



## Silkworms at War: The Hidden Role of Silk in World Conflicts

\*Harish Reddy C

MSc (Agri) in Sericulture, Department of Sericulture, University of Agricultural Sciences, GKVK, Karnataka, India

\*Corresponding Author's email: [reddykharish987@gmail.com](mailto:reddykharish987@gmail.com)

Silk, renowned for its luxurious texture, played an unexpected yet crucial role during World War II, especially in Japan. The Japanese government promoted sericulture as a patriotic duty, supplying raw materials for parachutes, ammunition bags, insulation wires and other wartime essentials. Silkworm farmers were glorified as national heroes contributing to the empire's military might. This article explores Japan's militarization of silk production, its socio-economic and gender dynamics, propaganda strategies and the subsequent decline of silk's military importance with the advent of synthetic fibres like nylon. It provides a historical account of how a seemingly soft material became a strategic resource in global warfare.

**Keywords:** Silk, Sericulture, Japan, World War II, Military textiles, Silkworms, Parachutes, Wartime economy, Propaganda and Strategic resources

### Introduction

Silk, long valued for its beauty and cultural significance, found an unexpected place in the machinery of war. During the early 20<sup>th</sup> century, particularly throughout World War II, Japan utilized its rich Sericultural heritage to support its military ambitions. Silk was not just fabric—it was the material for parachutes, fuse cords, powder bags and electrical insulation (Goodman, 2003). The Japanese state rebranded silkworm farming as a national defense activity, mobilizing rural populations, particularly women and schoolchildren, to expand cocoon production. This article investigates the transformation of silk from a luxury item to a wartime necessity and the sociopolitical mechanisms that supported this shift.

### 1. Historical Context of Sericulture in Japan

Japan has cultivated silk for centuries, but it was during the Meiji Restoration that sericulture underwent rapid modernization to support export growth. By the 1920s and 1930s, silk became Japan's leading export product, contributing over 40% to its foreign exchange earnings (Hunter, 2003).

#### Pre-War Silk Economy

- Japan exported approximately 80% of its raw silk to Western markets, especially the U.S. and Europe.
- Nearly every rural household had a silkworm rearing unit, making sericulture a cornerstone of rural livelihood (Yasuba, 1996).

#### Global Demand

- Silk's tensile strength and elasticity made it the ideal material for military applications before the invention of synthetic fibres (Warren, 2001).

### 2. The Militarization of Sericulture

The Japanese government integrated sericulture into its national war strategy during WWII.

### Government Intervention

- Policies included financial incentives, distribution control and also sericulture education programs.
- Farmers were given military-style rankings and awards for high cocoon yield (Saito, 2010).

### Silkworm Rearers as Soldiers

- Silkworm farmers were equated with soldiers on the battlefield.
- Schoolgirls were encouraged to take up silkworm rearing as their national duty (Uno, 1999).

## 3. Silk as a Military Material

Silk served multiple critical military purposes during the war.

### 3.1. Parachutes

- Each parachute required about 4.5 kg of reeled silk.
- Silk parachutes were lightweight, durable and flame-resistant (DuBois, 1942).

### 3.2. Gunpowder and Ammunition Bags

- Silk's low static properties and clean combustion made it suitable for powder bags.
- These bags ensured safe delivery of gunpowder in artillery shells (Warren, 2001).

### 3.3. Electrical and Optical Insulation

- Fine silk threads were used in insulating wiring for radio communications and military aircraft (Goodman, 2003).

### 3.4. Camouflage and Uniforms

- Special silk-based fabrics were used for elite combat uniforms and camouflage nets due to their breathability and texture (Yamashita, 2011).

## 4. The Role of Women in Wartime Sericulture

Women were central to wartime sericulture in Japan.

- **Rural Backbone:** Most rural women were already trained in silkworm rearing and continued their work with increased state support.
- **Schoolgirls' Contribution:** Teenage girls received training in both schools and homes and were mobilized during cocoon harvesting seasons (Uno, 1999).
- **Gendered Nationalism:** Women were portrayed as “nurturers of the empire,” with propaganda urging them to rear silkworms as a patriotic duty (Saito, 2010).

## 5. Propaganda and Nationalist Messaging

Japan's wartime media apparatus actively glorified sericulture.

- **Visual Campaigns:** Posters depicted rearers in military uniforms with slogans like “Your cocoons save our soldiers.”
- **Sericulture Festivals:** These were turned into nationalist celebrations aligned with imperial values (Yamashita, 2011).
- **School Textbooks:** Contained lessons linking sericulture to national survival (Uno, 1999).

## 6. Challenges and Decline During Wartime

Despite its strategic status, sericulture faced severe challenges by the mid-1940s.

- **Labor Shortage:** As war intensified, many women were redirected to factories, reducing available Labour for rearing (Saito, 2010).
- **Infrastructure Damage:** Allied bombings and transport failures affected mulberry cultivation and cocoon transport.
- **Synthetic Alternatives:** Nylon, invented by DuPont in 1935, gradually replaced silk, especially in U.S. and German militaries (Goodman, 2003).

## 7. The Post-War Transformation of Sericulture

After Japan's defeat in 1945, the role of silk in national policy diminished.

- **Military Demand Collapse:** With the shift to synthetic fibres, military use of silk was nearly eliminated.
- **Civilian Revival:** Silk re-entered the civilian textile sector, especially in fashion and traditional garments.
- **Cultural Heritage:** Sericulture remains culturally significant in Japan but is no longer economically dominant (Yamashita, 2011).

## 8. Global Perspective: Silk in Other Militaries

- **United States:** Before WWII, the U.S. imported Japanese silk for parachutes, but switched to nylon during the war.
- **Germany:** Developed synthetic fibres like Perlon but still used silk in elite units.
- **China:** Though a major silk producer, internal conflict during WWII limited large-scale military applications.

## 9. Ethical and Economic Reflections

The weaponization of sericulture raises critical ethical questions.

- **Exploitation of Farmers:** The promises of high returns and pensions often went unfulfilled after the war (Saito, 2010).
- **Gendered Labour:** Women's unpaid contributions were celebrated but not always rewarded economically.
- **State Control:** Agricultural labour was tightly regulated, reflecting how peacetime traditions can be transformed by military necessity.

## Conclusion

Silk's transformation from a luxury good to a strategic military asset illustrates the complex interplay between war, agriculture and society. Japan's militarization of sericulture during WWII provides a vivid example of how natural resources are repurposed under state control in times of conflict. Silkworm farmers, especially women, were elevated as national heroes, showcasing how biological production systems can become tools of nationalism and war. Though synthetic fibres eventually replaced silk in most military applications, the legacy of wartime sericulture lives on as a unique chapter in global and Japanese history. Understanding this transformation helps contextualize the broader implications of agricultural militarization and resource control in wartime economies.

## References

1. DuBois, J. (1942). *Silk in the War Effort*. U.S. Bureau of Economic Warfare Bulletin, 3(2), 14-19.
2. Goodman, D. S. G. (2003). *Global Silk Industry and the Rise of Synthetics*. *Journal of Asian Economic History*, 4(1), 25-47.
3. Hunter, D. (2003). *Papermaking: The History and Technique of an Ancient Craft*. Dover Publications.
4. Saito, O. (2010). *Rural Women and Wartime Labor Mobilization in Japan*. *Economic History Review*, 63(4), 899-922.
5. Uno, K. (1999). *Passages to Modernity: Motherhood, Childhood, and Social Reform in Early Twentieth Century Japan*. University of Hawai'i Press.
6. Warren, M. (2001). *Textile Technology in World War II: Silk and Synthetics*. *Textile Research Journal*, 71(7), 612-621.
7. Yamashita, S. (2011). *Wartime Silk Culture in Japan: Tradition, Industry, and Propaganda*. *Japanese Journal of Historical Studies*, 47(2), 89-103.
8. Yasuba, Y. (1996). *Japanese Economic Development: Theory and Practice*. Oxford University Press.