 experts, 126 (14.95%) have guided research students leading to the degree of Ph.D.

Fig-7 : Experts who have guided Ph.D. students.
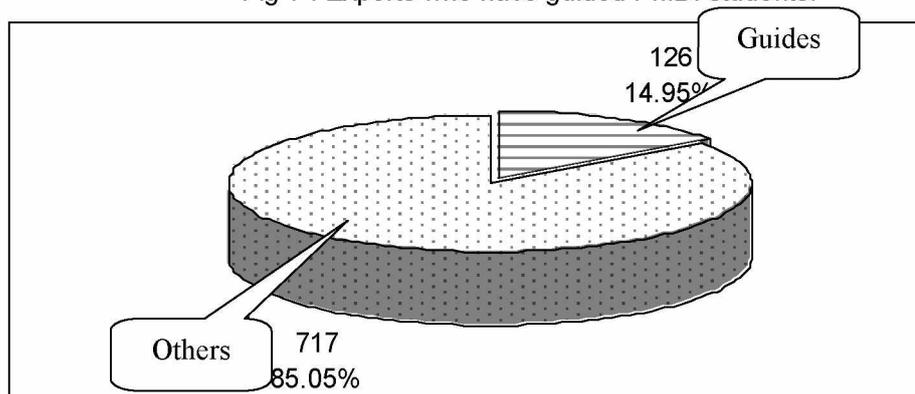
7. Experts who have contributed for the books : Fig-9 gives the details of the number and percentage of experts who have contributed for books. Of the 846 experts of I level, 275 (32.51%) have written books or chapter(s) in edited books. Rest of the 571 experts (67.49%) have not contributed for the books.

Fig-8: Experts who have written/contributed for the books.
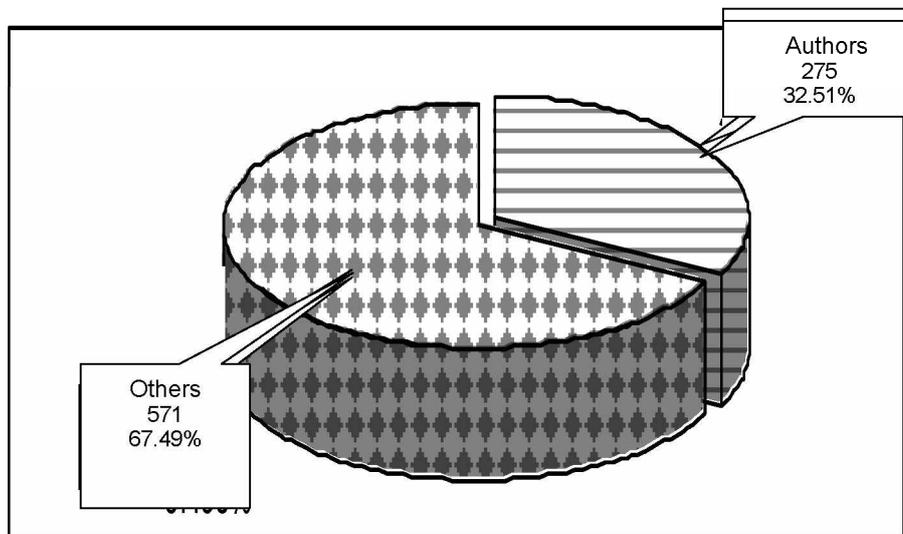
Tables 11 & 12 give the details of gender-wise classification and service status of the other subject specialists working in sericulture field (Table-11) and number of experts in other fields related to sericulture (Table-12).

Table-10. Gender-wise classification of experts in sericulture field.

States	Male	Female	Retired	In-service	No. of Experts
CSRTI, Mysore	1	-	-	1	1
Central Silk Board, Bangalore	13	-	-	13	13
Govt. of Andhra Pradesh	7	-	-	7	7
Govt. of Assam	5	-	1	4	5
Govt. of Chattisgarh	1	-	1	-	1
Govt. of Himachal Pradesh	2	-	-	2	2
Govt. of Jammu & Kashmir	6		-	6	6
Govt. of Karnataka	94	3	47	50	97
Govt. of Maharashtra	6	-	-	6	6
Govt. of Meghalaya	1	-	1	-	1
Govt. of Mizoram	2	-	-	2	2
Govt. of Orissa	2	-	-	2	2
Govt. of Punjab	1	-	1	-	1
Govt. of Tamil Nadu	6	-	1	5	6
Govt. of Uttar Pradesh	1	-	-	1	1
Govt. of Uttaranchal	3	-	-	3	3
Govt. of West Bengal	5	-	2	3	5
Karnataka Silk Marketing Board,B-lore	6	-	1	5	6
Kerala State Sericulture Co-operative Federation Ltd (PSU), Govt. of Kerala	1	-	-	1	1
Total	163	3	55	111	166

Table-11: Experts involved in other fields related to sericulture

Sl. No.	Fields	Male	Female	Total
1	Documentation	10	2	12
2	Engineering	5	-	5
3	Economics	1	7	8
4	Statistics	1	3	4
5	Social Scientist	3	3	6
6	Fashion Designing	-	2	2
7	Financing	3	-	3
8	Marketing	3	-	3
9	others	2	-	2
	Total	28	17	45

Limitations : To accommodate all the available information, the data is classified as indicated in the section - How to use the Directory and the difficulties faced were as follows

- Varied response from experts,
- Filled formats received with incomplete information and with no photographs.

An Appeal

The Investigating team is very glad to place on record their sincere gratitude to all those who co-operated and provided the information to make this Directory meaningful. In spite of the Herculean task by the investigating team, by a conservative estimate, the information received is not complete with the total number of experts in the field of Sericulture. Still there is a scope for incorporating/updating the information in the subsequent updates of the data. To be able to do so, the co-operation of all the people working for sericulture development is required. Any person who feels that some more information can be added (new) or the available information be edited/updated, please visit the web site www.kssrdi.org download the Format and send the complete/filled information to the Principal Investigator through e-mail (emuniraju@yahoo.com) giving the details along with the expert ID number.

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