

## Women as Silk Warriors in Wajo District: Sole Actors and the Challenges of Access to Social Forestry Programs

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### Abstract

Silk is a symbol of cultural grandeur in South Sulawesi. Complex business issues, and lifestyle changes within communities, has led to the silk industry being vulnerable to abandonment. Social Forestry, through a scheme to increase non-timber forest product businesses on community lands, can provide economic opportunities for silk-based businesses, which are dominated by women. This study is a qualitative study supported by quantitative data. Direct observations and in-depth interviews were conducted with several key figures in the silk business in Canru Village, Wajo District, South Sulawesi. The results of the study show that economic pressure is the main motivation for shifting roles in the silk industry, but there are several other obstacles that threaten the sustainability of the silk industry, which has lasted for hundreds of years.

Keywords: women and silk, economy empowerment, KUPS (Kelompok Usaha Perhutanan Sosial-Business Group of Social Forestry)

### Introduction

One of the government's priorities in forest management is to improve community welfare by giving people access to the utilization and potential development of Non-Timber Forest Products (NTFPs). NTFPs are forest products—such as those derived or cultivated from plants or animals—with an economic value that can be used to improve the welfare of the community. NTFPs are forest products or services other than timber.

NTFPs can be sourced from forests designated by the Government as forest areas, or from forests. In Forestry Law No. 41/1999, these two areas are interpreted as “an integrated system of management pertaining to forests, forest areas, and forest products, and an integral unit of the ecosystem in the form of lands containing biological resources, dominated by trees in their natural environment”. This interpretation is in line with the assumption that forests are an integral part of life and are inseparable from the existence of local communities (Damayatanti 2011). Communities that live in and depend on forests create a social environment that has a reciprocal and mutually influencing relationship with the forest.

In some remote areas, collecting or harvesting NTFPs has been carried out for generations and is considered a traditional practice. People continue to perform this activity because of the added economic value of the products. Many farmers around the forest depend on forest products; either as a side business to earn extra income or as a main source of income.

In general, NTFPs are tree-derived products that have added value; fruit, leaves, skin, sap, caterpillars, or other plants with special characteristics, such as mulberry, rattan, bamboo, etc.. The added value of these products is an economic opportunity that is seen as an alternative to conserving forests and their ecosystems so that NTFPs are continuously available and able to support the livelihoods of local communities. The Social Forestry program was initiated by the government to ensure forest conservation efforts went hand in hand with the improvement of people's living standards.

Social Forestry is a national program that grants forest management rights to communities living in or near forests. The program's priority targets are people who are living below the poverty line, and vulnerable and marginalized community groups whose lives depend on forest sustainability and forest resources.

One of the NTFPs that has been prioritized for development is silk. Natural silk is one of the top five national NTFP commodities (Ministry of Forestry 2014). Since 2004, silk has been part of the Community Economic Development Movement (*Gerakan Pembangunan Ekonomi Masyarakat, Gerbang Emas*) programs developed in South Sulawesi because it contributes to the local and national economy (Baso & Sudirman 2020).

South Sulawesi Province is a popular region for silk production. Silk production is one of the industries that is managed and developed by micro-scale business groups involving women. The Social Forestry program not only supports the community in this region but also supports community business groups outside the region with utilizing NTFPs.

In 2005, the Indonesian silk-weaving industry became one of the top foreign-exchange earners with an export value of \$9,815,469. The silk came from 11,383 industrial units in 11 provinces across Indonesia, with 10,652 of those (93.58%) in South Sulawesi. At that time, South Sulawesi was known as the largest center of silk-weaving activities in Indonesia (BPA 2013).

South Sulawesi has been well known for its production of natural silk since 1960. Silk's reputation as a leading trade commodity is growing because Makassar, as the provincial capital, is a transit port and the gateway to eastern Indonesia. Although natural silk production has experienced highs and lows, South Sulawesi is still the largest silk producer in Indonesia.

According to the Balai Persuteraan Alam (2013), silk companies have been started in 13 districts in South Sulawesi. There are three districts that are considered centers of silk development and an important link in the production chain; Enrekang and Soppeng Regencies represent the upstream sector or pre-production stage, where the focus is on growing mulberries for silkworm feed and cultivating silkworms (*bombyx mori*) to become cocoons,<sup>1</sup> while Wajo Regency is a downstream sector and is the center for spinning yarn, producing silk fabrics, and distribution and marketing.

The characteristics of the industry mean the entire silk production process can occur in Wajo Regency; from pre-production to post-production. In Wallanae, Sabbangparu District, Wajo Regency, the dominance of women in every stage of the process is evident. This fact was revealed during in-depth interviews with several female figures who have participated in the silk business for generations. Direct observations and several literature studies confirmed it.

The struggles of women in silk businesses in Wallanae, especially in Canru Village, are typical of the experiences of local female actors in sericulture. Thus, it is important to consider the opportunities for women to maintain the sustainability of the silk industry. Are there any development programs to support women? How do women access those programs? Do women have the power to lead, access, and control the resources? It is important to investigate this social reality so policymakers can provide appropriate and gender-equitable support for social changes.

## Research Method

This paper begins by considering the experiences of women as female actors in sericulture in South Sulawesi. Actors in sericulture are defined as people who actively participate in the silk production process, from cultivating mulberries and silkworms to producing silk threads and fabrics. The data in this research was collected using in-depth interviews and direct observation of several female actors in sericulture in Wallanae, Sabbangparu District, Wajo Regency, South Sulawesi Province.

This research uses a qualitative approach and gender analysis as analytical tools to comprehensively investigate the role of women in sericulture. This research aims to investigate the changes in the silk industry and their impacts on the community, and to document the experiences of silk-weaving business groups who have received assistance to build business capacity. The results of this research are important as they can influence the researchers who work as both bureaucrats and in Social Forestry business groups when they formulate policies that support women's groups.

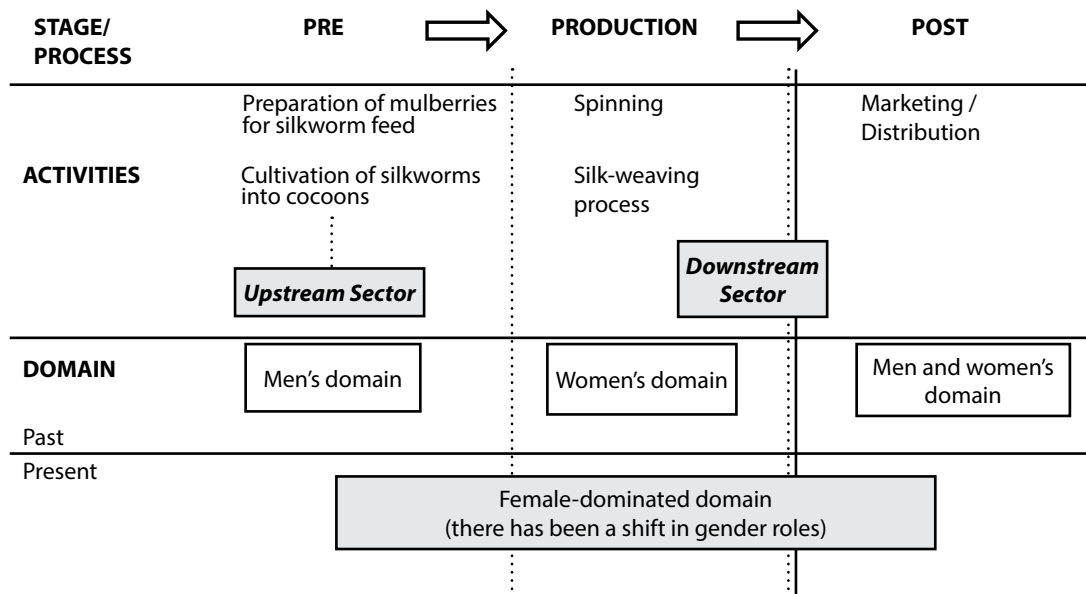
## The Gender Shift in the Silk Production Process: Women as Sole Actors

The silk production process is not as simple as one might think. It requires patience, tenacity, thoroughness, and cooperation between business actors, including in the division of labor between men and women. The production process includes preparation for providing feed, a special room for silkworm rearing, a continuous supply of mulberries, raising silkworms for cocoon production, processing cocoons into silk thread (spinning), weaving silk into textile fabrics, distribution, and marketing.

In the silk industry, many aspects must be harmonized so the division of men's and women's duties can be equal while taking into account traditional gender roles. Men

are traditionally positioned as the breadwinner, while women are considered co-breadwinners. Historically, the silk industry depended on the skill and thoroughness of

the silk makers. The table below shows the division of labor between men and women in the silk production process.



**Figure 1. Shifting Roles in Natural Silk Production Flow**

Source: Results of Observation & Processing of Primary Data of KUPS-BPSKL Sulawesi (2021)

In the silk industry, there has been a noticeable shift in gender roles. Almost 90% of the work is now performed by women. The division of labor—which was originally divided based on the domain of the work area—has shifted, and sometimes shifted completely, because of the economic needs of the silk farmers' households. While almost all stages of silk production are now dominated by women, men have switched to other jobs that are considered more profitable. As economic demands on silk farmers increased, they began to look for other sources of income that were quicker and easier. The patterns of household income for silk farmers also changed, which resulted in the diversification of livelihoods.



**Figure 2. Woman Cutting Mulberry Trees in the Field**

Source: BPSKL Sulawesi (2021)

Meanwhile, cultivated lands that were designated for mulberry trees (for silkworm feed) have been used for more valuable commodities, such as corn.

In Canru Village, arable land ownership is only 1–2 hectares. Mulberries are now more commonly found in the yard or among other plants in limited quantities. The mulberry plant requires large amounts of sunlight, which makes it difficult to grow as an intercrop in a small area of land.

However, several scientific studies have shown that mulberry plants have multiple economic benefits. Wahyudi and Nurhaedah (2015) described the economic benefits of mulberries other than as feed for silkworms, stating they can also be used as a food crop, animal feed, and for medicines. The public's limited knowledge, coupled with economic pressures, means farmers are reluctant to gamble on a business that has unknown profit and marketing values.

Apart from being economically practical, mulberry plants also have ecological value. When compared with corn and other second crops, mulberry is classified as a conservation plant because of its strong roots. Mulberry can be planted on sloping land to prevent erosion and landslides. Because people tend to prioritize economic rationality, and minimize the risk of failure, they ignore other factors, such as the fact mulberry has proven to be

ecologically beneficial, and has social and cultural value. At the end of the day, market demand is the main reason people choose a commodity with a high economic value.

In Wajo Regency, silk commodities' prestige has decreased because of diseases that affect mulberry trees, which has resulted in a drastic decline in the production of natural silk threads. This decline in cocoon production has greatly affected people's incomes. On top of this challenge, internal factors—such as difficulty in sourcing quality raw materials, ongoing pest and virus attacks, competition in the silk business at the top level and the market, and capital that is controlled by business elites—must be addressed (Ridwan 2011).

This downturn can also be seen in the decline in public interest in mulberries. In 2020–2021, the Community Economic Development Movement (*Gerakan Pembangunan Ekonomi Masyarakat, Gerbang Emas*), to increase silk production, struggled to reach its goal of planting one million mulberry seeds. The monitoring and evaluation conducted by the Governor's team for the Acceleration of Development of South Sulawesi Province in July 2021 found only about 491,000 seeds were planted in Wajo. In an interview, Abdul Malik, a practitioner and bureaucrat who assists silk business groups, said he was disappointed in the low public interest in farming mulberries in Wajo Regency. One of the reasons for this apathy is the neighboring regencies of Enrekang and Soppeng, in the upstream sector, are also starting to stagnate. It is hoped the silk industry in Wajo Regency can become self-sufficient.

The complex problems faced by silk farmers does not necessarily destroy the home-based silk industry. The women in Wallanae, especially in Canru Village, demonstrate a spirit to survive. However, this decision has increased the workload of women because of the increase in time allocated for non-domestic work. Firzal (2021) calculates the time needed for silk farming in Wallanae—starting from mulberry cultivation activities, land processing, planting, growing, to harvesting—is between 3–4 months when working an average of 3–4 hours a day.

Extra time is needed if the mulberry trees are planted in a garden of at least 1 hectare. The period will be shorter if the mulberry trees are planted in a yard. This situation affects the decline in income because productivity in the upstream sector is also reduced.

This account of the extra workload that increases women's non-domestic working time demonstrates that women play a large role in supporting the household

economy. Women are willing to be sole actors in silk farming in order to meet their household's needs, even though the process does not guarantee that the results will be as expected. The division of labor based on biological factors has disappeared and has been replaced by equal roles for the sake of increasing household income.

### Women in Sericulture: Economic Actors and Cultural Conservationists

For the people of South Sulawesi, silk is a luxury garment that symbolizes the social, economic, and cultural status of the wearer. Silk weaving is a hereditary craft that has been practiced for generations in South Sulawesi. The story of silk is inseparable from the hands of the women who weave it. Weaving activities were initially considered a non-domestic side job that signified the maturity and skill of a woman. A woman's ability to spin yarn and weave silk symbolized they had entered adulthood.

Women's contributions to supporting the household economy have always occurred in home industries such as a silk business. This phenomenon is not only based on economic motives but also has a historical background with a social meaning. Another equally important value is cultural identity.



Figure 3. Variety of South Sulawesi Silk Motifs

Source: BPSKL of Sulawesi (2021)

Silk products are used in South Sulawesi traditional rituals. It is used for traditional clothing or as part of sacred equipment in puberty and marriage rituals.

The rich history of silk production in the region demonstrates the important historical relationship between women and weaving activities. Weaving skills are, in some areas, a symbol of a woman's self-respect and dignity. Weaving is often considered a skill that must be mastered by women. Female silk weavers are not only helping their husbands financially but are also protecting the household in case of bad economic situations.

In an interview on 22 December 2021, Andi Aisyah, an 80-year-old female actor in sericulture, stated that spinning yarn for weaving required patience, perseverance, and thoroughness. In the past, women who were able to spin yarn and weave it into silk were considered to be mature women and ready to enter marriage. In South Sulawesi culture, women are traditionally positioned as wives who, besides being good at serving, must be good at positioning themselves as their husband's partner in domestic life.

Women continue to play a role in the local silk industry, even though they can no longer rely on men as work partners. As a micro-scale industry (home-based business), silk has proven to be a pillar of the economy. Thus, women are motivated to continue in sericulture. Women report that, until now, the selling price of silk commodities has been stable and tended to increase.

The home-based silk industry contributes to increasing and/or maintaining household income. In an interview on 23 December 2021, Hadrah, 60, said yarn sales could reach Rp600,000 a kilogram. Firzal's study (2021) similarly stated that the income from mulberry fields was Rp10,793,156 per hectare per season, based on the assumption that the mulberries, as silkworm feed, would produce approximately 60 kilograms of spun yarn.

The growth of the silk-weaving industrial unit in South Sulawesi is rooted in the weaving craft, which is a complicated process because it is performed manually using a traditional loom. This traditional weaving loom, known as a *gedogan*, can only produce woven fabrics that are as wide as the weaver's handspan.

The silk-weaving industry in South Sulawesi has grown steadily since the introduction of the non-machine loom. This loom can produce materials with more diverse sizes and designs in a shorter production time than the *gedogan*. Because of the high demand for silk products, the non-machine loom is more effective and profitable for craftspeople and entrepreneurs. However, weavers are starting to abandon this loom.

The need for large quantities of raw materials, which have limited availability, the convenience of using a

*gedogan*, and thinking strategically about the future has led many female silk weavers to return to using a *gedogan*. Additionally, women are abandoning non-machine looms because of the new skills needed to use it, and the cost of maintaining machines or buying new tools.



**Figure 4. Spinning Silk from Cocoons using Traditional Hand-Spinning Tools**

Source: BPSKL of Sulawesi (2021)

Women are still weaving because they see that silk's economic value is still high. Hence, they continue to run this small-scale business, even though it is only a side business and not their main job. Nowadays, all roles in the silk production process rely on women. Unfortunately, the support for women's capacity development is inadequate. Consequently, the growth of the household economy through the micro-scale silk industry is minimal. There is a concern that if economic needs continue to increase, the option to continue the silk industry will disappear.

There are also concerns that other changes will bring about structural changes in the household. Women who initially used the silk business to help the household economy will gradually take on other jobs to meet the growing household needs. Women will continue to be classified as economic actors even when working in other sectors. However, if they change professions, women will be considered to have failed to preserve silk production as an ancestral cultural heritage. Future generations will lose a piece of their cultural identity as the largest silk producer, which has become a symbol of regional pride.

Facility and capacity constraints are a challenge for developing the home-based silk industry. The characteristics of the silk industry are similar to that of a family business, in that it is run by family members, especially women. As a result, the business and the workforce do not increase significantly from year to year.

Business capacity is also difficult to develop because of the specific characteristics of a home-based business.

When operating a home business, decisions tend to be influenced by internal/family factors or other emotional factors. Further, the use of capital is limited and inflexible. As a result, production tends to stagnate or grow slowly.

Susatijo (2008) says the “natural silk industry has a strategic role; it employs workers and farmers, opens up business opportunities, provides opportunities to improve the people’s economy, increases farmers’ income, and increases foreign exchange”. This outcome can be achieved if we can overcome the obstacles; thus, increasing the local and global economic sectors and preserving cultural heritage.

### **The Assumptions of the Social Forestry Program: Challenges of Empowering Women**

Forestry Law No. 41 of 1999 article 3 letter d mandates the Social Forestry program to “improve the capability to develop community capacity and capability through participatory, equitable and sustainable ways to establish social and economic resilience and resistance against external changes”.

Social Forestry is described by the Minister of Environment and Forestry in Regulation No. 9 of 2021, which outlines the approval mechanism for communities who want to manage forest areas. These management programs include the Community Forest scheme, Village Forest, Community Plantation Forest, Forestry Partnership, Community Forest, and Customary Forest. The approval mechanism is public with no distinction made for the rights and obligations of communities that are physically, socially, economically, and even culturally close to and dependent on the forest.

The Social Forestry program exists as a counterweight to other forestry programs that have always favored elite groups. The program also accommodates the mandate of Article 23 of the Forestry Law that forest utilization shall be intended to obtain optimal benefit for the people’s welfare in an equitable manner while maintaining the forest’s sustainability.

Through Social Forestry, forest utilization must be distributed equally through active participation by the community. It is expected that this process will make the community feel more empowered and develop their potential. In addition, Social Forestry provides equal space and opportunity for men and women to gain access to Social Forestry management. As stated by the Minister of Environment and Forestry Regulation No.

9/2021 on Social Forestry: “1 (one) family is represented by 1 (one) person, by providing equal opportunities for both men and women”.

Equal participation by men and women can be seen in Social Forestry groups. The Center for Social Forestry and Environmental Partnership (BPSKL) of Sulawesi (2021) identified 168 Social Forestry groups in South Sulawesi that have empowered forest farmers by distributing roles equally. The ratio of women’s membership in these Social Forestry institutions is 53.98%; a high percentage that illustrates the proportion of roles based on gender.

Among these groups are Social Forestry Business Groups (KUPS), which utilize and manage NTFPs such as mulberries and silkworms, and their derivative product—silk. The utilization of NTFPs as business products is one of the goals of Social Forestry; empowering vulnerable groups physically, economically, socially, and culturally.

One form of support from the central and regional governments to encourage Social Forestry programs in the management of NTFPs in community forests is to provide opportunities for people involved in production activities. In Wajo Regency, silk is a NTFP that has been managed by a KUPS, which has become the legal holder of Social Forestry permits or rights.

Groups that have been registered as a KUPS are entitled to Social Forestry business development facilities according to four levels: Blue, Silver, Gold, and Platinum.

According to the Directorate General of Social Forestry and Environmental Partnership’s Regulation No. 2/2018 concerning Social Forestry Business Development, several forms of support can be obtained including, (1) Assistance to prepare business plans concerning the utilization of forest products; (2) Institutional strengthening through field schools, comparative studies, skill improvement training, and increasing business group status; (3) Enhancement of production value and environmental services in the form of aid for productive economic tools, agroforestry, and production value enhancement; (4) Entrepreneurship strengthening through business meetings, product exhibitions/promotions, and access to capital, marketing, and business partners network.

The silk KUPS in Wajo Regency belong to the silver level—the business has not yet developed but, institutionally, is already established and operating. There are two Silver-level KUPS led by women; both are good examples of women in Wajo Regency gaining access to and participating in maintaining the forest ecosystem, and obtaining economic benefits through the management processes.

**Table 1. Women's Empowerment in Natural Silk Social Forestry Business Group**

Farming Group/ Level	Chairperson	Donor	Type of Assistance
1. Panreng Panreng (Silver)	Hajera	BPSKL (The Center for Social Forestry and Environmental Partnership) for Sulawesi & Forestry Service of South Sulawesi	<ul style="list-style-type: none"> <li>- F1 silkworm eggs</li> <li>- Mulberry seeds</li> <li>- Silk cocoon dryer</li> </ul>
2. Prosperous (Silver)	Sitti Hadrah	BPSKL for Sulawesi	<ul style="list-style-type: none"> <li>- F1 silkworm eggs</li> <li>- Silkworm feed basket</li> <li>- Cocooning tool</li> <li>- Participation of KT Sejahtera members in the training on Social Forestry</li> <li>- E-learning</li> <li>- Cultivator</li> </ul>

Source: Processed Secondary Data of KUPS-BPSKL of Sulawesi Region (2021)

In order to increase, silk production needs more support than before. Strong political will from the central and local governments is needed to support silk as a superior local product that can compete in the global market. The required support needs to be more than merely providing assistance but ignoring the obstacles

faced by silk farmers, especially women. The silk industry is not a new type of business. It has been operational for generations. Hence, the long-standing problems should be clearly understood, and these problems should become a reference for finding a long-term solution.

**Table 2. Benefits and Constraints of the Assistance Program for the Natural Silk Social Forestry Business Group**

Program/Assistance		Challenge
F1 silkworm eggs	F1 silkworm eggs are the main element needed for the cultivation of silkworms. These eggs will be reared until they produce cocoons.	The distribution process of F1 silkworm eggs to business groups often causes a low silkworm egg hatching percentage.
Mulberry seeds	Mulberries are food for silkworms. Good-quality seeds will affect the quality of the cocoons.	Only a small number of seeds were planted by the groups due to technical problems with the seed providers.
Cocoon-drying machine	To store cocoons for a longer period of time.	
Silkworm feed basket	To store the mulberries taken from the garden in order to maintain freshness and cleanliness..	
Seriframe tool	A modern cocoon tool to produce quality cocoons. Different to traditional tools such as bamboo combs	Some group members still use traditional cocooning tools such as a bamboo comb because it is easier to use than the seriframe tool.
Participation of KT Sejahtera members in Social Forestry E-learning training Forestry	To increase knowledge, gain insights into the Social Forestry program, and learn tips to develop groups by using BPSKL facilities.	Some group members are not proficient with technology. Thus, this is ineffective.
Cultivator	A tool for weeding and loosening soil before planting mulberry seeds.	

Source: Processed Primary Data of KUPS-BPSKL of Sulawesi (2021)



The government's support includes empowerment programs that provide access and material assistance to KUPS. Unfortunately, not all assistance is appropriate for the group's needs. Some of the assistance is top-down and temporary, which indicates a lack of in-depth discussion during the decision-making process. Consequently, the assistance has failed to deliver a significant increase in welfare and, instead, there exists numerous obstacles that need to be addressed.

The government's good intentions have not been dealt with. There is still an impression that assistance is top-down. For example, the provision of mulberry seeds was unilaterally determined by the government to reach a predetermined amount. One million mulberry seeds were distributed without taking into account land availability, seed quality, and community needs for other commodities. There was no discussion or awareness raising among the public about the benefits and value of the mulberry plant economically and ecologically. This situation indicates a lack of harmonious dialogue between the government and the silk farmers.

Another obstacle for silk farmers is gaining access to capacity building. To be able to compete with established silk businesses, silk farmers should be supported to cooperate with private parties who have the potential to become partners. Partnering with the private sector would be very beneficial in terms of capital and marketing; something silk farmers lack.

Silk production communities are equipped with tools, but not the knowledge to use them. Women in sericulture are more comfortable working with traditional tools because they have been using them for many years. One of the weaknesses of the home-based silk production business is that workers still use traditional methods whose effectiveness and productivity values cannot compete with big foreign producers, such as China and India.

Access to assistance has been obtained, although the assistance has not been optimal. Another aspect of capacity building is the insights, knowledge, and skills that build motivation and increase productivity. Individual capacity can be improved through mentoring, training, and comparative studies in key areas of sericulture.

Another negative experience for female actors in sericulture occurred in Wallanae, Wajo Regency. In an interview on December 22, 2021, Abdul Malik, 40, recounted his regret that female figures were not involved in silk industry training in Thailand. The women were not selected to participate because they only had

an elementary school-level education. In fact, their knowledge, experience, insight, and participation in the silk industry was much greater than that of those who were selected to participate. Thus, we can see that women in sericulture have not been a priority for capacity building.

The power of regional leaders as government representatives will determine the direction of policies, and the changes they bring. The obstacles faced by women in sericulture are an ongoing project for the Government to help manage silk production through empowerment activities.

Empowerment principles—such as communication, participation, and openness—have been the basis for fulfilling the mandates of the Forestry Law. Community empowerment does not mean that the people do not have the will or ability, or are a less-empowered group. In fact, they have survived until now because of their strength and capabilities. But they need support and assistance so that their potential can be fully realized and optimized, and they can become more efficient, more productive, and more financially independent.

### **Women in Sericulture in Gender Analysis: Access, Participation, Control, and Benefits**

Georgina Waylen (1997) in her work *Gender, Feminism, and Political Economy* states that feminism theory and gender analysis play an important role in the creation of a political economy. This is because the role of women in the local economy supports equal economic growth and is capable of making political and economic changes. Silk as an industrial product has proven successful as a base of the household economy in several areas, which proves that economic growth occurs when women participate. Thus, cooperation between men and women in creating a political economy based on gender equality is necessary. Amartya Sen (1999) in his book *Development as Freedom* provides an updated idea about improving human abilities; one of the main concerns in the work mechanism. In this regard, humans are men and women. Inequality between men and women must be eliminated in the management of the political economy.

Research by Klasen and Lamanna (2009) that was published in the journal *The Impact of Gender Inequality in Education and Employment on Economic Growth in Developing Countries* emphasizes that gender inequality in employment will only hinder economic growth. Women's empowerment is a solution. It will eliminate poverty by improving the quality of human resources and optimizing the role of women in economic growth.



Furthermore, the United Nations Development Program (UNDP) stated in the Human Development Report that one of the critical aspects of development was equitable economic growth between generations, between ethnicities, between genders, and between regions, with great emphasis given to gender equality (Widayanti et al. 2013)

In terms of implementing the Social Forestry program for silk as an NTFP in Wajo Regency, the authors

conducted a Gender Analysis Pathway (GAP) to assess the position of women. GAP is a tool that assists planners with implementing gender mainstreaming in the planning of development policies/programs/activities. Using GAP, development planners can identify gender gaps and gender issues, and develop policies/programs/activities that minimize or eliminate gender gaps (Nurhaeni 2018). With GAP, we are able to identify gender gaps in terms of access, participation, control, and benefits.

**Table 3. Analysis of the Access, Participation, Control, and Benefit of Female Actors in Sericulture**

<b>Access</b>	<p>KUPS provides material assistance for business improvement (goods/money) and non-material assistance for human resource capacity building (training/comparative study) for men and women. However, in the field, non-material assistance is still more accessible for men.</p> <p>This situation occurs because there are still stereotypes about women such as: women are shy, women's intelligence is lower than that of men, and women are not good at managing programs. These stereotypes limit women's access to opportunities for capacity development. In many cases, men tend to be prioritized for access to information on training or other assistance.</p>
<b>Participation</b>	<p>The membership of the silk KUPS is dominated by women. Their influence can be seen through their participation in making plans in a democratic manner, and their efforts to strengthen their business through the use of tools for silk production.</p> <p>Furthermore, women actively participate in discussions and meetings conducted by the relevant agencies. However, attendance by participants is still limited—only the core management usually attend.</p> <p>In terms of increasing human resource capacity, women's participation is lower than men's, such as when participating in E-learning training or comparative studies.</p>
<b>Control</b>	<p>Women, as KUPS members, have control over the group's work plans. The preparation of work plans (short, medium, and long term) and formulation of programs to improve the KUPS are made through joint deliberations with all members. The chairman then signs the KUPS administrative document and is responsible for leading the implementation of the programs. In addition, the chairman also encourages mutually beneficial cooperation with other business groups. However, the control of female members is very limited due to their structural role as members.</p> <p>Furthermore, the concept of control is strongly influenced by women's strategic positions in KUPS. One of the indicators is women in the position of chairperson. Of the nine silk KUPS in Wajo Regency, there are two female chairpersons who are able to deliver work to members (men and women) and control the implementation of work. This ratio of 2:9 is still considered too low and does not represent at least 30% female leadership. Thus, women's control of KUPS is still restricted. The representation of women as chairpersons is expected to encourage women's access and participation in all aspects of KUPS activities; access to assistance, access to training, and access to decision making.</p>
<b>Benefit</b>	<p>KUPS does not discriminate by gender. However, it can be seen that the lack of access, participation, and control by women has had an impact on the benefits they receive as members, administrators, and leaders.</p> <p>The benefits can be material and non-material. Material benefits take the form of increased business, profits, and income. Meanwhile, non-material benefits are the empowerment and capacity building of human resources—in this case, women—through training for female members.</p> <p>In terms of material benefits, this program has provided benefits for women by increasing their business, profits, and income. However, in terms of non-material benefits, women's access is still not maximized.</p>

Source: Processed by the authors from BSKL KUPS of Sulawesi Data

The analysis of the access, participation, control, and benefits of female actors in sericulture suggests gender gaps still exist in terms of accessing non-material assistance. The capacity-building program for women has not been optimal; even though women have long participated in the silk industry and some of them have become the breadwinners of the family. The tendency is still for the Government to provide opportunities to men because of certain qualifications that women do not have. Leadership, access, and control over the utilization of business programs have not been given to women's groups (which are the sole actors in the silk industry). This situation hinders the distribution of additional benefits of the silk KUPS to increase household incomes, which will have a flow-on effect in the decline and loss of the silk industry in rural areas.

## Conclusion

The division of labor between men and women in the silk industry has existed for a long time. Changes in economic demands caused a shift in the role of women. The shift from mulberry fields to corn or other types of second crop fields led to a diversification of livelihoods in the households of silk farmers; the single-income situation turned into a double-income situation. It can be seen that women became the dominant actors in local silk businesses; however, women's roles are still limited to home industries that have low productivity.

The challenge to continue the silk industry at the local level is now on the shoulders of women. Women's efforts will determine the extinction, survival, or triumph of local silk. The survival of the local silk industry requires the full support of various parties. The government can assist by providing access for women to participate in empowerment programs. Women have the right to be involved or represented in every stage of development—and particularly in the development of local silk businesses.

The data from selected locations (such as Canru Village, Wallanae, Wajo Regency) shows women's participation in the entire decision-making process—the planning, implementation of policies, accessing information, and capacity building—is limited. Stereotypes about women being weak, stupid, and left behind still influence the thinking of some policymakers. Gender issues generally arise at the policymaking and planning level; in contrast to the implementation level, where gender equality seems to be progressing well.

Gender inequality in policy formulation and planning reflects a concept of mainstreaming a gender perspective that was proposed by the United Nations Social and Economic Council but has not yet been implemented. An assessment of the implications for women and men of activities—including legislation, policies, or programs, in all areas and at various levels and as a strategy—has been planned. The concerns and experiences of women and men are integral to the design, implementation, monitoring, and evaluation of policies and programs in the political, economic, and other fields of society. Thus, women and men have equal benefits and responsibilities.

The government's support for the Social Forestry program has been indispensable. Its support, and provision of access to assistance and community empowerment programs, has motivated silk business groups to continue to be productive. However, there are some improvements that can be made to the empowerment programs to ensure community assistance is targeted and effective. Furthermore, there are some empowerment principles that have been forgotten.

Cooperation and support from several parties are also needed. The government's role in the forestry sector goes hand in hand with the input from other sectors to ensure the growth of the local silk industry. Capital from investors, capacity and skill building by the Ministry of Trade, marketing by the tourism sector, and contributions from many other sectors need to come together to support the industry. The current era of development is the era of collaboration, in which resources are combined to close the gap.

Internally, the above challenges must be overcome to strengthen the motivation of women in sericulture to maintain their businesses. Externally, these challenges are becoming more complicated as globalization brings foreign cultures and influences regarding styles of dress. The strong influence of foreign culture affects silk's survival because the pride associated with owning and using silk is slowly fading away. Clothing trends from abroad have become the norm for young people and for women. The challenge of regeneration for women in the management of local silk production will also determine the industry's future.

The challenges facing the local silk industry, especially at the home industry level, is a challenge for all parties, not just rural women. The commitment by all parties to restore silk to its former glory is an important foundation for motivating female actors. The empowerment process—increasing access and control over all

resources—must be shared equally. The social reality is that the work within the silk industry is predominantly performed by women. Thus, this situation must form the basis for women having access and control, and being able to take advantage of every available opportunity and resource.

Social Forestry, as one of the government programs that supports the sustainability of the silk industry, should be able to achieve equality of access and management control within the development of the forestry sector. This outcome would create a competitive forestry business system through regional management and community-based institutions. Synergy between natural resources, communities, the government, and the private sector will accelerate the empowerment of silk business actors.

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## Endnote

- 1 Cocoons are materials made by silkworms (*Bombyx mori* L.) in the metamorphosis phase (pupation), which consists of cocoon shells and pupae, (SNI 01-5009.11-2002: FRESH COCOON QUALITY). The cocoon is also known as the silkworm cocoon.

