Silk Association of India (SAI)
NEWSLETTER

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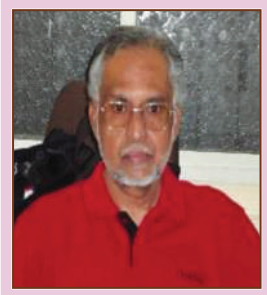
From the President's Desk.....

Strengthening Sericulture Extension



Sericulture, which involves a chain of both on-farm and off-farm activities is basically a land based activity. All the on –farm activities like mulberry cultivation, silkworm seed production and silkworm rearing involve a large number of small and marginal farmers. These activities decide the quality and quantity of cocoons and in turn the raw silk at the end. During the past few decades, large number of technologies have been developed suitable to the tropical and sub-tropical climatic conditions. Indian sericulture has witnessed sea changes in terms of production and productivity through adoption of these advanced technologies by most of the farmers. However, inclusive growth of sericulture can only be ensured when these technologies are introduced into the areas where sericulture is practiced, to bring about change and improve the lives of farmers and their families. Extension, a process of transfer of technologies from laboratory to land, therefore, is of critical importance. Without adequate extension support, farmers would lack access to the technologies and support services required to give fillip to sericulture. The whole extension process and success of sericulture is dependent upon the effectiveness of extension personnel and their availability in right proportion to the number of farmers involved. Smaller number of extension personnel *vis-a-vis* large number of sericulture farmers will only result in mixed production, productivity and quality levels.

Following the decline in manpower and shortage of funds, the coverage of extension programmes and extension services has narrowed down significantly. Considering the ambitious programme of expanding sericulture manifolds across the country, there is a need for strong extension mechanism by improving its coverage and efficiency of information disseminations systems. The major challenge here is how to develop low cost, sustainable, effective and efficient approach to technically empower the farmers. Under these circumstances, community based extension approach become increasingly important which makes farmers principal agents of change in their own communities. It is an established fact that 'Framers learn best and fast from peers'. Thus, farmer to farmer extension (FFE) approach involving lead farmers is more inclusive, low cost, effective and offers a wide reaching alternative in supporting sericulture extension.

Besides, all the organizations must immediately initiate action to fill up the vacant posts on priority to ensure that their ToT programmes run successfully. In addition to that States may also promote and popularize FPOs to consolidate their efforts.

Secondly, extension is now becoming more diversified, technology intensive, knowledge oriented and more demand driven. This necessitates the availability of extension workers at the cutting edge level to be well versed with many trades, which is neither predictable nor possible. Under such circumstances, use of information and communication technologies (ICT) in extension enables the extension workers to be more effective in meeting the information needs of the farmers and to accelerate the extension activities and growth of sericulture.

On the above lines all the States which are considering sericulture as their choice avocation for poverty alleviation and employment generation may make policy reforms to suit their extension requirements.

V.Balasubramanian, IAS (Retd)

Rejuvenation of Karnataka Silk Marketing Board (KSMB) and Sericulture in North Karnataka

Savita V Amarashetty
Chairman, KSMB

(Karnataka Silk Marketing Board (KSMB), Government of Karnataka is headed by Chairman, Smt. Savita V Amarashetty, and supported by Managing Director, of IAS cadre officer from Karnataka State Government)

The main objective of KSMB is to stabilise price fluctuations in raw silk and to ensure that the silk reelers get better returns for raw silk by buying aggressively when there is slump in market and also to safeguard the interest of the farmers. KSMB also monitors the cocoon prices on regular basis to uplift the interest of farmers involved in the sericulture farming activities in association with, Sericulture Department and Central Silk Board. KSMB is a link between the reeler, twister and the weaver. Quality raw silk is being supplied to the handloom weavers at a competitive price by eliminating the middlemen. Presently KSMB is having purchase / sales branches in Bangalore, Ilkal, Gadag, Kollegal and Sidlaghatta.

During the last year Covid-19 pandemic situation and lock down across Karnataka, the reelers of the state could not sell their silk and the reelers faced huge financial crisis in the initial months. Raw silk prices and cocoon prices started falling drastically during these months and at the same time KSMB entered the market and the silk prices were stabilised and famers started getting better prices for their cocoons and reelers started participating in the auction, in spite of continued lock down. Last year Govt of Karnataka had released Rs 20.00 crores for this purpose.

After assuming the post of Chairman, KSMB, I visited almost all the reeling and weaving clusters of Karnataka to understand the field related problems and to take corrective measures faced by the reelers/weavers due to post Corona crisis.

The same situation of 2020 has once again repeated this year also due to Covid-19 pandemic and severely affected the silk industry with loss in production, crash in cocoon and raw silk prices, transportation issues, problems in selling cocoon and silk, reducing demand for silk fabric etc. Covid-19 pandemic affects in job loss, loosing livelihood earnings, export earnings etc. By seeing the present situation, I decided to start the procurement of raw silk immediately across the state of Karnataka. Hon'ble Chief Minister, Govt. of Karnataka was kind enough to sanction the desired amount for procurement of raw silk from the reelers to stabilise the falling prices depending upon the grade of the silk yarn after testing at Central Silk Board testing centres. I have already directed the concerned to keep machinery ready for this purpose. The staff members of KSMB are highly qualified and efficiently faced the challenges during last year and this year also we will follow the similar strategy.

To expand the activities of KSMB, I took interest to implement Central Silk Board post cocoon schemes under Silk Samagra – 2. The immediate needs of the handloom weavers in North Karnataka regions are:

1. Improved Handlooms
2. Loom up gradation through -Jacquard / dobby attachment with other accessories
3. Pneumatic lifting attachment / Jacquard lifting mechanism
4. CATD
5. Dyeing – TUB and Arm dyeing

In addition to the above, following important and major actions have been initiated by me to streamline the activities of silk industry, expand it to non-traditional areas and improve its performance.

- When I took over the charge of KSMB, its administrative office was located in Cubbonpet and the Chairman's office was at Okalipuram. As a result office work was getting hampered and not being done on time. Immediately, I took action to shift administrative office to Okalipuram which not only saved Rs 20 lakh/year but also ensured timely actions.
- It is exciting to note that KSMB even during Covid 19 pandemic period made a net profit of Rs 2 crore through purchase, sale and pledge loans.
- Discussed with Sri. Rajit Ranjan Okhandiar, IFS Member Secretary, Central Silk Board about the opening of new centres in North Karnataka and assured that KSMB and CSB work in harmony with each other.
- At a meeting with the Hon'ble Minister for Sericulture, took up the proposal for subsidy to multi-end reelers and got it approved by the Secretary to the Department of Sericulture Government of Karnataka.
- Wrote letters to Hon'ble Minister for Sericulture and the Secretary to the Department of Sericulture, Government of Karnataka to open KSIC show rooms in Hubli-Dharwad and it will happen soon.
- Consequent to my appeal, CSB has agreed to open silk testing unit at Dharwad for the benefit of silk reelers of this region.
- Inspected Ranebennur silk farm along with the local legislators and impressed upon the authorities to allot site for establishing high-tech cocoon market and sericulture research and development centres.

Brainstorming Session (BSS) on *"Strategies and Approaches for Promotion of Sustainable Bivoltine Sericulture in India"*

B.S. Angadi and M. Ramachandra Gowda

The National Academy of Agricultural Sciences (NAAS) organized a Brainstorming Session (BSS) on "***Strategies and Approaches for Promotion of Sustainable Bivoltine Sericulture in India"*** under the Convenership of Dr. Shailaja Hittalmani, FNAAS and Co-convership of Dr. Dandin S.B., Former VC, UHS Bagalkot & Former Director, Central Silk Board, Bengaluru and Dr. S. Rajendra Prasad, VC, UAS, Bengaluru on September 22, 2021 at 10.00 a.m. through Virtual mode.

During the above BSS, Dr. T. Mohapatra, President, NAAS and Secretary, DARE & DG, ICAR in his opening remarks highlighted the need for re-orienting our strategies for modernization of silk industry and fine tuning the approaches for promotion of sustainable bivoltine sericulture in India. He emphasized that, although India is the second highest silk producing country in the world, we are unable to meet our domestic demand for improved bivoline and continue to import it from China. He continued and appealed to all those who are involved, to prepare a road map for increasing the bvoltine production and stopping the imports.

Dr.S.B.Dandin, **Vice-President SAI**, presented a base paper on that occasion and said that China and India together account for about 91% of the global raw silk production of about 87,129 MT during 2020. Uzbekistan, Thailand, Brazil, Vietnam, North Korea and Iran are other major silk producing countries. The silk production has drastically reduced in developed countries such as Japan, Italy, France, South Korea etc., due to uneconomical labour cost resulting from Industrialization. China is also now facing problem of increased labour cost. In this context, there is a tremendous scope available for India to increase her silk production in the country to emerge as a leading supplier of raw silk and silk products in domestic as well as the international market because of the following advantages.

1. Salubrious subtropical and sub-tropical climate enabling sericulture activates round the year
2. Suitable soil for cultivation of food plants for all types of silkworms
3. Traditional knowledge blended with cutting edge technologies
4. Abundant labour
5. Extension network supported by excellent R&D Institutions
6. Well-developed infrastructure and policy support
7. Demand for silk both in domestic and foreign markets

While explaining the salient features of the Indian silk industry, he emphasized its strength and the role it is playing in poverty alleviation, gender equity and employment generation (one hectare of mulberry can generate a cumulative employment of 6,402 human-days/annum equal to 25.724 man years). He recalled the way traversed by India for promotion and popularization of bivoltine sericulture. He attributed the vertical progress made by the silk industry to the adoption of advanced technologies developed by the scientists of R & D units of both Central and State governments and their adoption by various stakeholders. Mentioning about the earlier projects in our country, he added that JICA projects implemented in the southern region (from 1992 to 2007) contributed a lot for the promotion and popularization of bivoltine sericulture.

He complimented the contributions of R & D institutes of the country in stabilizing and strengthening the silk industry. However, he pointed out the following gaps in the R & D area of both pre and post cocoon activities.

- Use of microbial consortia for conversion of mulberry waste into organic manure
- Effective control of leaf roller and root rot, aphids and thrips
- Efforts for exchange of silkworm genetic resources
- Maintenance of parental breeds confirming to their parental characteristics
- Explore the possibility of using alternate male component (FC2) cross breed production and development of more double hybrid combinations
- More research emphasis on mounting, mountages and climate management during cocooning and also labour saving
- Specific research programs for utilization of defective cocoons, pupae, defective cocoons, cut cocoons, sericin, silk waste etc.,
- Alternate uses of silk and by-products for bio-medical and cosmetics industry
- Easy and quick method for pupa level sex separation, Pebrine detection & Flacherie management
- Training of scientists in sericulture advanced countries like China

Further, he said that the following challenges need to be addressed on war footing to realize Indian Silk Vision -2030.

- Depleting ground water resources and shortage of irrigation water
- Global warming and climate change/uncertainity effects
- Urbanization and shrinking cultivated land in traditional areas

- Non-availability of skilled work force
- Declining organic carbon level and adverse effects of excessive use of chemical fertilizers and pesticides on soil health.
- Inadequate supply of quality eggs and shortage of cold storages
- Appearance of new pests and pathogens
- Improper rearing conditions including mounting space especially for big farmers
- Inconsistency in cocoon quality due to use of defective mountages
- Underutilization of by products
- Acute shortage extension trained field and staff
- Lack of quality based and uniform pricing policy for seed cocoons, seed, commercial cocoons and silk
- Non availability of adequate numbers of improved reeling machines (ARMs)

He desired that all the above issues could be discussed threadbare to formulate pragmatic strategies for promotion of sustainable bivoltine sericulture in India.

After presentation of the above Base Paper the following 2 Panel Discussion Sessions were held ;

Session I

Technological Interventions for Production of Quality Raw Silk

Chair: Shri Okhandiar Rajit Ranjan, IFS, Member Secretary, Central Silk Board

Rapporteur: **Dr. E. Muniraju, (Joint Secretary, SAI)** and Dr Selva Kumar, Scientist D, CSRTI, Mysuru

Speakers:

1.	Dr. Sivaprasad, Director Technical,CSB, Bengaluru
2.	Dr. P.G. Radhakrishna, Director, KSSRDI, Bengaluru
3.	**Dr. Angadi B.S, Former Director CSB (SAI Director)**
4.	Dr. Raju, P.J, Director APSSRDI, Hndupur, Andhra Pradesh
5.	Dr. Shasheendran Nair, Director NSSO, Bengaluru
6.	Dr. Babulal, Director, CSRTI, Mysuru

Session II

Extension, Marketing and policy options in building resilient way forward

Chairman: Dr. Ashok Dalwai, IAS,Former Secretary, Department of Agriculture and Farmer's Welfare and Presently, Chairman, Rainfed Authority of India, New Delhi and

Co Chair: Dr. Rajendra Prasad, Vice Chancellor, UAS, Bengaluru

Rapporteur: Dr Sangannavar and Dr. Manjunath, CSB, Bengaluru

Speakers:

1.	Dr. Narayanaswami, Director of Education UAS, Bengaluru
2.	Dr. Subhas V. Naik, Director,CSTRI, Bengaluru.
3.	Dr. R.S. Deshpande, Former Director ISEC, Bengaluru
4.	Dr. Shetty K.K. Former Joint Secretary, Tech, CSB.
5.	**Smt. Savita Amarashetti, Chairman, KSMB**
6.	**Shri Ramachendra Gowda, (Secretary, SAI)**

After open discussions, Session I and II proceedings were summed up by Dr. Ashok Dalwai, IAS. The following recommendations emanated from the brain storming session.

A. Mulberry Cultivation

- Expansion of mulberry area on cluster mode in potential areas of non-traditional states like Maharashtra, Madhya Pradesh, Odisha etc. and non-traditional areas in traditional states
- Development of Seri-based Integrated Farming System Models (Agro- forestry & Sericulture; Horticulture & Sericulture) and Agri-Seri combined farming for utilization of forest lands, vast fallow lands etc.
- Tree mulberry plantation with wider spacing in rainfed areas and other uncultivated fallow lands etc., to increase production
- Emphasis on improvement of soil health, organic matter content and also organic crop protection approaches including use of bio-fertilizers and crop protectants to reduce chemical use and foot prints
- As leaf quality is of utmost importance, more emphasis should be given towards improvement of quality by developing suitable cultivation practices

B. Egg Production

- Seed multiplication system should be strengthened in association with DoSs & CSB and to maintain parental traits and vigor following set procedures meticulously
- Supply of disease free eggs in uniform quantities
- Encourage private grainuers for quality seed production by creating level playing grounds and providing financial support including cold storage facilities
- Seed/Seed cocoon prices should be uniformly adopted based on actual production costs and admissible profit margins and the same shall be revised from time to time
- Need for additional cold storage facility in Bengaluru by CSB at the earliest
- Development of indigenous sex separation and Pebrine detection machines

Silkworm Rearing

- Existing bivoltine double hybrids & high yielding mulberry varieties developed by different institutions under field trails shall be released at the earliest to reach the farmers
- Season & Location specific technology interventions shall focus on cocooning management and development of new mountages
- Chawki centers should be strengthened via FPOs/CBOs/SHGs
- Disease resistant/thermo tolerant silkworm hybrids should be popularized
- Dynamic extension network for effective/efficient percolation of technologies to GRLs
- More research efforts are needed to develop appliances and machineries locally at affordable costs

Post Cocoon Sector

- To develop more consumer oriented value added products (eg. Pharmaceuticals, nutraceuticals, cosmetics, animal feed etc.) from the by-products of silk industry
- Up scaling of technologies for production of value added products in partnership with industry needs immediate attention
- Repeated training and skill development for the reelers, twisters and even weavers is necessary to achieve desired level of recovery and quality of raw silk
- Study to be conducted on demand-supply position of export quality raw silk required for the country to plan production strategies
- Study on availability of quality cocoons fit for production of silk of > 4A grade is necessary to educate farmers for improvement of cocoon quality
- For efficient use of huge quantity of silk waste/Inferior cocoons, it is high time for establishing/rejuvenating of spun silk mills
- Bigger lots of uniform quality yarn is the need of the hour and big corporate companies shall be invited to establish large scale reeling units
- Study on functioning of existing ARMs is imperative to understand the constraints and mid-term corrections.
- Assessment of future requirements of ARMs for production of import substitution as well as for exporting raw silk in the wake of decline in Chinese production

Extension

- Weightage for Vertical Growth of Sericulture Production along with simultaneous exploration of ways for horizontal expansion of sericulture utilizing wastelands etc.
- Organize repeated up-skilling programs & ECPs/ICT based awareness in collaboration with DoSs/CSB/SAUs/ICAR-KVKs to reach recent/need based technologies to gross root level stakeholders
- Promotion programs for strengthening FPOs by CSB and State Departments
- Need to utilize lead farmers and other Community based organizations viz., SHGs, Sthree Shakthi units, FFSs etc. to support the extension programs
- Extension systems should cover all the industry activities (eg. egg production, CRCs, reeling, Twisting, weaving) rather than confining only to cocoon production
- Extension approach must be holistic and address the quality, drudgery, health and social issues besides production and productivity improvement
- Extension must be problem and demand driven and the extension staff must be well trained for advising the stakeholders
- Farmers Innovations must be analyzed for efficacy and also be popularized
- Focused encouragement of women in sericulture via SHGs/ CBOs/FPOs through appropriate financial assistance programs
- Clustering of stakeholders and product aggregation could be the best approach for Farmers, Reelers, Twisters, Weavers, etc.
- Silk production chain is the long chain activity, extension must involve agencies comprising of State, Centre, ASUs. KVKs , Input Suppliers, Financial institutions etc.

Marketing

Proper production linked/value-chain management should be established for addressing existing sericulture problems/ obstacles

- Cost effective & consumer preference sericulture product diversification is necessary
- By-product utilization (Bio-medical/nutraceutical/non-textile use etc.)
- Cost of cultivation/production of cocoons, yarn etc., for sericulture products to be implemented like Agriculture with policy of minimum support price (MSP) for Cocoons/Silk & Silk Products
- Efficient marketing system for controlling price fluctuations
- Cocoon insurance shall be the best approach to safeguard the interests of cocoon producers in the event of price collapse/ distress sale
- Private cocoon buyers must also buy cocoon in regulated cocoon market
- Artificial intelligence based market calendar & price fore-casting is necessary
- Government agencies like KSMB and KSIC in Karnataka must be made financially and logically stronger to enable to participate in marketing as price stabilization mechanisms

Policy Interventions and Other Issues

- Stress on establishment of Infrastructure & mechanization for drudgery free sericulture
- Utilization of Price stabilization fund to safegaurd interests of stakeholders
- Establish Sericulture Complexes involving all activities at one place so that it can work as single window system to provide solutions to stakeholders in production and conversion chain including marketing
- Encourage seri-startups/entrepreneurs/Incubation centers
- Brand promotion shall be built for different varieties of silks and sericulture products
- Seri- tourism shall be promoted by establishing Silk corridors/ Museum
- All sericulture stakeholders should be interlinked in the production chain to establish organic linkages and coordinated functioning
- Side-by-side focus should be given to Vanya Sericulture as India is unique in the production of Tasar, Eri and Muga
- Strategies for controlling illegal silk/cocoons import/export activity shall be curbed by initiating systematic study
- To reach the set target of production by 2030, which is rather an herculean task, more man power is imperative. All the vacant posts in State Sericulture Departments and Central Silk Board shall be filled on war-footing
- Lack of coordination among different organizations involved in development of sericulture is indicated by many panel members. Steps are needed to arrange more joint meetings, discussions to draw effective field-oriented activities to oversee implementations
- Rationalization of duty structure and Duty exemption on silk machineries
- Exemption of GST on silk machineries
- Continuing Anti-dumping duty on raw silk for some more years
- Revoking Most Favored Nation(MFN) status

Concluding remarks were given by Dr.T.Mohapatra, President, NAAS and finally the programme ended with the Vote of Thanks by Dr. Shailaja Hittalmani, Convener.

Research Brief

Tufts University steps towards sustainability in leather by using silk

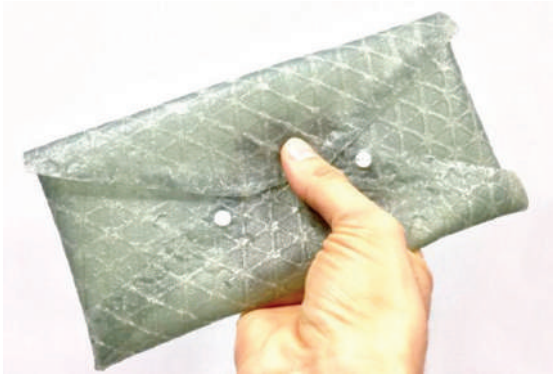
(Source: FIBRE2FASHION.COM)

B.S. Angadi and H.K. Basavaraja

Scientists at the Tufts University School of Engineering have created leather-like material from silk. The team broke down the fibres from silkworm cocoons into their proteins, and used these proteins to form the leather-like material. This leather can be printed into different patterns and textures and has similar physical properties as real leather.

The aim was to find an alternative to leather, with similar texture, flexibility and stiffness, but using materials that are sustainable, non-toxic, and friendly to the environment. Instead of weaving the silk into fabric, the Tufts engineers were able to break down the fibres from silkworm cocoons into their protein components, and re-purpose the proteins to form the leather-like material. The process for making silk-based leather is described in a study published in the journal Materials & Design.

The silk-based leather can be printed into different patterns and textures, has similar physical properties to real leather, and can withstand folding, piercing, and stretching typically used to create leather goods, including the ability to stitch together pieces of material and attach hardware such as rivets, grommets, handles and clasps.



"Our work is centred on the use of naturally-derived materials that minimise the use of toxic chemicals while maintaining material performance so as to provide alternatives for products that are commonly and widely used today," said Fiorenzo Omenetto, Frank C Doble Professor of Engineering at Tufts School of Engineering, director of the Tufts Silklab where the material was created, and corresponding author of the study. "By using silk, as well as cellulose from textile and agricultural waste and chitosan from shell-fish waste, and all the relatively gentle chemistries used to combine them, we are making progress towards this goal."

There is already an existing portfolio of alternative leathers developed by industry and the research community, with a focus on using agricultural by-products or regenerated materials that have a reduced impact on the environment and animal raising. These include leather-like materials made from petroleum (polyurethane leather or "pleather"), tree bark, pineapple husks, plant oils, rubber, fungi, and even from cellulose and collagen produced by bacterial cultures.

The silk-based leather made at Tufts offers some advantages to all of these approaches. In addition to being derived from dissolving silk fibres, manufacturing is water based, using only mild chemicals, conducted at room temperature, and producing mostly non-toxic waste. The silk leather material can be fabricated using computerised 3D layering with the ability to create regular micropatterns that can tune the material's strength and flexibility, print macropatterns for aesthetics (eg a basket weave) as well as non-regular geometrical patterning to mimic the surface texture of real leather. The resulting materials, like leather, are strong, soft, pliable, and durable, and like natural leather, they are biodegradable once they enter the waste stream.

The silk-leather products could be re-dissolved and regenerated into its gel-like stock matter to be re-printed into new products

The process of making silk leather starts with silk fibres that are commonly used in the textile industry. These fibres are made up of silk fibroin protein polymers, and they can be broken down to its individual protein components in a water-based slurry. A base layer of chitosan containing a non-toxic plasticiser glycerol and dye is printed by extrusion through a tiny bore nozzle onto a surface to provide flexibility and strength to the material. Chitosan is derived from natural sources such as the shells of crabs lobsters and shrimp. A layer of silk fibroin combined with plasticiser and a thickener (from vegetable gum) is printed on top of the base layer.

Extruding the fibroin slurry through the printer nozzle creates shear forces that may contribute to arranging the proteins in a way that strengthens the material, making it ductile rather than brittle, and mimics the natural extrusion that occurs in the silk gland of a worm or spider. Changing the printed pattern of the silk layer can provide a range of appearance, tunable strengths and other physical qualities.

The printing method, also referred to as "additive manufacturing" is known to be very conservative in the use of materials and waste produced compared to other methods like injection molding or subtractive manufacturing (like carving or shaving from a block).

The Silk lab at Tufts has developed a wide range of other products from silk, from implantable medical devices to architectural materials that can sense and respond to the environment by changing colour. In fact, much of the technology that has been developed in the lab to derivatise the silk proteins can be applied to the silk-based leather, including attaching and embedding molecules that can sense and respond to the surrounding environment.

"That's the advantage of using silk protein over other methods – it has a well-established, versatile chemistry which we can use to tune the qualities of the material and embed smart elements like sensing molecules," said Laia Mogas-Soldevila, former research fellow in the Silklab, currently assistant professor of Architecture at University of Pennsylvania Stuart Weitzman School of Design and first author of the study. "So while there may be many options for leather-like materials, silk-based leather has the potential to be most amenable to innovative designs."

Leather is an ever growing multi-billion dollar industry requiring more than 3.8 billion bovine animals – equal to one for every two people on earth – to sustain production each year. The environmental impact of leather production has been severe, leading to deforestation, water and land overuse, environmental pollution, and greenhouse gas emissions.

Webinars Conducted by SAI

M. Ramachandra Gowda and E. Muniraju

Webinor 8: Private cocoon marketing Boon or Bane (10-7-2021)

Opening Remarks: Dr. S. B. Dandin, Vice President, Silk Association of India

- Recently private players have entered in to cocoon trading business
- Purchasing cocoons directly from the rearers house and selling to the reelars doing 'dallaly' business without any guaranty to the farmers or to the reelers
- There is a possibility of cheating of farmers in future
- It is strongly felt that this type activities to be stopped

Webinar 9: Drip Irrigation and fertigation (14-08-2021)

Resource person: Mr. V. Anjanappa, Consultant, Netafim

- Water management is the need of the hour
- Adopting advanced irrigation methods based on the requirement and water availability
- Adoption of suitable filters to avoid silt problem and system blockages
- Systems to cleaned by using phosphoric acid is more convenient
- Water use efficiency is more effective in drip irrigation or sub soil irrigation

Webinar 10: Panel discussion on sericulture extension management (11-09-2021)

Opening Remarks: Mr. Viswanath, JD, Dept. of Sericulture,

Panel Members:

Sri Nagaraju, Rearer

Sri. Mayagaiah, Rearer

Sri. Rajendra Patil, Rearer

Sri. P. Harish, Rearer

Sri. A. Ramesh, Chawki Rearer

Sri. S. B. Naveen, Egg producer

Subject Experts :

Dr. Nagaraju, Director(Retd) Dept. of Extension, UAS, Bengaluru

Dr. B.T. Sreenivas, Director, CSGRC, Hosur

Dr. Vinoda, UAS, Chinthamani

Sri. T. S. Huddar, JD (Retd) Dept. of Sericulture, Govt. of Karnataka

Dr. Y. K. Balakrishnappa, Deputy Director, Dept. of Sericulture

Sri. S. V. Siddareddy, ADS, Dept. of Sericulture

Sri. Srinivas, ADS, Dept. of Sericulture

Recommendations

- Since the staff strength in both DOS and CSB is becoming less, there is a need to appoint new staff to do more of extension work.
- In new areas of sericulture especially in Northern Karnataka There is only one officer/staff in each center. Hence there is an urgent need to post more staff
- There is large variation in seed cocoon price due to shortage. Hence proper brushing in both Mysore seed area as well as bivoltine seed area needs to be regularized and properly supervised
- No joint meetings like BCC are conducted between DOS and CSB and the same needs to be revived
- Extension staff of DOS, CSB and Universities and also KVKs must have regular interaction meetings and must work together
- Since there are not many extension staff we must make use of progressive farmers as extension agents
- There is a need to start Farmers field schools to train new farmers.
- Number of field shows, demonstrations, farmers Melas etc are not being organized regularly and the same needs to be started again
- At present there are only a few FPOs in sericulture. Hence DOS may help in starting more number of FPOs at least one in every Taluk where sericulture activities are more concentrated
- Since number of extension staff are less, group extension approaches must be followed rather than only one officer doing all the things
- Training to extension staff and lead farmers must be increased and monthly meeting of extension staff of all agencies shall be arranged regularly
- Similar to cocoon production, there must be extension services in post cocoon sector also.
- In CRCs, there is large amount of variation in quantity of worms distributed, rates charged etc. Hence there is a need for arranging a meeting of all CRC owners to discuss and bring uniformity
- There is a need to arrange cocoon testing and grading for bivoltine cocoons so that good quality cocoons get better price and farmers will give more care to produce better quality cocoons.

Secretary and Joint Secretary, extended a warm welcome to Sri Peddappaiah, IAS, Commissioner of Sericulture, DoS, Karnataka on 08-07-2021

SAI EC Members meeting with Tamil Nadu stakeholders about the World Bank Aided Sericulture Project on 17-08-2021

SAI EC Members meeting with Director, DoS Tamil Nadu about the World Bank Aided Sericulture Project on 17-08-2021

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