



Supporting Sericulture Rehabilitation

What is Sericulture?

Sericulture is the practice of rearing silk worms for the production of raw silk—a process that occurs in three stages. First, after hatching, tiny silkworms feed on mulberry tree leaves until they are fully grown. Second, silkworms require three days to spin a cocoon of silk yarn. Third, the cocoons are harvested, delicately washed and reeled into raw silk for weaving.

Cambodia's History of Sericulture

Though mulberry cultivation and silk weaving are indigenous to Cambodia, the practice began since the 13th century. During the Khmer Rouge (1975-1979), these activities were abandoned. It wasn't until the 1990's that this practice experienced a revival, though current production of silk yarn is low and the focus is primarily on weaving using imported raw silk.

The national demand for silk provides an opportunity to encourage a national production. Cambodia, with available labour, land and suitable climate, has great potential as a producer, but is presently importing 395 tonnes of raw silk from China and Vietnam each year, and only producing 5 tonnes itself.



Challenges and Constraints

In order to develop this sector to meet its potential, several key areas need to be addressed:

1. Silkworm disease: Limited institutional capacity to supply healthy silkworm eggs and poor silkworm rearing activities at the farm level, results in silkworm mortality around 50 percent.
2. Low yield from cocoons: Disease, low-quality silkworm variety, and rudimentary techniques cause cocoon production to remain low.
3. Low-quality yarn: Traditional, manual reeling techniques limit producers' ability to meet high international standards.
4. Shortage of technical capacities: the Government, NGOs and producers lack key knowledge of research, production and management.

FAO's Approach

Current donor efforts in the silk sector focus on processing, weaving, and marketing. To complement this work, FAO aims to strengthen the earlier stages of the value chain and help Cambodia ease its reliance on imports, with specific emphasis on developing sustainable silkworm rearing techniques and producing high-yield cocoons and high-quality silk yarn. For this purpose FAO approved a project entitled *Supporting Sericulture Rehabilitation in Cambodia* from its Technical Cooperation Programme.

The project which began in February 2010 has five stated outputs:

1. Establishing a Silkworm Egg Production Centre
2. Building a small cocoon reeling facility
3. Setting up seven demonstration farms in key existing and potential areas to promote new silkworm rearing techniques



4. Building capacity of government staff and producers through technical training to improve productivity and quality of cocoons and silk yarn
5. Formulating a Silk Development Programme for future expansion

Key Achievements

Nearing completion, the project has made great progress towards its objectives. Some of the accomplishments to date include:

- Establishing a National Research Centre in Kompong Speu province which serves as a training center as well as a site for mulberry propagation and conservation.
- Establishing a National Research Centre in Kandal province where scientists research on silkworm varieties, produce hybrid silkworm eggs, test mulberry production and silkworm rearing.
- Creating a silkworm laboratory that works on conservation of silkworm varieties, moth inspection and houses stock of silkworm eggs.
- Planting a total of 3.3 hectares of mulberry trees consisting of 24 varieties.
- Performing two trainings on mulberry cultivation and silkworm rearing for 292 participants from silk communities and agriculture universities.
- Holding two workshops on sericulture development in Cambodia for 134 participants from silk communities, universities and NGOs.
- Distributing 275 000 hybrid silkworm eggs to communities for rearing.
- Distributing 202 300 mulberry cuttings to communities for cultivation.

Expected Impact

Laying the foundation for sustainable production of raw silk means that Cambodia will be able to meet domestic demand, which will have a significant impact on the local economy - potentially creating 25 000 jobs and generating USD 10 million in revenues.

In addition to the direct impacts, there will be spill-over effects on weavers and other players in the silk value chain, who will benefit from a more stable sector with less risk of potential shortage of imported silk yarn.

Future Strategies

Building on the successes of the first Phase, the second Phase of the project began in January 2012 and to be completed in November 2012. Phase Two targets further strengthening of research capacities related to:

- Mulberry planting, silkworm breeding and silkworm egg production;
- Increasing mulberry and silkworm provisions to farmers;
- Providing more workshops to stimulate awareness of rearing best practices;
- Expanding silk production activities by supporting the Government to secure funding from donors for an up-scaling;
- Boosting silk processing techniques through the introduction of new technologies and;
- Providing educational visits at the two National Research Centre(s) where researchers, scholars, university students and buyers can learn about sericulture including post-harvest processing of silk cocoon, silk reeling machine and weaving techniques.

