International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Production, Marketing and Socio-Economic Impact of the Muga Silk Industry: A Case Study of Sualkuchi, Assam

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Abstract

Muga silk sector is one of the cottage industries in Assam. Muga silk sector helps support livelihoods keeps heritage alive and promotes local economic growth. We find the work of Muga silk sector. This research examines how Muga silk is produced how the products are marketed and the social and economic effects of Muga silk sector, in Sualkuchi. Sualkuchi is located in the Kamrup District of Assam. Is often called the "Silk Village of Assam." This study uses a mixed-method approach that combines both qualitative research. Data were collected from seventy participants using sampling.The research methods comprised household surveys, structured interviews, focus group discussions and direct observation. The research methods were chosen to capture a range of data from participants. Secondary data were gathered from government reports, academic studies and records from organizations. The findings show that weaving Muga silk continues to be the source of income for many families, in the region. It provides employment. Brings steady income. Handloom weaving is still the method used. Women are heavily involved in stages of production including weaving, reeling, dyeing and selling. The research shows a dependence on local markets for raw materials. However there are challenges such as availability of raw materials rising production costs, limited use of modern technology and weak support from institutions. Local vendors and middlemen have an influence on how the silk is marketed. At the time new digital platforms are opening up new ways to reach wider markets. The Muga silk industry has had effects on household income, job stability and overall quality of life. Still several issues threaten its long-term future. These include declining interest among people the impact of climate change on silkworms and mulberry farms and weaknesses in the supply chain. To build a sustainable and competitive Muga silk sector in Sualkuchi the research suggests improving raw material supply chains encouraging the use of new technologies expanding training programs to build skills increasing access, to markets and promoting silk tourism. These steps could help sustain the industry and support the communities that depend on it.

Keywords: Muga Silk; Sualkuchi; Traditional Handloom Industry; Silk Production; Marketing and Value Chain; Socio-Economic Impact; Rural Livelihood; Assam.

Introduction

The Muga silk industry is one of the industries that are based on farms in Assam, India. We saw farmers caring for silkworms. Muga silk is known for its color and durability and it has a big place in the culture of the area. Muga silk is part of the textile history and the economy in the region. Muga silk is made by the silkworm called Antheraea assamensis Helfer, which's from Assam and the surrounding areas of Northeast India. The silkworm is grown on plants called Som Persea bombycina. Soalu Litsea monopetala. The making of Muga silk depends on the plants the weather the health of the silkworms and how well they are raised (Tikader et al. 2013; Kumar et al., 2022). Silk farming is part of the economy in Assam. It provides jobs to those who raise silkworms those who reel the silk, weavers, artisans and traders. We had noticed that many families rely on silk farming. Assam is very important for making Muga silk and Eri silk and Muga silk is found in districts. The Directorate of Sericulture Government of Assam lists Kamrup, Goalpara, Udalguri, Kokrajhar, Tinsukia, Dibrugarh, Jorhat, Golaghat, Lakhimpur and Dhemaji as districts that produce Muga silk. So the Muga silk industry is a system that is spread out and connects families and special places for textiles (Directorate of Sericulture Government of Assam, n.d.). Muga silk is more than a product; Muga silk is part of Assams culture and traditional craft. We feel proud when we saw a piece of Muga silk. Muga silk is special. The connection to a place made Muga silk get recognition as Muga Silk of Assam in 2007. This recognition shows how a place, knowledge, the identity of the product and the local economy are all connected (Geographical Indications Registry, 2007). Sualkuchi in Kamrup District is one of the towns in Assam that weaves silk. Sualkuchi stands out in the handloom industry. We like walking through the streets of Sualkuchi and listening to the noise of the looms. Sualkuchi is called the 'Manchester of the East' and the 'Silk Village of Assam'; Sualkuchi has become a center for reeling, weaving and selling silk. Because many homes have weaving units, artisans, reelers and silk traders live in Sualkuchi the town is a place to study how traditional textile work is organized. Saikia (2011) looked at the working conditions and problems of Muga silk reelers in Sualkuchi giving some ideas about the steps of silk work. Recently Jamal et al. (2025) Looked at the problems of the Muga silk saree weaving community in Sualkuchi showing how vulnerable these families are (Saikia, 2011; Jamal et al. 2025). From a view the Muga silk industry can be seen as a link between nature, knowledge, how workers are organized, how things are made and connections to the market. We had followed the journey of a silkworm from leaf to cloth. The system is spread out. Raising silkworms. Making cocoons happens in areas of Assam where sericulture is done. Reeling, weaving and selling happens mainly in towns such as Sualkuchi. The link between places where Muga silk is made and places where Muga silk is sold is important. Muga silkworms depend on plants and, on weather showing how physical and living things shape Muga silk production (Tikader et al. 2013; Kumar et al., 2022).Making Muga silk goes through steps. First taking care of the plants. Next raising the silkworms. Then collecting the cocoons. After that reeling the silk. Next making the thread. Then dyeing the thread. After dyeing weaving the thread. Finally finishing the product.see how each step adds value to Muga silk. These steps involve workers. Help build economic links. Household weaving units and small businesses give jobs. Help keep craft alive. The money made by the Muga silk industry can be different based on the job, access to materials, working conditions and involvement in the market. The social and economic part of the Muga silk industry is important to understand how the weavers live. We had heard stories from women who weave every night. When women join weaving and other tasks they help with family production. Keep skills alive. Brahma (2021) looked at the situation of Bodo women weavers in Sualkuchi Development Block finding problems with pay, working conditions, education and knowledge of rights. Also Jamal et al. (2025) Talked about

the problems faced by the Muga silk saree weaving community. Marketing is another part of the Muga silk production system. Muga silk is sold through ways like selling directly private traders, shops and bigger business networks. The way these ways work depends on the quality of Muga silk the price of Muga silk how easy it is to reach the market the cost of moving the product what people like and how power the producers have when they sell. Guha (2023, 2024) studied how handloom small businesses in Assam choose their marketing and how well they do. Guhas results show that access to the market experience in business cost of transport information about the market and how the weaving businesses are set up are important for the success of Muga silk marketing. These things give a way to study how the marketing system works in the Sualkuchi silk industry. Even though Muga silk is valuable the Muga silk industry has problems. These problems include changes in the plants higher costs to make the silk poor storage, not enough money, not enough technology and competition from other fabrics. Saikia et al. (2024) Looked at Muga silkworm rearers in Sonitpur District. Saikia et al. Found that raising Muga silk has problems like weather, not knowledge, storage limits and no proper markets for cocoons. Baruah et al. (2024) Also saw problems with selling the handloom businesses in Assam like competition changes in demand problems with supplies and the effect of middlemen. These problems might affect the people making Muga silk and the future of the Muga silk industry. The environment part of making Muga silk is getting more important.Muga silk silkworms rely on the plants and the weather. Changes in temperature rain and humidity can impact the plants the way the worms develop and the quality of the silk. Borah and Goswami (2026) examined the risks and methods to handle Muga silk in Assam. Borah and Goswami demonstrated how Muga silk is threatened by climate changes. This perspective allows us to view Muga silk as an industry that depends on the link, between nature and peoples efforts.Earlier research looked at Muga silk biology how the worms are raised, the working conditions of people who reel silk the role of women the problems with living and the marketing issues for businesses. These topics were often looked at alone. There is a need for a study that connects the way things are made the way they are sold and the lives of people in Sualkuchi. In particular the connection between how things are made, how they are sold, jobs, money for families, skills and the problems faced by different people needs to be studied. With this in mind the current study looks at the making, selling and effect of the Muga silk industry in Sualkuchi, Assam. I hope this study helps us see how Muga silk keeps our community strong. The study is, about how the Muga silk making work organizes the way the markets work chances to earn money, family money, jobs, women taking part keeping skills and the main problems that people involved have. Using a way that looks at the economy and society the study wants to show how Muga silk, this traditional small industry helps the economy keeping jobs and keeping culture alive.

Study area

The Muga silk sector is a venture in Assam that produces the golden yellow Muga silk. In Sualkuchi often called the "Silk Village of Assam " people sell Muga silk. This sector creates jobs gives income to families and keeps weaving practices alive. This study looks at how Muga silk's made how it is sold and the social and economic effects of the Muga silk industry in Sualkuchi. It shows how the Muga silk industry helps families and supports the economy. The research was carried out in Sualkuchi, a town for silk weaving in the Kamrup District of Assam India. Sualkuchi lies along the Brahmaputra River. It is known around the world for its silk industry for producing and weaving Muga silk. Muga silk is a golden silk that comes only from Assam. The study area covers a region between 26°09′36″N and 26°10′48″N latitude and 91°33′36″E to 91°34′48″E longitude. The location map (Figure 1) shows where the Muga silk industry is

located in India in Assam within the Kamrup District and in the town of Sualkuchi. Sualkuchi is part of the Kamrup District in Assam. It is 35 kilometers west of Guwahati, which is the main trade center and largest city in Northeast India. Sualkuchi is connected by roads to Guwahati and other important markets in Assam. This makes it easy to move silk, cocoons. Finished Muga silk products. The good location of Sualkuchi in the Brahmaputra Valley has helped the growth of sericulture and handloom weaving over time. The physical environment of the study area includes the Brahmaputra River plains. The physical setting of the study area comprises the Brahmaputra River plains, featuring soil, gently sloping land, and a humid subtropical monsoon climate.

The area gets a lot of rain each year. Has temperatures that are good for sericulture and related work. These natural benefits along with generations of weaving skills and cultural traditions have helped Sualkuchi become the leading centre for making and weaving Muga silk in Assam. The economy of Sualkuchi mainly depends on silk work, such as buying cocoons reeling, dyeing, weaving, selling and trading. Many households in Sualkuchi work directly or indirectly with Muga silk so the Muga silk industry is a source of jobs and money. Because of its history weaving units and key roles in making and selling Muga silk Sualkuchi is a place to study the way Muga silk is produced, sold and its social and economic effects. That is why the area was chosen for this study on "Production, Marketing and Socio-Economic Impact of the Muga Silk Industry: A Case Study of Sualkuchi, Assam." The choice of Sualkuchi for this study comes from its history, economy and culture in Assam's silk business. Sualkuchi in Kamrup District on the north side of the Brahmaputra River is known as the place for silk weaving in the state. Is called the "Manchester of the East." The town has gained fame for making top quality Muga silk a silk found only in Assam. The many traditional weaving families, workers, silk traders and handloom businesses make Sualkuchi one of the sericulture clusters in Northeast India. The study area was chosen mainly because it is a known centre for making and selling Muga silk giving a place to study different parts of this business. Many people in the area work directly or indirectly in tasks such as buying silk yarn, reeling, dyeing, weaving, designing products, selling and trading. Therefore the Muga silk industry is very important in deciding jobs, income and the overall social and economic life of the community. The conditions of the region shape how Muga silk is made and sold. Because many Muga silk activities happen in an area we can look closely at the Muga silk production and marketing chain. Sualkuchi gives a chance to study how a traditional cottage Muga silk industry touches communities. That Muga silk industry has helped many families earn let women join the work keep skills alive and keep our culture alive. The Muga silk industry still meets problems. It faces competition, changes in raw material supply, higher costs, new machines and worries about staying green. All these problems make Sualkuchi the right spot to learn about both the chances and the hard limits of the Muga silk industry. A second good reason to choose this area is how easy it is to reach for field work. Sualkuchi is well linked to Guwahati and other parts of Assam by roads and trains so we can gather data from household surveys, interviews and, on-the-ground observations. Sualkuchi also has people who help: weavers, business owners, traders, cooperative groups and buyers. Those people make the study wider and stronger. Sualkuchi has a history that matters a lot to the economy. We had seen how Sualkuchis many Muga silk weavers work. We know that this helps the region grow. Sualkuchi stands as an example for looking at how Muga silk's made, sold and how Muga silk affects people. That is why we chose Sualkuchi on purpose to meet the goals of this field based geography study.

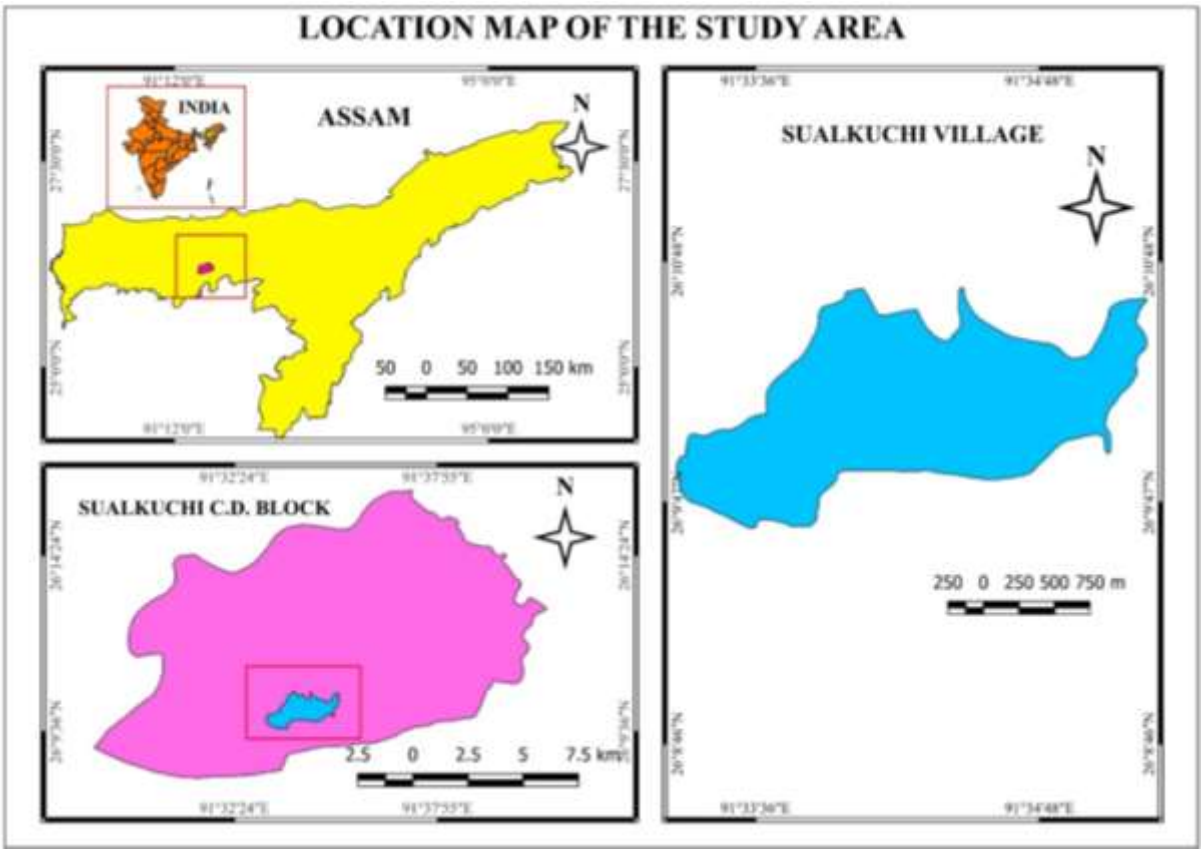


Fig-1.1: Location Map of the Study Area
Source: Prepared by Author

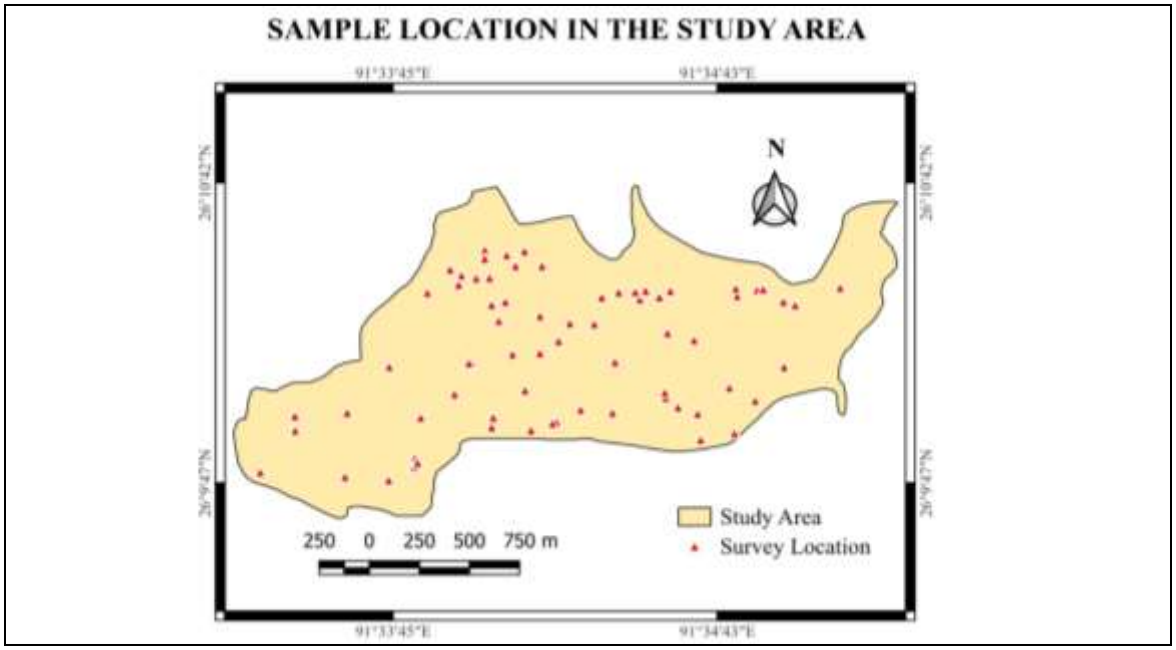


Fig-1.2: Sample Location at Sualkuchi, Assam **Source: Prepared by Author**

Objective:

1. To examine the production, marketing and socio- impacts of the Muga silk industry in Sualkuchi, Assam.
2. To analyse the socio- profile of households engaged in Muga silk activities.
3. To assess the production system, including weaving technology, labour participation and product diversification.
4. To examine the sources and supply-chain dynamics of materials used in Muga silk production.
5. To evaluate the marketing channels, pricing mechanisms and market reach of Muga silk products.
6. To identify the production and marketing constraints faced by weavers and entrepreneurs.
7. To suggest measures for the development of the Muga silk industry, in Sualkuchi.
8. To find out how much the Muga silk industry helps families earn money and create jobs.
9. To look at how women and young people help keep the silk-weaving tradition alive.

Methodology

The current study uses a research design to look into how Muga silk's produced, marketed and what impact it has on the local economy and community in Sualkuchi, Assam. The study combines methods to get a full picture of the industry and how it affects people's lives. Data were collected directly from the field. These findings were checked against existing information to make sure the results are reliable, accurate and supported by sources.

Primary data were gathered through fieldwork done in Sualkuchi during the survey period. The data collection process involved talking with weaving families, artisans, traders and other people involved in the Muga silk business. A structured questionnaire was used to collect information about people's backgrounds how silk is made how it is sold and the social and economic changes happening in the area. The survey was given to selected individuals who were chosen based on their role, in the industry.Secondary data were collected from both published and unpublished sources, including:

- Central Silk Board (CSB) reports
- Directorate of Sericulture Government of Assam
- Census of India publications
- District Statistical Handbooks
- Research journals, books, dissertations and reports
- Government websites and official portals

Records from institutions, cooperative societies and silk-related offices in Sualkuchi also help we see how the Muga silk industry has evolved over time. We used a random probability sampling method to pick respondents. Weaving households and other stakeholders were sorted by their roles in production, processing and marketing. From each group we choose participants at random so that every part of the industry would be well represented. The sampling method we used keeps the selection fair and ensures that every segment of the industry is properly represented. We surveyed a total of 70 respondents with a questionnaire. The sampling method we used helped reduce bias and made the data we collected reliable.The sampling method we used helped reduce bias and made the data we collected reliable.

Household surveys were the method for collecting primary data. The questionnaire included both closed-open-ended questions. The survey covered a range of topics such as:

- Demographic characteristics
- Educational background

- Types of work people do
- How silk is produced
- How raw materials are acquired
- Where finished products are sold
- Income and employment levels
- Involvement of women
- Government support and challenges faced In addition semi-structured interviews were conducted with weavers, business owners, traders, cooperative members and other key stakeholders.

These interviews gave an understanding of weaving techniques how the market behaves, how people rely on the industry for their livelihood and what the future might hold.Focused Group Discussions (FGDs) were held with groups of silk weavers, artisans, women workers and members of the community.These discussions aimed to collect views on:

- Challenges in production
- Difficulties in selling products
- The role of women in the industry
- Government actions and policies
- Potential growth opportunities

Focus group discussions helped confirm the findings from surveys and interviews. They also gave insight into the views of the community on the Muga silk sector. Participant observation was used to experience the Muga silk production process in time.During field visits researchers watched every part of the process—yarn preparation, reeling, dyeing, loom setup, weaving, finishing and final product preparation. They talked with weavers while they were working. This helped them learn about the weavers skill levels. It also provided information about how labor's organized. The discussions showed what the gender roles are in the workplace. They also showed what the working conditions are, like.This method revealed details that questionnaires could not capture. Visual documentation was used to record aspects of the Muga silk industry. This included taking photographs of weaving centers, handlooms, production steps, finished products, selling points and the living conditions of people involved. Photographs were taken with the help of Sri Mrinal Chandra Kolita, a PWD Officer and Mr. Manas Pratim Roy, a librarian. Their support was essential in recording field observations and production activities. The photos served as proof of the Muga silk production process. They also helped to show and present the research findings clearly. A thorough review of existing literature was done to lay the foundation for the study.Relevant books, peer-reviewed articles government reports, policy papers and past research on sericulture, handloom industries, rural livelihoods and social development were examined. This literature review helped find gaps, in knowledge set research objectives and guide the design of the field survey.The collected data were cleaned, coded, categorized and organized for analysis. Statistical analysis was done using Microsoft Excel. Bar charts, pie charts and percentage tables were created to show the data. Spatial data and thematic maps were made using QGIS software to show features of the study area. Combining survey data, qualitative methods, statistical tools and GIS mapping led to an evaluation of the Muga silk industry in Sualkuchi. Using both methods together gave a picture of the production system, marketing network and socio-economic impacts of the Muga silk industry, in Sualkuchi, Assam.

Limitations of The Study:

Even though the study was carefully planned and conducted with an approach certain limitations may

affect the scope and interpretation of the results. First the study was limited to Sualkuchi in Kamrup District, Assam. As a result the findings may not fully reflect the characteristics of the Muga silk industry in Assam or other sericulture areas in India. Second the study used a sample of 70 respondents chosen through stratified sampling. Although efforts were made to include a group the sample size might not fully capture the wide range of stakeholders involved in the industry.The research mainly used questionnaires, -structured interviews, focus group discussions and participant observations. Because of this some data on production levels, income, expenses and marketing practices came from what respondents reported. This self-reported information could be influenced by memory lapses, personal opinions or a reluctance to share figures. Also the field survey was carried out during a time frame. This means there was opportunity to observe changes over seasons, such as variations in raw material supply production schedules, market demand and price movements.Another challenge was the availability and access to data. In cases up-to-date statistics on production, marketing and socio-economic factors at the local level were either not available or scattered across different sources. Moreover some parts of the Muga silk value chain— inter-state trade, export marketing and private business dealings—were hard to study in detail due to restricted access to official documents and confidential business information.

Even though participant observation and photography were used to strengthen the accuracy of field data the study did not include every weaving unit or stakeholder in Sualkuchi. Therefore the results should be understood based on the sample and time period studied. Still the use of both qualitative methods gives a scientifically sound evaluation of the production system, marketing setup and socio-economic effects of the Muga silk industry, in Sualkuchi.

Literature Review

The Muga silk industry of Assam has attracted a lot of interest because it is unique in nature, culture and economy. Studies on Assam sericulture have repeatedly shown that silk production is a source of jobs for rural people a way to earn money and a steady life. De and Das (2010) observed that sericulture gives a boost to household income and job chances in rural Assam especially through Muga and Eri silk cultivation. The Muga silk industry works as a farm-based cottage sector that helps both farmers and people who do not farm.Many researchers have studied how Muga silk is produced. Borah (2025) analysed how the availability of host plants the number of rearers and silk output in Assam are connected and found that changes in plantation size and environmental conditions directly affect cocoon production and the whole performance of the Muga silk industry. Likewise Hussain, Sarma and Barua (2024) highlighted that the long-term health of the Muga silk sector depends on a combined system that includes sericulture, weaving, marketing, support from institutions and old knowledge.Research on Sualkuchi has shown that it has a history as the main silk-weaving hub of Assam. Jamal et al. (2025) Reported that many households in Sualkuchi rely directly or indirectly on weaving work and that Muga silk stays deeply woven into the cultural identity of the area.. The authors also found several problems, such as higher production costs, changing climate, lower profits and competition from power-loom goods. These problems have hurt the living security of the weaving families.The social and economic aspects of the Muga silk industry have been studied a lot. Bhagabati, Sanjeeb and Jena (2023) found that women entrepreneurs who work in Muga silk production are very important for adding value selling and earning money. Their research showed that starting a business in the silk field helps women join the economy more and improves family well-being. Similarly studies on women empowerment through sericulture showed that silk-based businesses give chances for freedom learning new skills and being part of society for rural women.

Marketing has become a factor for the growth of the Muga silk industry. Researchers have said that even though Muga silk has demand in the market because of its natural golden shine and Geographical Indication (GI) status producers still face problems with getting to the market changing prices, middlemen control and poor branding. The presence of groups government help plans and online marketing tools has made it easier to connect with markets but big gaps still exist in how the whole chain works and in how much money producers make.New studies also show that climate change is a danger to the long-term health of Muga silk production. Changes in heat, moisture and rain patterns affect how host plants grow and how many silkworms survive, which in turn changes how many cocoons are made and the quality of the silk. Damage to the environment and smaller plantation areas are also worries for the future of the Muga silk industry.

In short the studies we looked at show that the Muga silk industry is very important for creating jobs keeping culture alive empowering women and growing the economy.. Problems with how Muga silk is made how it is sold the danger from climate and the need, for new technology keep hurting its long-term survival. This current study wants to add to what we know by looking at how Muga silk's made how it is marketed and how it affects the social and economic life of Sualkuchi, Assam.

Research Gap

A review of existing literature shows that the Muga silk industry in Assam has attracted a lot of interest because of its economic importance, cultural value and ecological role.Earlier studies have mainly looked at sericulture methods, trends in silk production women's involvement, entrepreneurship, income generation and the impact of climate change. Many researchers have studied how the industry evolved over time and how it helps employment and keeps local traditions alive. Other studies have pointed out problems like marketing, outdated technology and issues related to the long-term sustainability of Muga silk production in Assam.Even though there is a lot of research on Assam's sericulture sector there is still a lack of detailed studies at the local level that bring together production, marketing and socio-economic effects in one clear framework. Most studies have looked at one area—like production women's empowerment, entrepreneurship or market issues—without connecting them. This means we still do not fully understand how these parts of the industry affect each other.Also there are few studies done directly in Sualkuchi, the main hub for Muga silk weaving. These studies have used data collected from weaving households and other key people working in the industry. The changes in how raw materialsre bought how supply chains work, the use of digital marketing the role of young people and the broader economic and social changes in weaving families have not been explored well. There is also research on how production problems, market conditions, support from institutions and income outcomes together affect the long-term future of the industry.Because of this the current study aims to fill these gaps. It provides a geographical study of the Muga silk industry in Sualkuchi, Assam. It looks at the production system, the marketing network and the social and economic effects. The study uses field data and views from people involved in the industry. It helps us understand the strengths, challenges and future possibilities, for this known and culturally important industry.

General Background Of The Study Area

Sualkuchi Block is in Kamrup District of Assam on the bank of the Brahmaputra River. Sualkuchi is thirty-five kilometres west of Guwahati. Sualkuchi has a land that slightly goes up in some places. The land of Kamrup District has three parts: the hilly area, the wide alluvial plains and the floodplain-wetland area

near the Brahmaputra River. The shape of the land has floodplains, river basins, wetlands, isolated hills, weathered hills and seasonal water pools. The fertile alluvial plains of SualkuchWe had helped many people to live here grow food and keep the Muga silk industry alive.The soils of Sualkuchi are mostly alluvial that the Brahmaputra River and its tributaries deposit each flood cycle. These soils are generally loamy or sandy-loam. The soils of Sualkuchi are very good for farming because the river brings nutrient-silt. In Sualkuchi the main soil types are soils (Entisols) and old alluvial soils (Inceptisols). In parts of Sualkuchi there are patches of moderately leached soils. The alluvial soils of Sualkuchi keep moisture well. Allow cultivation of paddy, pulses, oilseeds and mulberry. The fertile soils of SualkuchWe had played a role in the agricultural economy and in the sericulture activities of Sualkuchi.The natural vegetation of Kamrup District is mainly Tropical Moist Deciduous Forest. In Sualkuchi Sal (Shorea robusta) trees are the forest cover. Are a major source of timber and other forest products. Other important species in Sualkuchi are Teak, Silk Cotton, Jarul, Arjun, Bael, Sissoo, Mango, Jamun and Champa. In the floodplain and wetland areas of Sualkuchi, the vegetation mainly consists of reeds, grasses, bamboo, shrubs and other water-adapted plants. The plants of Sualkuchi are important because they stop soil erosion keep the climate protect biodiversity and help local families earn a living. More people are using land cutting trees and changing forests which means the natural forest cover in Sualkuchi is slowly decreasing.The climate of Sualkuchi is humid with summers, a strong monsoon season and mild winters. In Sualkuchi the average yearly temperature is twenty-one to thirty-eight degrees Celsius while winter temperatures can drop to eight to fifteen degrees Celsius. In Sualkuchi the relative humidity stays all year round seventy-six percent. In Sualkuchi yearly rainfall ranges from one thousand five hundred to two thousand eight hundred millimetres, most of which falls during the southwest monsoon. The heavy rain and warm weather in Sualkuchi create an environment for farming and silk production. Recent data from Sualkuchi show a drop in rain and a steady rise in temperature since the early 2000s showing how climate changes affect Sualkuchi.According to the Census of India 2011 the population of Sualkuchi Census Town in Kamrup District was fourteen thousand three hundred eighty-one people. In Sualkuchi there were seven thousand two hundred six males and seven thousand one hundred seventy-five females giving a sex ratio of about nine hundred ninety-six females for every one thousand males. The literacy rate in Sualkuchi is ninety-one point five percent, which is much higher than the state average of Assam. This shows that Sualkuchi has a educated community. Most people in Sualkuchi are in the working age group supporting the weaving and sericulture sectors that're the parts of the local economy. Many households in Sualkuchi are linked to silk production, weaving, trading and nearby activities. The people of Sualkuchi show that a skilled artisan community with population numbers, education and specialised jobs keeps the Muga silk industry strong and important for the society of Sualkuchi.Silk weaving in Sualkuchi began in the period, when silk weaving grew in importance as a centre of textile craft in ancient Kamarupa. Historical records show that King Dharma Pala of the Pala dynasty in the 10th to century CE invited weaving families to settle in Sualkuchi giving a foundation for organized silk production. Silk production grew further during the Ahom period from the 13th to 19th century CE, when royal support encouraged the growing, processing and weaving of silk types Muga, Pat and Eri silk. By the century Sualkuchi had become a weaving settlement and slowly turned into the main silk-weaving cluster of Assam. Today the town is known as the "Silk Village of Assam". Hosts thousands of handlooms and weaving households making it one of the important centres of traditional silk production in Northeast India. The long line of silk weaving skills with patronage and community craft is vital, to the social economic and cultural identity of Sualkuchi.

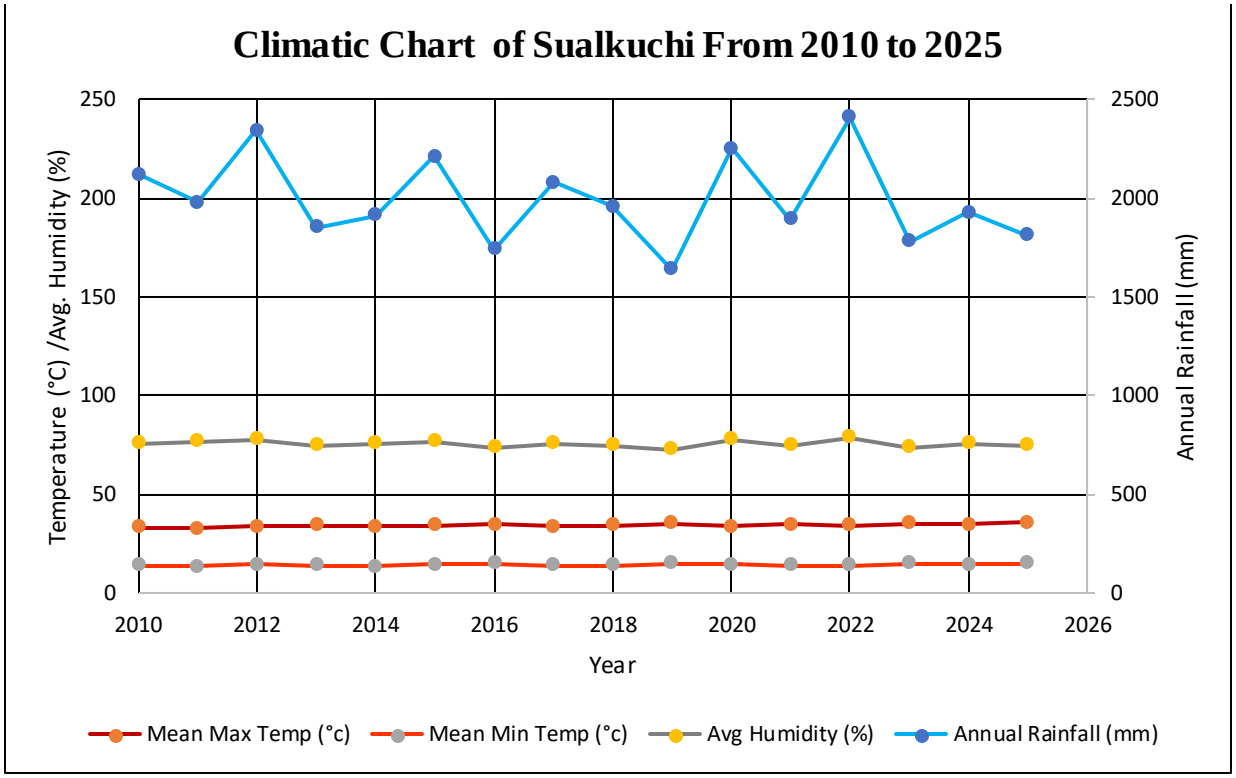


Fig-2.1: Climatic Chart of Sualkuchi from 2010 to 2025

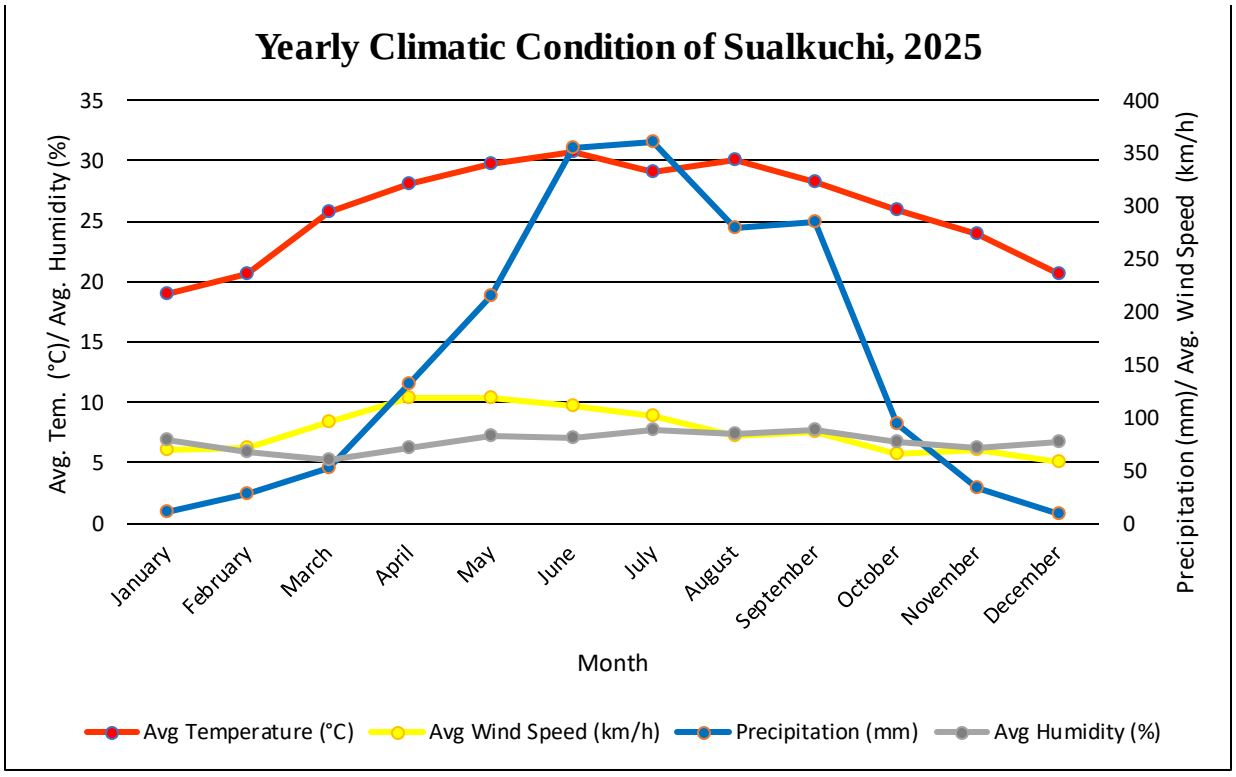
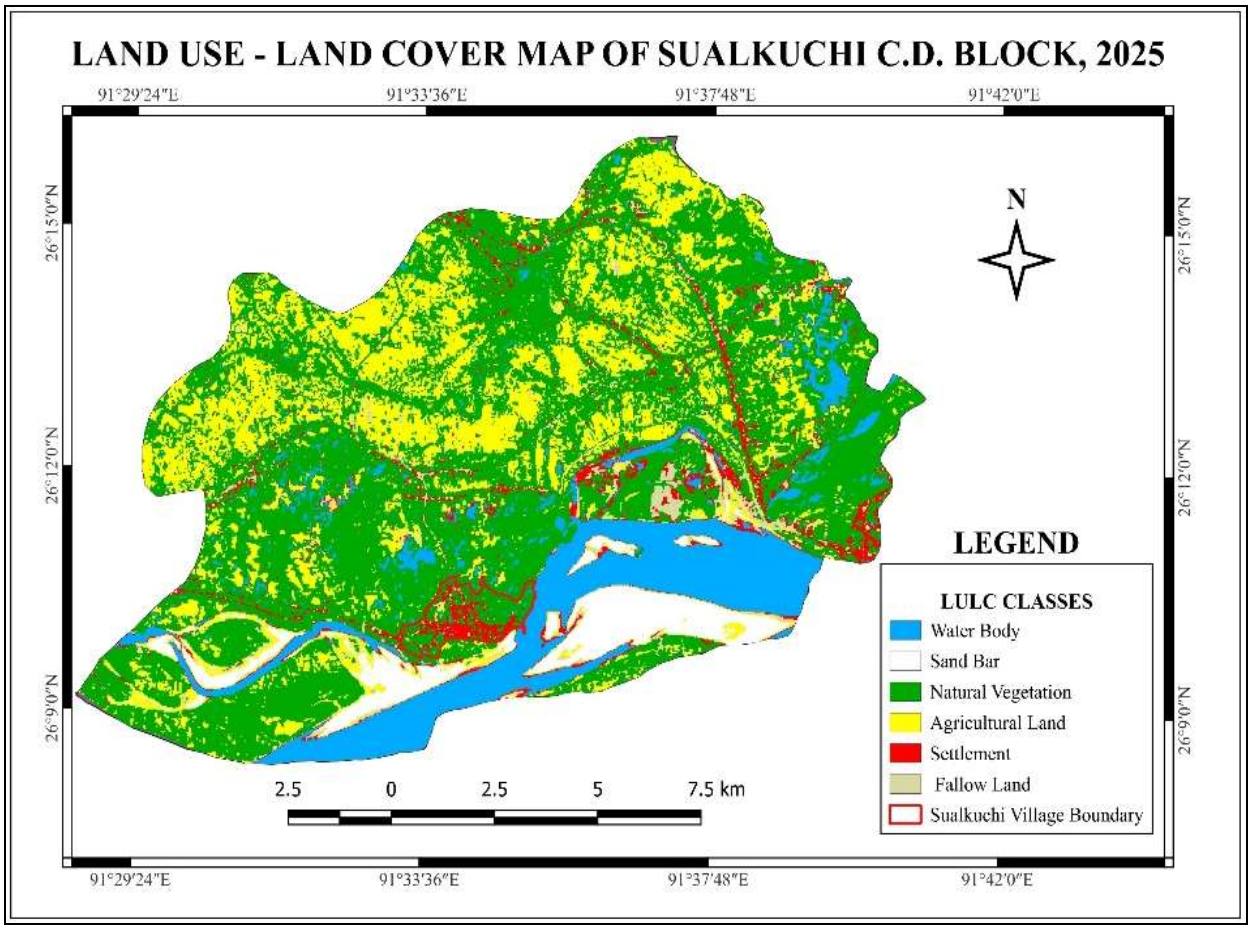
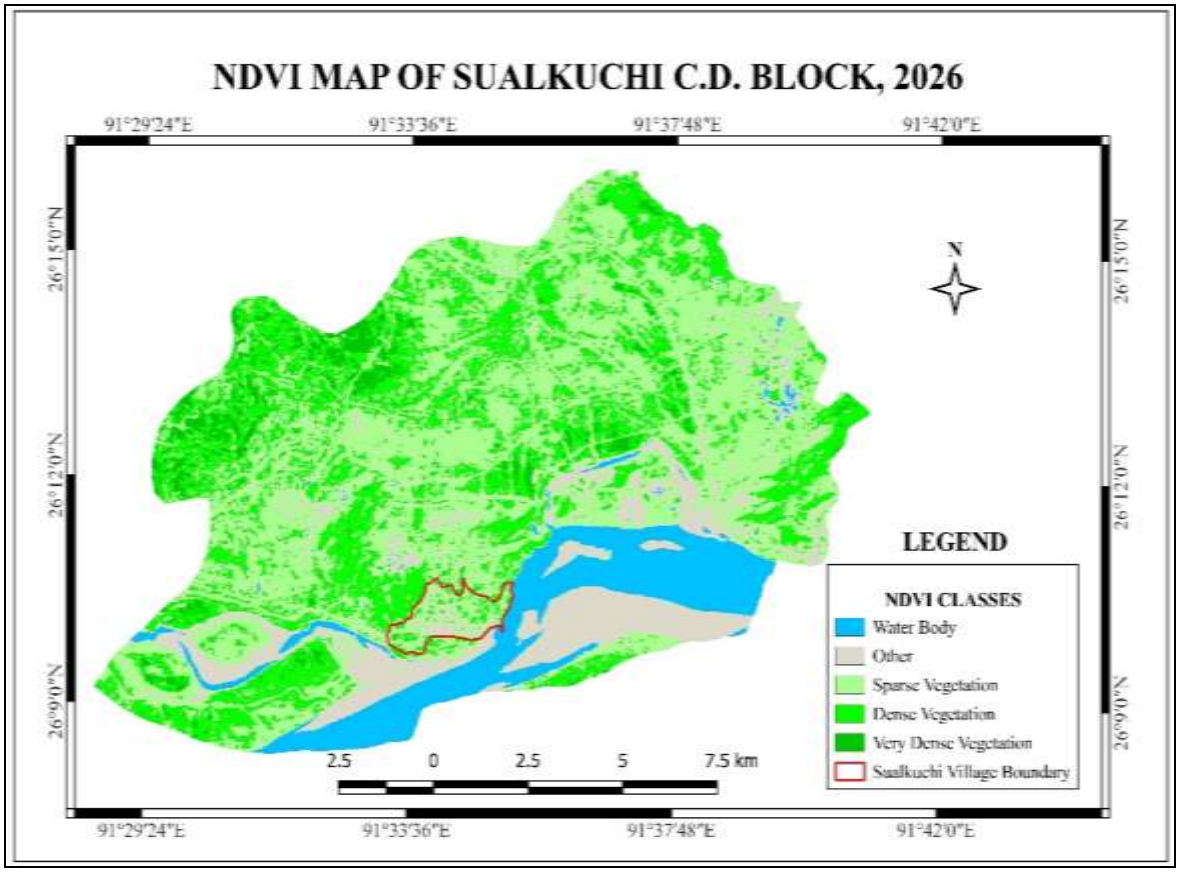
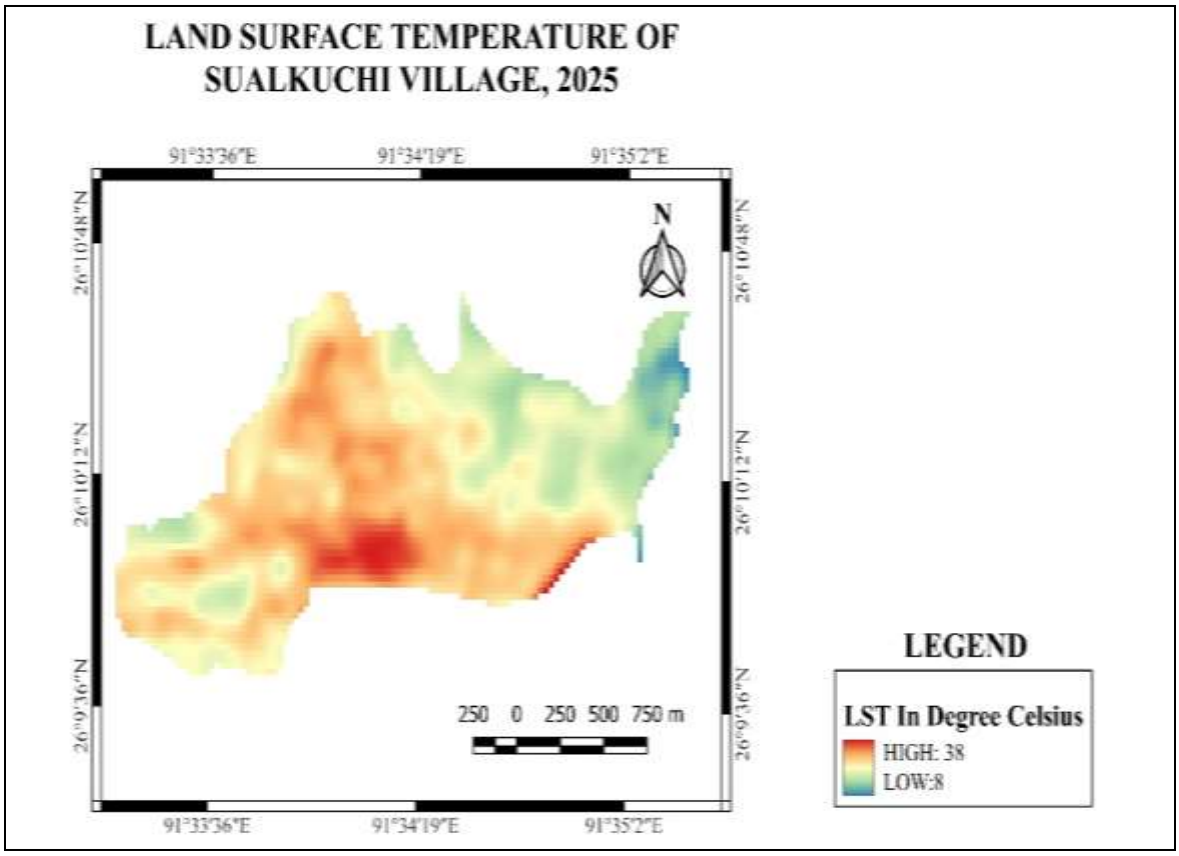


Fig-2.2: Yearly Climatic Condition of SaulKuchi, 2025

Source: https://www.accuweather.com


LAND USE - LAND COVER MAP OF SUALKUCHI C.D. BLOCK, 2025
91°29'24"E
91°33'36"E
91°37'48"E
91°42'0"E
26°15'0"N
26°12'0"N
26°9'0"N
N
LEGEND
LULC CLASSES
Water Body
Sand Bar
Natural Vegetation
Agricultural Land
Settlement
Fallow Land
Sualkuchi Village Boundary
2.5 0 2.5 5 7.5 km


NDVI MAP OF SUALKUCHI C.D. BLOCK, 2026
91°29'24"E
91°33'36"E
91°37'48"E
91°42'0"E
26°15'0"N
26°12'0"N
26°9'0"N
N
LEGEND
NDVI CLASSES
Water Body
Other
Sparse Vegetation
Dense Vegetation
Very Dense Vegetation
Sualkuchi Village Boundary
2.5 0 2.5 5 7.5 km



Map-2.1: Landuse-Landcover Map Map-2.2: NDVI Map Map-2.3: LST Map

Source:Prepared by Author

- Ancient Origin: Muga silk production began in Assam. Is linked to the local silkworm Antheraea assamensis. We had heard that Muga silk grew because the climate was good and Som and Soalu host plants were plentiful.
- Development of Sualkuchi: Sualkuchi became a weaving centre in the period when royalty gave support. Skilled weaving families settled there. Created a long tradition of Muga silk weaving. I remember stories of families passing weaving skills from one generation to the next.
- Kamarupa Period: In the time of the Kamarupa Kingdom Muga silk was considered a luxury fabric. Muga silk was widely used by kings, nobles and religious leaders. Muga silk production became a cultural and economic activity. I feel the pride that Muga silk carried in those times.
- Ahom Period (1228–1826 CE): The Ahom rulers promoted sericulture and weaving. Muga silk gained prominence in ceremonies and Sualkuchi became the main silk-weaving centre of Assam. We had read that Muga silk was used in processions and temple offerings.
- Colonial Period: Expansion of transport and trade networks helped Muga silk reach markets. Even as machine-made textiles entered the scene traditional weaving practices in Sualkuchi continued to thrive. I think the resilience of Muga silk weavers is remarkable.
- Post-Independence Growth: After independence government initiatives, cooperative societies and sericulture development programmes strengthened the industry. Improved technology and training boosted Muga silk production. Created better livelihood opportunities. I am glad that Muga silk has become a source of pride, for families.

- GI Recognition (2007): In 2007 the granting of Geographical Indication (GI) status protected the authenticity of Muga silk. Muga silk gained international recognition. I am pleased that Muga silk is now protected and celebrated.
- Present Status: Today Sualkuchi is known as the "Silk Village of Assam." It remains the centre of Muga silk weaving providing many jobs, preserving culture and helping regional economic development. I see how Muga silk continues to weave the fabric of life.

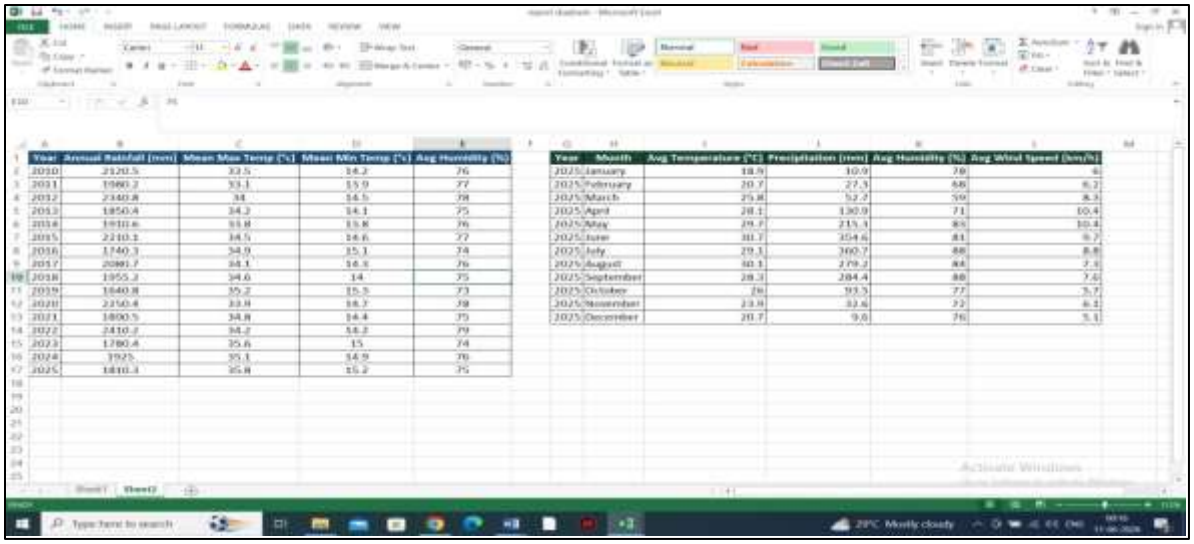


Table-1: Data table for Climatic Chart & Yearly Climatic Data
Source:https://www.accuweather.com

DATA ANALYSIS AND INTERPRETATION

1 Demographic Profile of Respondents

We notice that the survey shows males made up 59% of the respondents while females made up 41% showing a participation in the silk industry. In terms of education 30% of respondents finished school 21% finished school 17% finished higher secondary 7% finished undergraduate studies and 6% finished postgraduate studies. Nineteen percent of respondents could not. Write. These figures show that weaving households have a level of education. Family structure analysis shows that 96% of respondents live in families and 4% live in joint families which reflects changing social and economic conditions in rural Assam. A large 70% of households have been involved in silk weaving for than 20 years showing that silk weaving is a family tradition in Sualkuchi. Silk weaving is the occupation confirming that local households depend on the silk industry for their income.

2 Silk Production Characteristics

We think the production system is dominated by weaving practices. 77% Of respondents work with Muga silk either alone or together with other silk types showing how important Muga silk is in the local economy. Traditional handlooms make up 77% of loom use while only a small part of respondents use handlooms or power looms. Most households own between one and five looms indicating that small family units produce most of the silk.

The survey also shows that 63% of looms are run by both members 21% are run mainly by women and 16% by men. This shows that the industry is family-oriented and that women play a role in production. Mekhela Chador and Muga sarees are the products made reflecting what the market wants and cultural

importance. Most respondents work between 7 and 12 hours each day showing that silk production is labour-intensive.

3 Raw Material and Supply Chain

We observe that the raw material supply chain depends mainly on markets which provide silk to about 83% of respondents. Around 61% of respondents get silk from suppliers while the rest buy it from Upper Assam and Central Assam. 43% Of respondents say they face shortages of material and these shortages happen often or sometimes for many households. This shows that raw material supply is unstable and that supply-chain management is weak.

The majority of weaving households do weaving and finishing by themselves while fewer respondents are involved in reeling and dyeing. I note that only a small number of respondents received weaving training showing that institutions have not helped much with skill development or new technology.

4 Marketing and Distribution

We find that marketing is mostly traditional. Most respondents sell their products in markets through retailers and via middlemen. 30% Of respondents use marketing platforms showing that the silk industry has little online presence. The main markets for Muga silk products are Sualkuchi Guwahati and other Indian cities.

Middlemen have an influence on price with 61% of respondents acknowledging their role in setting product prices. However 69% of respondents are satisfied with the market prices. About half of the respondents export silk products outside Assam showing that Sualkuchi silk reaches a market. Participation in trade fairs and exhibitions is also high helping to expose silk products to buyers.

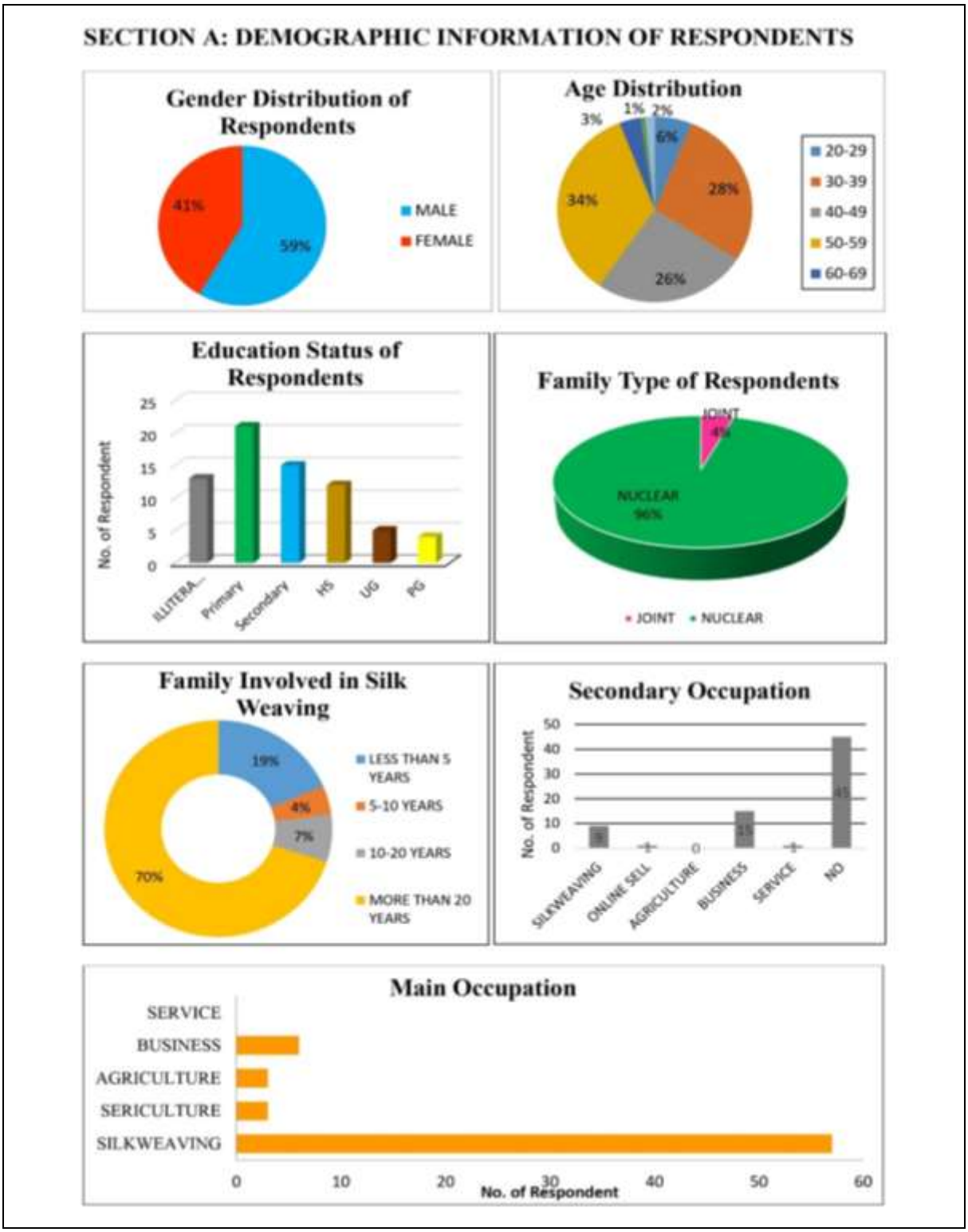


Fig-3.8: Types of Silk Used by Respondents Fig-3.9:Number Of Looms In Household/Workshop Fig-3.10: Type of Loom Used Fig-3.11: Gender-wise Operation of Looms Fig-3.12: Number of Family Members Involved in Weaving Fig-3.13: Average Working Hours per Day Fig-3.14: Average Monthly Production of Silk Fabrics Fig-3.15: Major Silk Products Manufactured

Source: Primary Survey

5 Socio-Economic Impact

we saw that the silk industry has an impact on household livelihoods. 83% Of respondents say that silk weaving gives them work all year. For households silk weaving supplies than 50% of the total family income showing that it is the main source of living.

Women are actively involved in the industry with 81% of respondents confirming that women participate in weaving activities. Women mainly help with weaving reeling dyeing and marketing. 67% Of respondents say that silk weaving has raised their family's standard of living through income better homes more educational opportunities and better access to basic services.The industry also creates jobs. Most respondents think that the industry's contribution to employment is moderate to high. Moreover 52% of respondents say that younger family members want to keep the occupation showing that the craft can survive in the future.

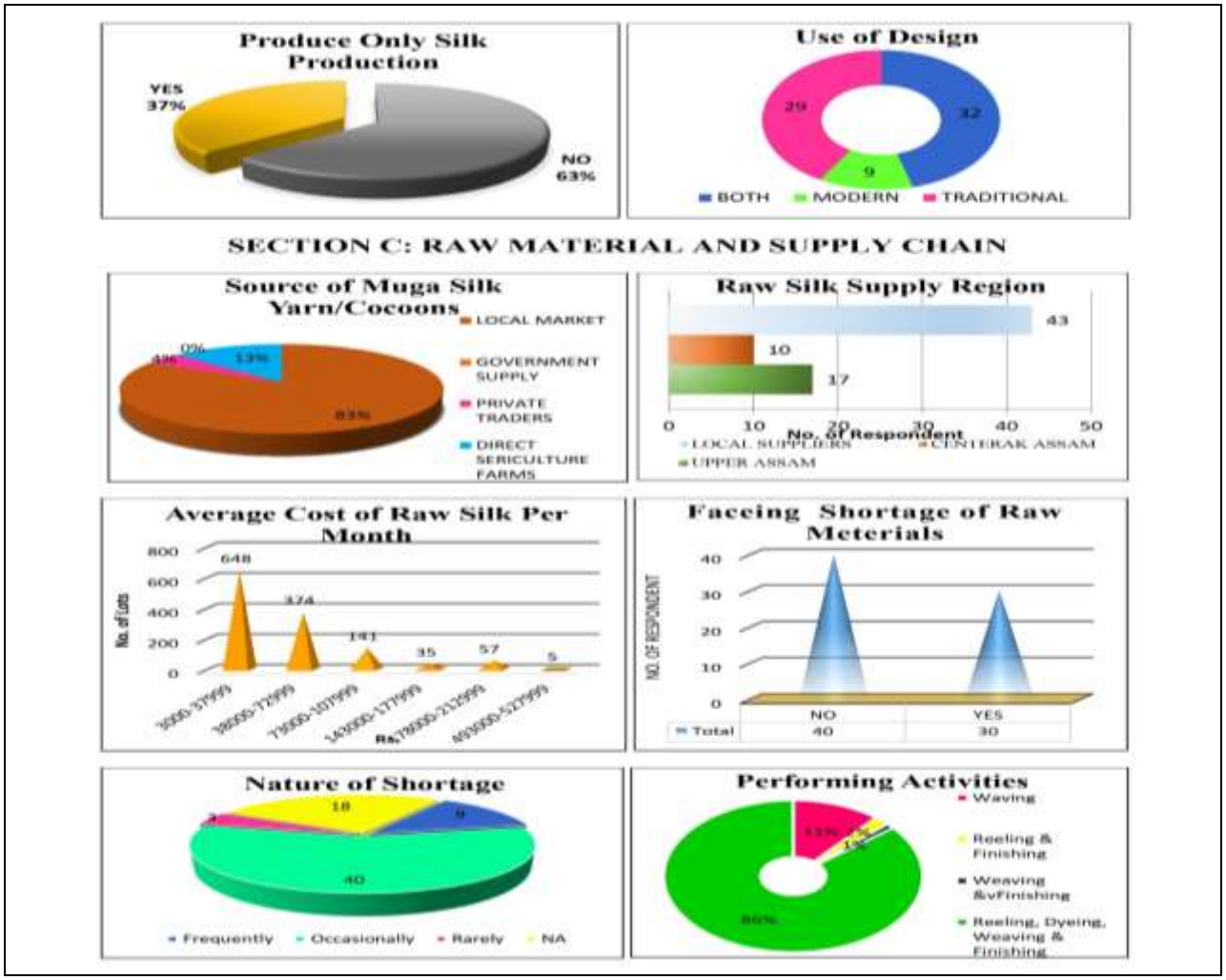


Fig-3.16: Production of Only Muga Silk Products Fig-3.17: Design Preferences Used in Weaving Fig-3.18: Sources of Muga Silk Yarn/Cocoons Fig-3.19: Major Raw Silk Supply Regions Fig-3.20: Average Monthly Cost of Raw Silk Fig-3.21: Incidence of Raw Material Shortage Fig-3.22: Frequency of Raw Material Shortage Fig-3.23: Production Activities Performed by Respondents

Source: Primary Survey

6 Problems and Challenges

Observe that even though the silk industry is important it faces problems. The highest cost problem is the price of material. Other important problems are a lack of workers not financial help and limited access to modern technology. These problems lower production efficiency. Reduce profits.

Marketing challenges are dominated by market prices reliance on middlemen and limited market access. Transportation constraints were also reported by some respondents. Government support and subsidy coverage remain inadequate as ninety-three percent of respondents reported not receiving any assistance.Climate variability was identified as another concern that affects silk production by harming host plants and lowering cocoon quality. Furthermore many respondents said that training facilities for silk weavers in Sualkuchi are insufficient which limits their ability to adopt technology and improve skills.

7 Future Prospects and Suggestions

Respondents expressed an outlook about the future of the Muga silk industry. A large proportion of respondents viewed the Muga silk industrys future as either promising or moderately promising. Market access government financial assistance skill development programmes and modernization of weaving technology were identified as the important measures for future development.

An overwhelming majority supported the promotion of silk tourism in Sualkuchi recognizing its potential to boost income generation preserve culture and increase market visibility. Respondents further recommended reducing raw material costs strengthening government support mechanisms improving marketing infrastructure and expanding market access.

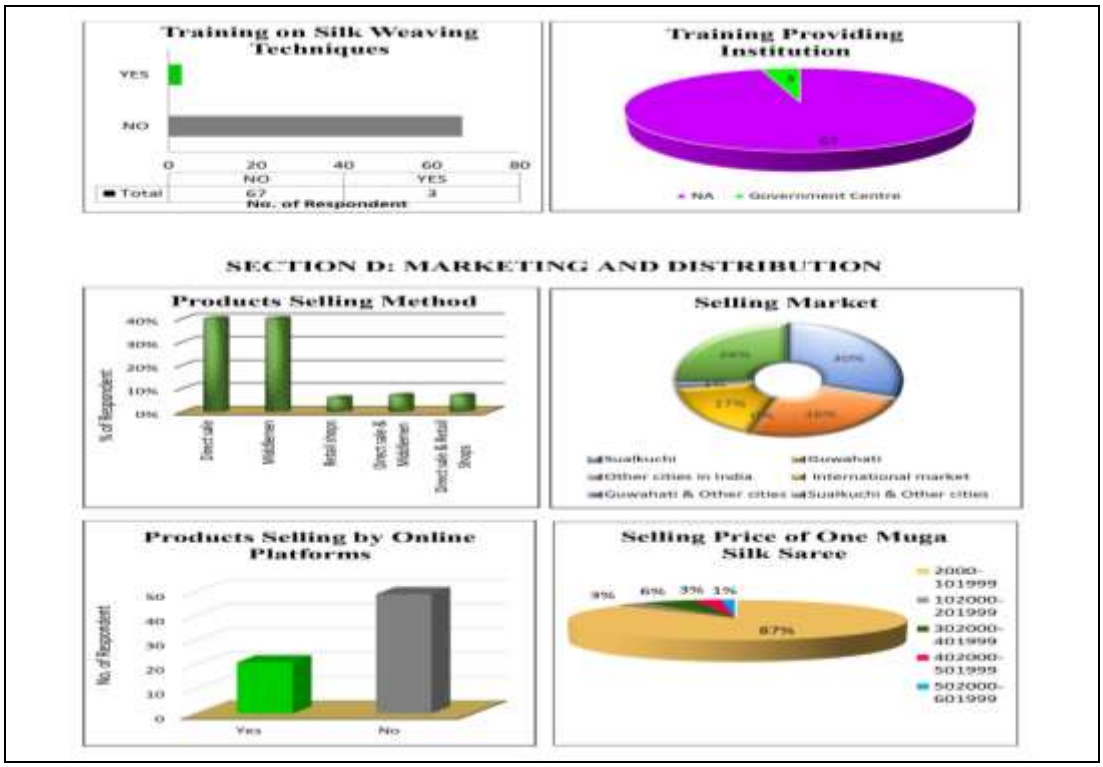


Fig-3.24: Training Received in Silk Weaving Techniques Fig-3.25: Institutions Providing Weaving Training Fig-3.26: Methods of Selling Silk Products Fig-3.27: Major Marketing Centres of Silk Products Fig-3.28: Use of Online Platforms for Product Sales Fig-3.29: Selling Price of One Muga Silk Saree **Source: Primary Survey**

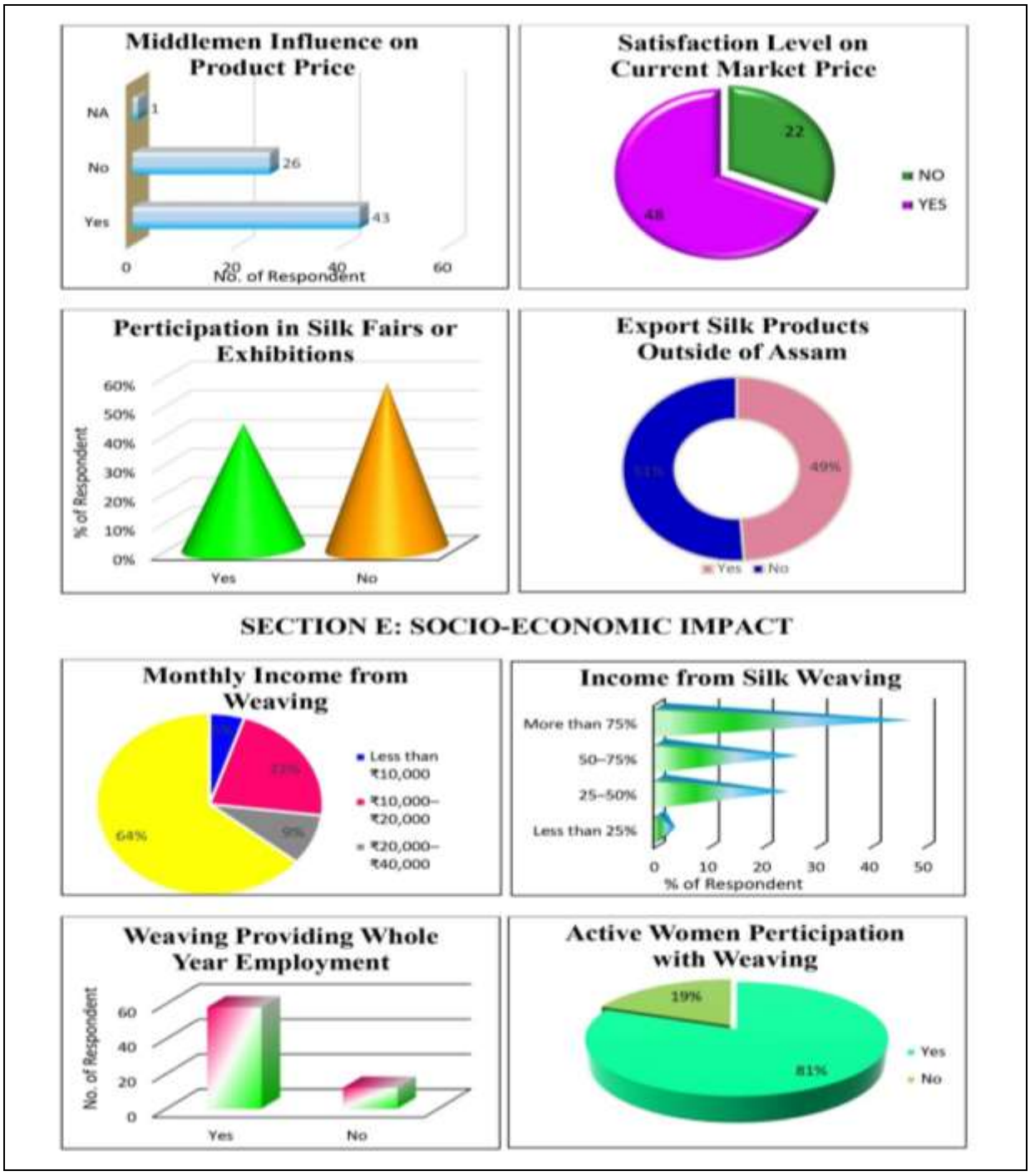


Fig-3.30: Influence of Middlemen on Product Pricing Fig-3.31: Satisfaction with Current Market Price Fig-3.32: Participation in Silk Fairs and Exhibitions Fig-3.33: Export of Silk Products Outside Assam Fig-3.34: Monthly Income from Silk Weaving Fig-3.35: Contribution of Silk Weaving to Household Income Fig-3.36: Availability of Year-Round Employment through Weaving Fig-3.37: Women's Participation in Silk Weaving Activities

Source: Primary Survey

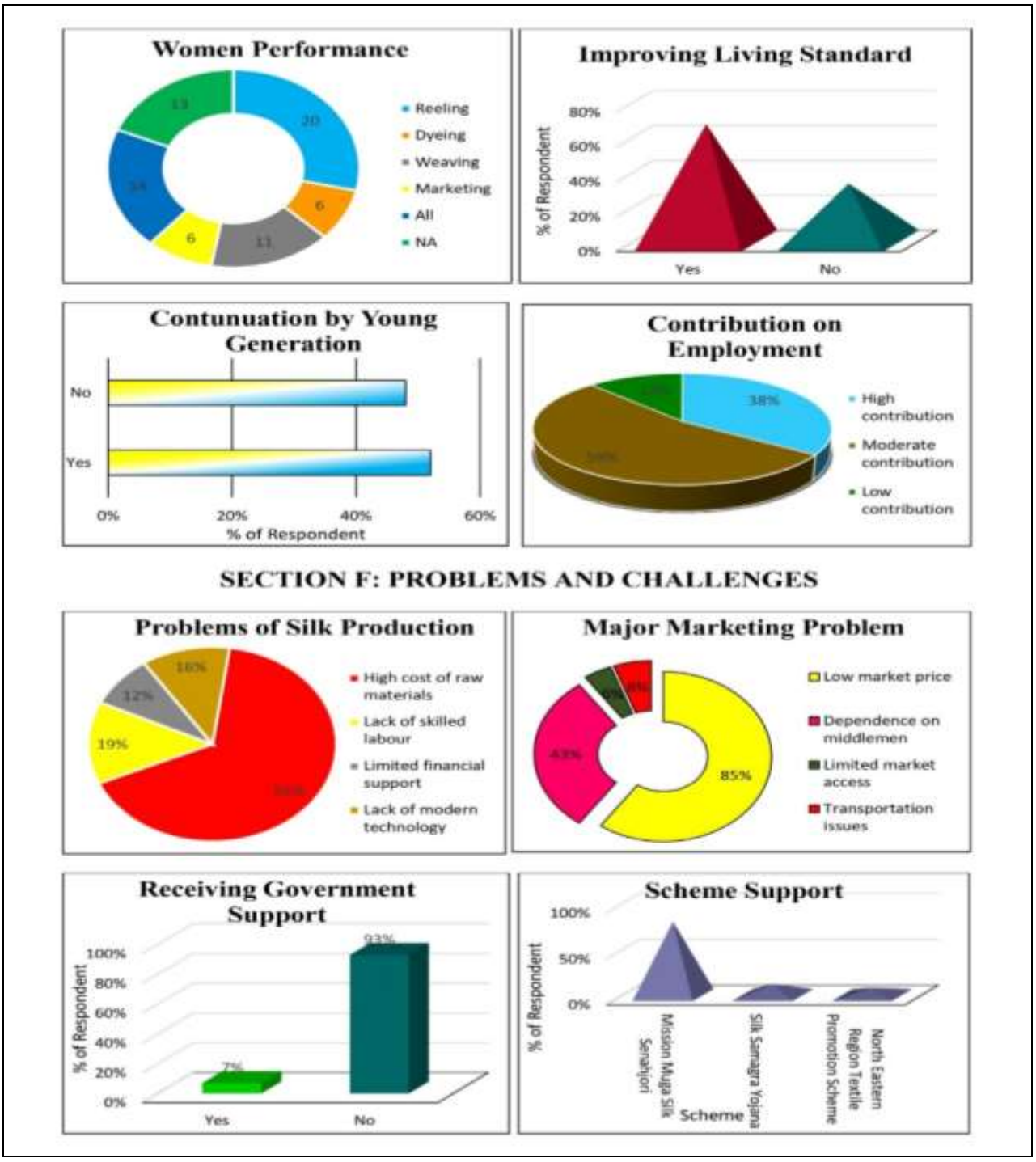


Fig-3.38: Major Roles Performed by Women in the Silk Industry Fig-3.39: Improvement in Living Standard through Silk Weaving Fig-3.40: Willingness of Younger Generation to Continue Weaving Fig-3.41: Contribution of the Silk Industry to Local EmploymentFig-3.42: Major Problems in Silk Production Fig-3.43: Major Marketing ProblemsFig-3.44: Respondents Receiving Government Support Fig-3.45: Government Schemes Supporting Silk Weavers

Source: Primary Survey

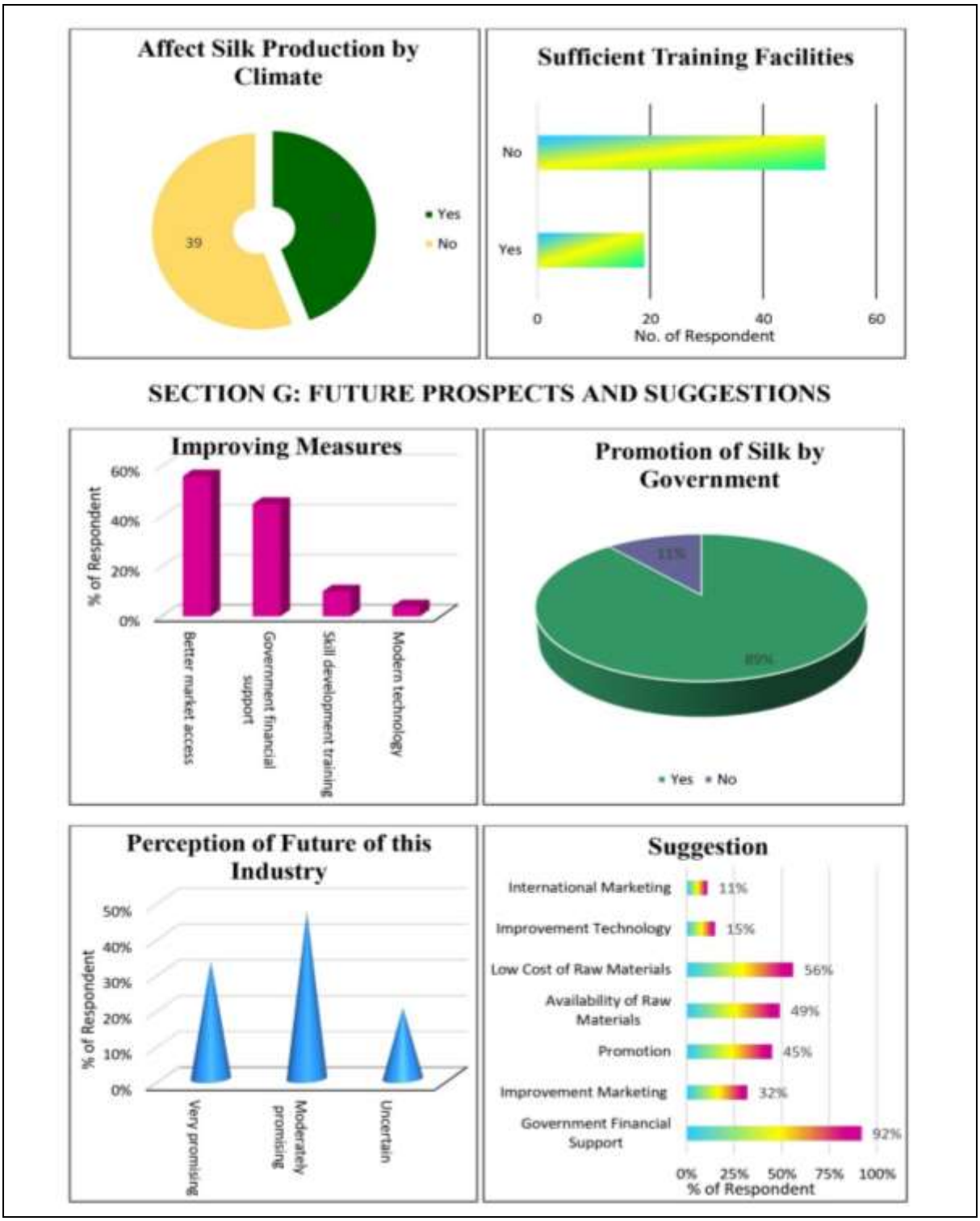


Fig-3.46: Impact of Climate on Silk Production Fig-3.47: Availability of Training Facilities for Silk Weavers Fig-3.48: Measures Required for Improving the Muga Silk Industry Fig-3.49: Opinion on Government Promotion of Silk Tourism Fig-3.50: Perception of the Future of the Muga Silk Industry Fig-3.51: Respondents' Suggestions for Sustainable Development of the Muga Silk Industry

Source: Primary Survey

8 Overall Interpretation

The findings indicate that the Muga silk industry remains the backbone of Sualkuchis economy and cultural heritage. The Muga silk industry generates employment supports household incomes empowers women and contributes significantly to economic development. However challenges related to material availability technological modernization marketing inefficiencies financial constraints and institutional support continue to affect the Muga silk industrys long-term sustainability. Strategic interventions that focus on strengthening market diversification skill development and technological innovation are therefore essential, for ensuring growth of the Muga silk industry in Sualkuchi.

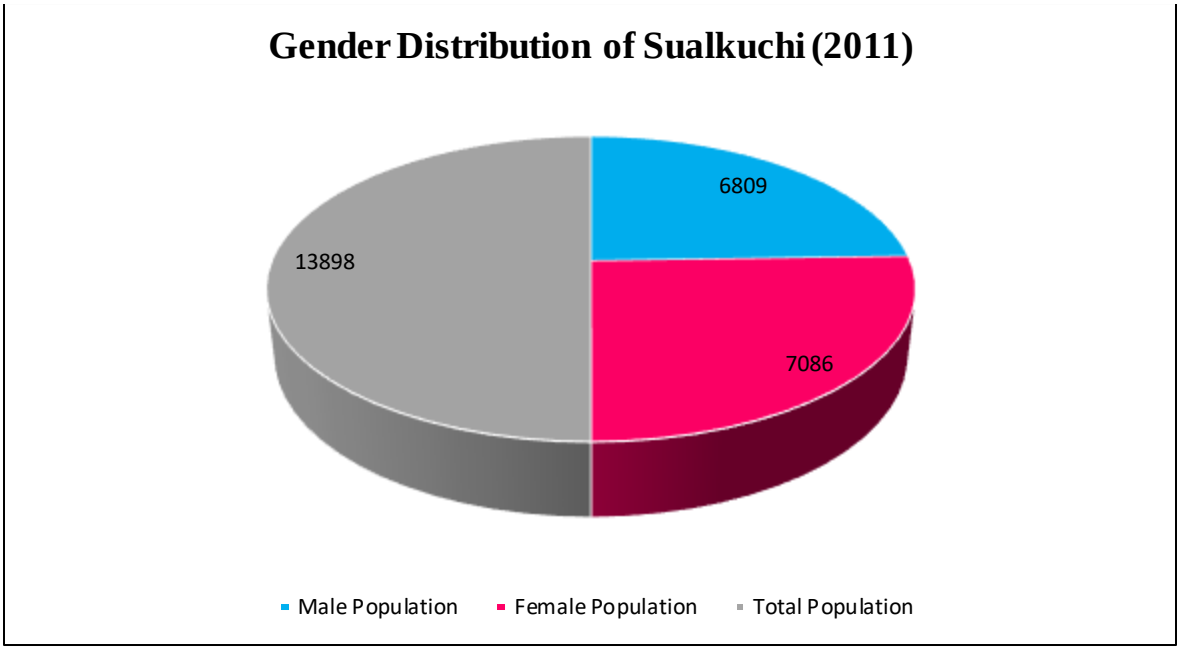


Fig-2.3: Gender Distribution of Sualkuchi According to 2011 Census

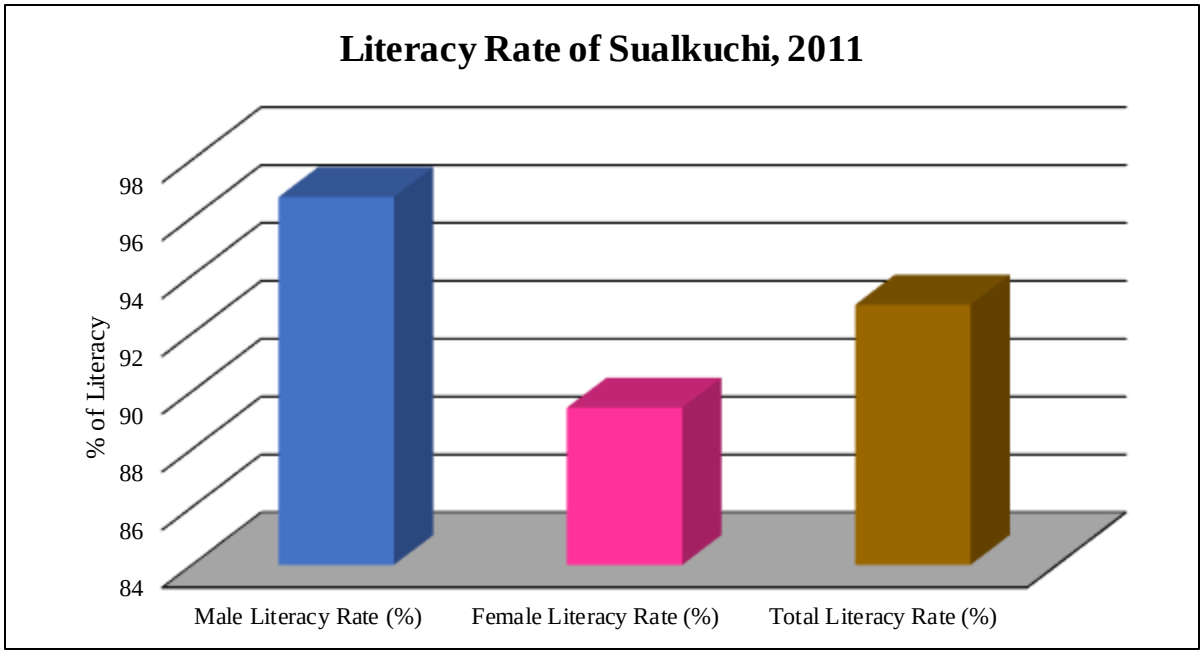


Fig-2.4: Male and Female Literacy Rate (%) of Sualkuchi According to 2011 Census

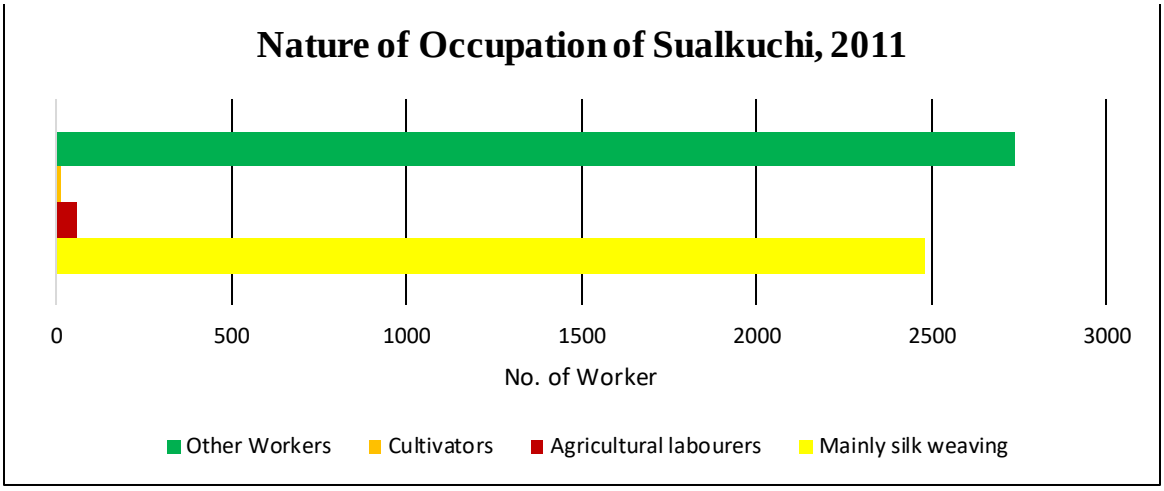


Fig-2.5: Nature of Occupation of Sualkuchi According to 2011 Census

Discussion

1 Demographic Characteristics of the Respondents

The demographic analysis shows that the Muga silk industry of Sualkuchi is supported by a group of workers that includes both men and women. Among the people who answered the survey men made up 59 percent. Women made up 41 percent. This shows that women are very involved in activities related to silk. Education levels varied a lot. Thirty percent of the people had finished school. Twenty-one percent had school. Seventeen percent had secondary education. Seven percent had studies. Six percent had postgraduate studies. Also 19 percent of the people could not. Write. The education levels suggest that there is a group of workers who have some skills. These workers can keep the weaving methods going. They are also starting to learn ways to meet the needs of the modern market.The survey also shows that 96 percent of families were families. 4 Percent were joint families. This shows that family structures are changing. People are moving more for work. Also 70 percent of the people said that their families had been in the silk weaving business for than twenty years. This shows that the work is passed down from one generation to the next. Silk weaving was the job for most of the people. This shows that the industry is very important for the economy.

2 Production Characteristics of the Muga Silk Industry

The production system of Sualkuchi is mostly traditional. 43 Percent of the people worked with Muga silk. Others worked with Pat, Eri or mixed silk. The use of Muga silk shows its value and importance.Most of the people used handlooms. Only a small number used handlooms or power looms. The use of methods shows that people are keeping their traditional skills.. It also shows that they are not using machines. Most weaving groups had one to five looms. This shows that the work is mostly done in homes.Women played a role in the work. 63 Percent of the people said that men and women in the family worked together. Twenty-one percent said women did the work alone. Sixteen percent said men did the work alone. This shows that the work is done in families.Mekhela Chador and Muga sarees were the common things made. These items are very popular in Assam and other places. Most people worked between seven and twelve hours a day. This shows that the work takes a lot of time.

3 Raw Material Procurement and Supply Chain

Getting the materials is very important for the work. Most of the people got their Muga silk yarn or cocoons from markets. Some got it from government sources, private sellers or farms. Local sellers were the source

of materials.Even though there is a way to get supplies many people said they had trouble getting the materials. 43 Percent of the people had problems. Some had these problems often. This shows that there are times when the supply chain breaks down.Most people did the weaving and finishing work themselves.. Reeling and dyeing were done less. This shows that some parts of the work are done by others. Few people had training in the skills. This shows that more support is needed.

4 Marketing and Distribution System

Selling the products is a part of the silk business. Most people sold their products directly or through shops and middlemen. Local markets in Sualkuchi and Guwahati were the places.. Some products also went to other parts of India.Few people used shops. 30 Percent did. This shows that there is more to do to use the internet for selling.Many people said that middlemen helped decide the price. 61 Percent said this.. Most people were happy with the prices. This shows that the high value of Muga silk helps the workers.Half of the people sold their products to places. This shows that the industry is growing. People also went to shows and fairs. This helps them sell more.

5 Socio-Economic Impact of the Muga Silk Industry

The study shows that the Muga silk industry is very important for peoples lives. Most people said that weaving gives them work all year. This helps them earn money.Many families got than half their money from weaving. This shows how important the work is. Money varied depending on how much people made, where they sold and what they made.Women played a role. Most people said women were involved in parts of the work. This helps women earn money. It also helps them feel more included.Most people said that being part of the industry made their lives better. They had houses, better schools and better services. The industry also helps people get jobs.Most people said that younger people were willing to continue the work.. Some young people were not interested. This could make it hard to keep the ways going.

6 Problems and Challenges

The Muga silk industry has many problems. The most common was that the materials cost much. This made it hard to make a profit. Other problems included not skilled workers, not enough money and not enough modern tools.Selling the products was also hard. People said the prices were low. They had to work with middlemen. Getting to the market was hard. Transport was also a problem. These things made it hard to make money.Most people said the government did not help much. Only a few got help. This could stop the industry from getting better.Weather also caused problems. Some people said the weather changed and hurt the plants. This made the silk worse. Many people said they did not get training. This shows that more help is needed.

7 Future Prospects and Development Strategies

Most people thought the Muga silk industry had a future. They said it had a lot of potential. They wanted places to sell more help, better training and better tools.Most people supported making the area a place to attract tourists. This could help sell more and keep the culture alive.People also wanted help from the government. They wanted help with the cost of materials places to learn, better markets and direct ways to sell. These changes could help the industry do better.



Photo 1 : Different Productions and Selling Points in Sualkuchi, Assam
Source: Primary Survey

8 Discussion

The study shows that the Muga silk industry is very important, for Sualkuchi. It gives people jobs, money and a place to belong. The way the work is done the role of women and the old skills are all special.There are problems. Getting the materials using tools selling the products not enough help and changing weather are all big issues. Other studies have found the problems.To grow the industry people need ideas, more skills, better ways to sell more money and better rules. Doing all these things will help keep the culture and help the economy. It will also help people who work in the Muga silk industry.



Photo 2: Stages of Different Production and Machineries in Sualkuchi, Assam

Source: Primary Survey

Suggestions, Recommendations and Conclusion

1 Suggestions and Recommendations

We saw that the study points to ways to make Muga silk production faster marketing stronger and support the long-term life of the Muga silk industry in Sualkuchi.

1.1 Strengthening Raw Material Availability

Muga silk yarn and cocoons of quality must be easy to find and not too expensive if we want Muga silk production to keep going. The study shows that many Muga silk weavers do not have material and the cost is going up. Therefore the government and sericulture departments should help grow Muga host plants. Muga silk weavers would benefit from cocoon production centres in Assam. Setting up raw material depots and cooperative buying systems would keep prices. Supply steady for Muga silk weavers.

1.2 Technological Modernization of Weaving Units

Traditional handlooms are still the heart of Sualkuchi's weaving heritage. We need technology to make work faster and stronger. Muga silk weavers should use handlooms, comfortable weaving tools and

modern finishing methods while still keeping the craft alive. Muga silk weavers also need help. Subsidised technology support should modernise their homes.

1.3 Skill Development and Capacity Building

The study shows that Muga silk weavers join training programmes. Regular skill-development workshops, training and entrepreneurship programmes should be organised by the Central Silk Board, the Directorate of Sericulture cooperative societies and schools. Muga silk weavers should focus on making products improving quality creating new designs, marketing and learning business skills.

1.4 Strengthening Marketing Infrastructure

Marketing problems still cut the profits of Muga silk producers. Setting up silk marketing centres, producer cooperatives and direct marketing sites would cut the need for middlemen. That would raise profit margins. Strengthening branding GI promotion and quality certification can boost market recognition. Give buyers confidence in Muga silk.

1.5 Promotion of Digital and E-Commerce Platforms

The study shows that marketing for Muga silk is at a level so change is needed.I think training Muga silk weavers and entrepreneurs, in e-commerce, social media marketing and digital payments will enable Muga silk weavers and entrepreneurs to reach markets beyond borders.We think working with marketplaces can help Muga silk producers connect directly with customers.

1.6 Financial Assistance and Credit Support

Many Muga silk weavers still find it hard to get credit. Government agencies, banks and micro-finance institutions should offer low-interest loans, help and insurance plans that sericulture and handloom work. Making loan rules simpler will also encourage investment and business by Muga silk weavers.

1.7 Women's Empowerment and Inclusive Development

Women are part of the Muga silk chain. Policies should aim to strengthen women-led weaving groups, self-help groups and business ventures. Targeted money help, skill programmes and leadership training will boost women's participation and decision power in Muga silk.

1.8 Encouraging Youth Participation

The interest of people in weaving is falling and that threatens the long-term life of Muga silk.Schools, vocational centres and government agencies should support skill programmes that combine weaving knowledge with business and technology. By doing this more people will be interested in joining the Muga silk industry, which can lead to job creation. Creating jobs, in Muga silk will help keep the tradition alive and give people better opportunities.

1.9 Climate. Environmental Sustainability

Weather changes now threaten the growth of host plants and the production of cocoons for Muga silk. Sustainable sericulture practices, science-based planting, water saving and climate-smart host plant growing should be promoted. Protecting the environment is essential for keeping Muga silk production alive in the future.

1.10 Development of Silk Tourism

Sualkuchi can grow silk-based tourism. Building weaving demo centres, silk museums, craft villages and tourism routes could bring in money. It also promotes Assam's heritage. Mixing tourism, with handloom work will create jobs. It will raise the visibility of Muga silk.

2 Policy Implication

The findings show that the steady growth of the Muga silk industry needs policy actions that focus on keeping material safe modernising technology, building skills expanding markets and giving financial

help. Strengthening networks that boost marketing women's business, youth involvement and more government support can raise productivity. It will secure the livelihood of Muga silk weavers. Climate-smart sericulture practices and promoting silk-based tourism should be part of policy to keep Muga silk lasting in Sualkuchi.

3 Conclusion

The study titled "Production, Marketing and Socio-Economic Impact of the Muga Silk Industry: A Case Study of Sualkuchi, Assam" shows that the Muga silk industry still plays a part in the life of Sualkuchi. The industry gives jobs, income and safety for some people. The findings also show that the old household weaving ways are still used to make Muga silk and they rely on generations of passed-down knowledge and skill.

We had read the study. The study shows how the Muga silk industry helps growth. The Muga silk industry creates jobs offers ways to earn and lets women join work. Women work at every step of making Muga silk. The Muga silk industry helps families and the local economy. The Muga silk industry also keeps the identity and old weaving traditions of Assam alive.

We had noticed that the Muga silk sector faces problems that threaten the long-term future of the Muga silk sector. The price of materials is going up. Silk yarn is not always available. The Muga silk industry still relies on middlemen. New technology is hard to reach. Support from institutions is lacking. Training places are not enough. Weather changes also hurt. All these problems mean that weaving families cannot fully reach the power of Muga silk production.

We found that with these problems the Muga silk industry looks hopeful. People want Muga silk products. People are learning more about Assams heritage. The market inside India and abroad is growing. Digital marketing and silk tourism give chances. All of these give a chance for growth.

We must act to help the Muga silk industry keep growing. Modern tools, skills, more money access, stronger supply chains, new markets and ways to survive climate changes are needed. These steps can make the Muga silk sector more stable and competitive.

We believe that the Muga silk industry in Sualkuchi is more, than a job source. The Muga silk industry is an institution that holds knowledge, skill and the identity of Assam. To keep the Muga silk industry alive we need government help and people to join in cooperation from institutions and new development ideas. Then this famous heritage industry can keep giving jobs protecting culture and helping the region grow in the coming years.

Acknowledgement

The authors extend heartfelt thanks to the Department of Geography, Netaji Subhas Mahavidyalaya, for offering academic assistance and essential resources for this research. The authors express gratitude to the artisans and locals of Sualkuchi, Kamrup, Assam for their collaboration and for providing information during the field survey. Heartfelt thanks are also given to the faculty members of the Department of Geography for their encouragement, motivation, and scholarly help throughout this research. Ultimately, sincere gratitude is extended to everyone who directly or indirectly assisted in the successful execution of this research.

This study was carried out independently and did not obtain any particular grant from funding organizations in the public, commercial, or nonprofit sectors.

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