

The Silk Road to La Union

Sericulture Research Development Institute

Having perfected its technology, the sericulture industry in La Union's Bacnotan town is poised for growth that can make it one of the country's major production hubs and trading posts in the fast emerging international Silk Road.



NATURE'S GIFT
Silkworms are cultured and reared to produce silk, a natural woven fiber that can be made into fabric.



EYE FOR DETAIL
A weaver smiles as she checks the fine silk threads being unspun from the reeling machine.

The sericulture industry in the town of Bacnotan along the country's western coast may put the province of La Union on the international Silk Road.

Bacnotan is becoming famous for producing the prized fabric from the fibers of the cocoon spun by silkworms, which feed on the leaves of the mulberry trees being grown in the area.

The light but soft and glossy fabric used to drive the ancient intercultural trade that created the Silk Road from China and the Korean Peninsula to Eurasia and the Middle East, Northeastern Africa and Western Europe, and the Philippines and Southeast Asia. The Silk Road began as early as 221 BC when China extended its Great Wall to protect this valuable trade route.

With investments in infrastructure, China is reviving the intercontinental Silk Road as a combined economic and diplomatic strategy, from which Bacnotan and its 50,000 people can benefit to a great extent.

THE BIRTH PAINS

Still relatively new in silk farming and production, the people of Bacnotan had to learn the ropes from the Sericulture Research Development Institute of the Don Mariano Marcos Memorial State University.

Institute Director Cristeta F. Gapuz cited the difficulty of sourcing funds for the industry because of its technical obscurity. "You have to introduce it from A to Z," Dir. Cristeta explains.

She and four other staff began the sericulture program in 1992, looking for ideal areas to propagate the mulberry trees and produce the silk.

The fine fibers are produced during the silk moth's life cycle, each laying thousands of eggs that develop into larvae, which feed on the leaves of mulberry trees while emitting filaments to spin into cocoons.



FROM FARMING TO WEAVING
(Top) A local weaver operates a wooden handloom to produce silk threads. Among the products the institute makes are silk shawls (bottom left) and shirts made from woven silk (bottom right).



DID YOU KNOW?
Silkworms only eat mulberry leaves. This plant is also used as a medicinal herb. It is said to help in maintaining a safe blood sugar level.



The Sericulture Process

1 Drying of cocoon

2 Cooking to dissolve protein substance while the pupa is discarded and eaten as a local delicacy—nothing is wasted

3 Re-reeling: from raw silk, transfer to standard size machine

The process requires physical structures for producing and incubating silkworm eggs, gathering larvae for distribution to farmers, and cold storage.

The filament is a fibroin protein secreted by the two salivary glands in the larva's head, which produces the sericin gum that coats and protects the cocoon.

Removing the sericin by steam frees the cocoon's continuous silk filament, which is reeled to form the yarns that are woven into fabric.

BOILER FROM DTI

Those facilities are not enough without the boiler to generate the steam for the various stages of production.

When the boiler broke down, the Department of Trade and Industry (DTI) helped the institute procure a boiler worth Php 1.7 million. The boiler now enables the institute to meet the demands of clients, silk weavers, and cocoon producers.

COMMUNITY IMPACT

Sericulture provides employment and income to its beneficiaries. The men propagate the mulberry trees and the silkworms, while the women weave the silk into fabric.

"Sericulture is a very good source of income," says Dir. Cristeta of its production cycle of up to five times a year.

The mulberry trees help in greening the town, decreasing its carbon footprint, and maximizing land use. "That tree is capable of sequestering 54 tons of carbon dioxide yearly as per our initial research results," Dir. Cristeta reveals.

MEASURING SUCCESS

The institute eyes both the domestic and international markets and sees the income of every cocoon producer rising from the current Php 10,000 to more than Php 40,000 to Php 50,000.

Having perfected the technology over 25 years, the institute, with the help of DTI, practically turned Bacnotan into a major "trading post" in the International Silk Road.



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MAKING SILK

1. Gathering mulberry leaves.
2. Rearing of silkworms by spreading them out on trays with twigs to spin their cocoons.
- 3-4. Steaming and boiling of cocoons to free up and loosen the filaments.
5. Reeling and twisting of the filaments from several cocoons to make strong threads.
6. The raw silk fibers can be sold as is.
7. The silk fibers can be woven into different silk products as well.

HOW DTI HELPED

The Sericulture Research Development Institute perfected its technology with the help of DTI's **Shared Service Facilities (SSF)** project, which provided knowledge resource dissemination and training. The institute also acquired machinery and equipment required in the process, and reeling houses and buildings that made the production and incubation of silkworm eggs, gathering of larvae for distribution to farmers, and cold storage easier. When the institute's boiler broke down, the DTI helped the institute to procure a boiler in just six months.