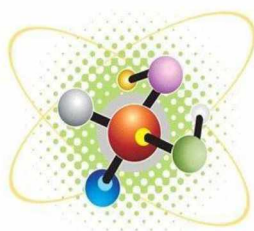


**Directory of Completed Sericulture Projects and
Sericulture Experts of India**

Part IV

Directory of Sericulture Publications

Sponsored by



NSTMIS DIVISION

**Department of Science and Technology,
Government of India, New Delhi**

Principal Investigator

MUNIRAJU E



**KARNATAKA STATE SERICULTURE RESEARCH AND
DEVELOPMENT INSTITUTE**

Thalaghattapura, Bangalore-560 062

July 2008

KSSRDI Publication No. 92
Number of Copies : 300
© Copyright KSSRDI Reserved
July 2008

Investigating Team

Muniraju E, Scientist-B
Principal Investigator

Rajendra Mundkur, Scientist-C
Co-Investigator

Renuka G
Project Assistant

Sponsored by

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

Published by

DIRECTOR
K.S.S.R.D.I.,
Thalaghattapura,
Bangalore-560 062.

Software Development & Web Hosting

M/s. OVERTAKE SOFTWARE TECHNOLOGIES LTD.
S 202, # 174/40, 2nd Floor, Lucky Paradise,
8th 'F' Main Road, 22nd Cross,
3rd Block Jayanagar,
Bangalore-560 011.

DTP & Printed at

M/s. LAVANYA MUDRANA
No.19, Vidyapeeta Circle,
15th Cross, BSK I Stage,
Bangalore-560 050.

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

PART-III

Directory of Sericulture Technologies

PART-IV

Directory of Sericulture Publications

You are reading this directory

ACKNOWLEDGEMENT

With great pleasure, I take this opportunity to express my deep felt gratitude and sense of indebtedness to Dr. U.D. Bongale, Former Director, KSSRDI, Sri Aravind Jannu, IAS, Former Director I/C of KSSRDI, Dr. Rakesh Chetal, Adviser DST, Mrs. Namita Gupta, Scientist-E, DST, Dr. Saratchandra, Director (Tech.), CSB, Sri J.T. Iyanna Reddy, Additional Director (Retd.), DOSK, Sri D. Mahadevappa, Additional Director (Retd.) DOSK, Sri D. Rajendra Former Registrar, KSSRDI, Dr. R.S. Mallikarjunappa, Division Chief I/C Moriculture, Dr. R. Raghuraman, Division Chief (Retd), Sericulture, Dr. B.M. Sekharappa, Division Chief I/C, Sericulture, Dr. V.G. Halliyal, Division Chief, Silk Technology for their inspiring advice as Local Project Advisory Committee Members.

I wish to express my deep felt gratitude to Director, KSSRDI for the opportunity and facilities provided during project implementation.

I wish to acknowledge the support extended by Dr. H. Basker, IAS, CEO and Member Secretary, CSB who is instrumental in information sharing and also issuing special circulars to all the Central Govt. Organizations. Without his support, the project would not have been implemented to the present extent.

I am grateful to the Directors of all CSB and State R & D Institutes, Heads of University Sericulture Departments, Commissioners/Directors of State Sericulture Departments and CSB staff for their cooperation for project implementation.

My special appreciation for the sericulture scientists, faculty members and extension staff of the country, those who have shared the information for the successful completion of the project with all the 4 directories. Without their constant participation and encouragement the project would not have reached its successful completion.

I thank all the Nodal Project Coordinators for their timely efforts and specially Mr. Abdul Hameed MJ, Miss. Archana Mahendrakar, Miss. Arundhuthi Bhattacharya, Mr. Bedojit Vordulai, Mr. Diruodotta Borah, Mr. Mohan B, Mr. Murugesh KA, Mr. Orville Singh C, Mr. Safur Rahman SA, Mr. Sainath SB, Miss. Sakiba Saleem, Mr. Sampath Kumar, Mr. Sanjeev M. Hullur, Mr. Srinivasa P, Mrs. Shoba Rani, Dr. Swati Chakrabarty, Dr. Tikader, Mr. Venkatesh Kumar, Mr. Zia-ul-Haque Rufaie and office assistants Mr. Ramesha BS and Mr. Krishna Kumar HN who have worked day and night through the stipulated period of the project.

I deeply acknowledge the spared services of scientists of KSSRDI Dr. Ch. Narasimha Rao, Dr. R. S. Mallikarjunappa, Dr. M.S. Eswar Rao, Dr. V.G. Maribashetty, Dr. C.S. Gururaj, Mr. Abdul Hakeem and all my fellow colleagues and specially staff of Extension and Training wing who extended support for the implementation of the project.

I am indeed grateful to Dr. Laxman Prasad, Adviser, Dr. Rakesh Chetal, Adviser, Mrs. Namita Gupta, Scientist-E and other staff of NSTMIS, Department of Science and Technology, New Delhi for giving me an opportunity to take up this project with financial support. Their timely advice and encouragement helped immensely for successful completion of the project.

E. Muniraju

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.1 & 2)

Part II : Directory of Sericulture Experts

Part III : Directory of Sericulture Technologies and

Part IV : Directory of Sericulture Publications.

Part IV : Directory of Sericulture Publications :

- This directory contains the information on published literature furnished by the Sericulture Experts who are listed in the Directory of Indian Sericulture Experts of India (Part II).
- This directory contains 3580 citations of research articles under mulberry sericulture (2843), non-mulberry sericulture (635) and silk technology (102) category, out of total 7665 citations.
- 877 articles published in proceedings have been documented under three categories (mulberry-660, non-mulberry sericulture-205, silk technology-12).
- Information of 53 review articles have been documented in this directory (mulberry-47, non-mulberry-6)
- Under authored book category information of 165 books has been documented (mulberry sericulture 142, non-mulberry 20 and silk technology 3).
- Under edited book category information on 80 books has been documented (mulberry-75, non-mulberry-4, silk technology-1).
- This directory includes the information of 299 articles in edited books (mulberry-266, non-mulberry-27, silk technology-4)
- This directory also includes 2613 technical articles in all categories (mulberry-2074, non-mulberry-385, silk technology-154).

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.

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.

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 publications in the local and foreign refereed Journals, Magazines, Books etc. The details of these publications in a compiled form are not available either at the Regional or at the National level. Hence, the project was envisaged with the following objectives.

Objectives :

- i. To compile and bring out a consolidated directory of completed sericulture projects in India with relevant details (Part-I);
- ii. To bring out a consolidated profile of Planners, Scientists and Extension personnel involved in the national progress of sericulture industry (Part-II);
- iii. To bring out a consolidated report on the sericulture technologies evolved in India (Part-III).
- iv. 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);
- v. 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

The primary data was resourced from the information made available in the formats of the project "*Completed Sericulture Projects in India and Sericulture Experts of India*". Majority of experts, along with their bio-data, have provided a list of their publications, which became the valuable primary source for this directory.

The secondary data was collected from, published literature, annual reports of research organizations, universities, institutes and state sericulture departments and funding agencies.

The overall summary of the resourced information is given in Table -1 (Category–cum-subject wise). Taking the cue from the definition of scientific literature, all the published information have been listed in this directory, irrespective of whether they are published in referred journal or in any other proceedings of conferences. This treasure of information would help the researchers to have a better comprehension about the direction in which the sericulture research has taken in this country.

Salient observations : A total 7665 articles in seven categories covering all the fields of sericulture is included in the directory. The details of publications are as follows

Category	Total
Research Articles	3580
Articles in Proceedings	877
Review Articles	53
Authored Books	165
Edited Books	80
Articles in Edited Books	297
Technical Articles	2613
Total	7665

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.

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 :

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).

Scientific literature : Scientific literature is the written repository of knowledge. It includes information sources such as: refereed scientific journals, review journals, conference proceedings, textbooks, product promotion materials, and internet e-mail communications, etc.

Article :

- Article is a stand-alone section of a larger written work. These nonfictional prose compositions appear in magazines, newspapers, academic journals, the internet, or any other type of publication.
- An article also referred to as a paper, is a brief composition on a subject, usually appearing in a magazine or journal.
- An article is the contribution written by one or more persons and published in a journal, magazine, newspaper or encyclopedia.
- An article is a self-contained nonfiction prose composition written on a specific topic or subject by one or more authors and published under a separate title in a collected work, or in periodical containing other works of the same form.
- An article is the published text in journal, magazines and newspapers covering specialized research point in the subject area.

Publication :

- Publication is a copy of a printed work offered for distribution
- Publication is making information publicly available in a reproducible form.
- The publication is the storage container for different articles. A subscriber can subscribe to an individual article or an entire publication.
- The Publication means any library matter that is made available in multiple copies or at multiple locations, whether without charge or otherwise, to the public generally or to qualifying members of the public by subscription or otherwise.

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 Sericulture Projects (Vol. I & II)

Part-II : Directory of Sericulture Experts

Part-III : Directory of Sericulture Technologies and

Part-IV : Directory of Sericulture Literature

How to use the directory : Two tier classification of the data has been introduced for easy accessibility. In the first level the data is categorized based on Research Articles, Articles in Proceedings, Review Article, Authored books, Edited books, Chapters in Edited books and Technical Articles. Second level of classification is based on the subject, Mulberry Sericulture, Non-mulberry Sericulture and Silk Technology.

Analysis

Information resourced and documented in the Directory of Sericulture Publications (Part IV) has been analyzed and presented below.

The resourced publications are grouped under 7 categories like Research Articles, Articles in Proceedings, Review articles, Authored books, Edited books, Articles in edited books and Technical Articles. In each category, articles are grouped under three subjects namely, Mulberry Sericulture, Non-mulberry Sericulture and Silk Technology and the data is presented in Table 1

Table 1 : Sericulture publications resourced from different disciplines

Category	Subject	No.	Total
Research Articles	Mulberry Sericulture	2843	3580
	Non-Mulberry Sericulture	635	
	Silk Technology	102	
Articles in Proceedings	Mulberry Sericulture	660	877
	Non-Mulberry Sericulture	205	
	Silk Technology	12	
Review Articles	Mulberry Sericulture	47	53
	Non-Mulberry Sericulture	6	
	Silk Technology	0	
Authored Books	Mulberry Sericulture	142	165
	Non-Mulberry Sericulture	20	
	Silk Technology	3	
Edited Books	Mulberry Sericulture	75	80
	Non-Mulberry Sericulture	4	
	Silk Technology	1	
Articles in Edited Books	Mulberry Sericulture	266	297
	Non-Mulberry Sericulture	27	
	Silk Technology	4	
Technical Articles	Mulberry Sericulture	2074	2613
	Non-Mulberry Sericulture	385	
	Silk Technology	154	
Total			7665

Limitations

This directory is the outcome of the compilation obtained along with the experts profile as a part of the biodata details. However, during the compilation certain discrepancies and shortfalls were noted in respect of a large number of citations. These were rectified to a certain extent through reference to the original literature and cross-verification, while a large number of them were inevitably dropped from the list.

Even with all these efforts, the investigating team felt that the information documented in this directory could be partly accurate to an extent of about 50% it is suggested that the information documented in this directory could be used as a citation only after verification from original source.

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 resourced is not complete with the total work done in the field of Sericulture. Still there is a scope for incorporating the information in the subsequent updates of the data. To be able to do so, the cooperation of the scientists/researchers is required. Any person who feels that some more information can be added or the available information be edited, please visit the web site www.kssrdi.org, download the Format and send the completed information to the Principal Investigator through e-mail (emuniraju@yahoo.com) giving the details. Kindly quote the Publication category and details, in case the information printed in this book is to be edited.
