GLOBALISATION AND LIVELIHOOD SYSTEM: A CASE STUDY OF WOMEN WEAVERS IN SUALKUCHI, ASSAM

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LIST OF ABBREVIATIONS

- AGMC- Assam Government Marketing Cooperation Limited
- ARTFED- The Assam Apex Weavers and Artisans Cooperative Federation Limited
- CARE- Cooperative for Assistance and Relief Everywhere
- CSI- Coping Strategies Index
- DGCIS- Directorate General of Commercial Intelligence and Statistics
- DFID- Department for International Development
- GI- Geographical Indication
- FGD- Focus Group Discussion
- HH- Household
- IDS-Institute of Development Studies
- IFAD- International Fund for Agricultural Development
- ITC- International Trade Council
- OIL- Oil India Limited
- ONGCL- Oil and Natural Gas Commission Limited
- OXFAM – Oxford Committee for Famine Relief
- R & D- Research and Development
- SIFT- Sualkuchi Institute of Fashion Technology
- SLA- Sustainable Livelihood Approach
- UNDP- United Nations Development Programme

CHAPTER I

INTRODUCTION

1.1 Introduction

Although the debates on the definition and importance of globalisation have been contentious over time, one can understand globalisation to be a complex set of dynamics offering many opportunities that benefit human beings but also involving significant threats to their living at the same time. The concept of 'globalisation' and its associated impact on sustainability of livelihoods has gained momentum among researchers the world over. It is seen that resources constitute a major plank of the livelihoods of the rural dwellers but environmental degradations owing to developmental processes in the guise of industrialisation, urbanisation and globalisation do not take into account or respond to the needs of these rural inhabitants who are struggling hard to manage their resource base, inevitable for the continuance of their livelihoods. Changing environmental conditions, dwindling resource base and changing market scenario has restructured the lives of these people in such a way that an in-depth critical understanding of their lives and the problems which they are facing has become inevitable.

It is observed that in due course of time such processes result in the growth of socio-economic inequalities and wide spatial gaps in development. Thus, as (Harvey, 1997) argues, the globalisation process can be understood as 'a process of production of uneven temporal and geographical development'. The beneficiaries of such a process are basically the handful class of people and their spaces who are engaged in the accumulation and flow of international capital. The rest are the masses and their spaces who are left with nothing but an elusive image of 'development'. Globalisation has

redefined the lives of these people in such a way that an in-depth understanding of their changing livelihood under the current scenario and the need to overcome all obstacles amidst stiff competition becomes all the more inevitable.

Handloom weaving is one of the most important means of livelihood next to agriculture in Assam and it is the women who are an indispensable part of this age-old tradition. According to the Fourth All India Handloom Census of 2019-20, work participation in handloom activity for India is dominated by females. Nearly 19.25 lakh (72 percent) of the total adult handloom workers are female, of which a huge majority (88.7 percent) resides in rural areas. Besides this, the dominance of female weavers in the total weavers' workforce is highest in the North-Eastern states, where it is 99 per cent. Assam has the highest concentration of weavers in the country (31 percent of the total handloom weavers in India). This not only underlines the prominence of this sector in the economy of the state but also sheds light on its significant gender dimension. However, at present, the changing economic scenario and the removal of trade barriers have led economists, planners, administrators and others to fear that these women working at the looms will be slowly driven out of employment with the full onslaught of globalisation.

Therefore, the current study is an attempt to understand the livelihood system of the weavers of Sualkuchi with particular focus on the women weavers. It aims to analyse the vulnerability that the weavers are exposed to in an era of globalisation and the consequent mechanisms adopted by them towards achievement of a secure and sustainable livelihood system.

1.2 Statement of the problem

The weaver population in Sualkuchi is predominantly female, i.e., about 60 percent. The handloom industry of Sualkuchi is in a sad state of affairs owing to a no. of changes brought in by macro-economic reforms over the past decade. The entire family of the weavers is in turmoil, the women being affected the most. Under such circumstances, it becomes important to address the problems and needs of this 'vulnerable section' of handloom sector.

Of late, silkworms are no longer reared here in Sualkuchi and the industry is entirely based on weaving handlooms, that too on a purely commercial basis. The problem is that the weaving community feels drowned in the large influx of power looms and declining supply of raw silk. Therefore, Sualkuchi is a pertinent exemplar to show how traditional cottage industry is widely seen as being out of tune with the demands of a modern economy, how the present level of so-called development in the name of increasing urbanisation, industrialisation and globalisation has threatened the livelihood of the innumerable sericulturists and weavers in spite of being the repository of an age-old tradition and skilled craftsmanship in the state.

1.3 Significance of the study

Globalisation and the opening of global markets may require the skills and knowledge of the women weavers of Sualkuchi to be upgraded to face the competition in today's world and this study is an attempt to understand their world in the context of a changing society which examines their socio-economic conditions; the advantages and disadvantages associated with their working conditions; aspects of their health, wages and aspirations; their social relations with family and community; as well as the changing market structure, the technology used and production process in Sualkuchi.

Although a number of studies have dealt with the various aspects of weavers working in this industry, but the present one has tried to emphasize on the analysis of livelihoods and livelihood strategies of these womenfolk and their households using the Sustainable Livelihoods Approach (SLA) developed by the UK Department for International Development (DFID),which views poor people as having access to certain assets and factors that allow them to reduce their poverty in times of vulnerability. The study has also tried to examine the range of assets, their relations and interdependencies as well as the prevailing geographical, social and institutional environment and structures that are influencing their livelihood and strategies.

1.4 Review of Literature

In an attempt to understand the empirical dimensions of the research problem and to also identify the theoretical, methodological, conceptual as well as operational gaps in the existing literature, the present section offers insights from accessed literature on various aspects related to the topic. In order to make the work more convenient, the concerned literature has been reviewed here under the following heads:

1.4.1 Literature highlighting the status of silk and significance of weaving as a traditional rural livelihood

1.4.2 Literature related to the crises in the rural livelihoods post globalisation

1.4.3 Literature concerned with gender issues in livelihood studies

1.4.4 Literature on rural household coping strategies undertaken during crises

1.4.1 The status of silk and significance of weaving as a traditional rural livelihood

India lives in her villages with nearly 68.84 percent of its population, i.e. about 83.3 crores living in the rural areas (Census of India, 2011). Most people who live in the

rural areas are engaged in an unremitting struggle to secure a livelihood in the face of adverse social, economic and political circumstances. Rural households may derive a part livelihood from farming; a part livelihood from migrant labour undertaken by absent household members in urban areas or other rural areas and a part livelihood from a variety of other non- farm activities like petty trade, brewing, handicraft, .weaving, pottery etc. (Murray, 2001). With an ever-increasing population arising out of vertical expansion of the rural family and immigration, the burden on agriculture to provide livelihoods has gradually increased beyond capacity. In this situation, rural non-farm activities like weaving, cane or bamboo crafting, spinning and reeling soon emerged as productive part-time economic activity (Begum, 2009).

Bremen (2001) contended that the recent upsurge of interest in rural industries and non-farm activities in general in India derives largely from the recognition of the limitations of the agricultural sector (specifically crop production) in providing productive employment for the rural labour force and a slow employment rate in the organised sector.

Hence, Porter (2000) in his work on *Local Clusters in a Global Economy* viewed the handloom industry as a stepping-stone to further industrial development and entrepreneurship, providing a way for rural inhabitants to move beyond agricultural income.

(Mukund & Sundari, 2001) discussed the significance of handloom weaving in the rural economy of India in their study on the cotton handlooms of Andhra Pradesh and found that inspite of relatively low incomes and working in a changing economic environment the weavers are able to live and work with a sense of dignity since handlooms represent an integral part of India's cultural heritage.

Handloom weaving is the most important cottage and labour-intensive industry in India carried out with labour contributed by the entire family. As per the Handloom Census of 2009-10, there are 23.77 lakh handlooms, employing 43.31 lakh handloom weavers and allied workers belonging to weaker sections like SC, ST and OBC etc. The contribution of this sector to the textile production, employment and export earnings is significant (Jayavel, 2013).

It is one of the largest family-based traditional industries in India where the technology is not sophisticated and the training is informal passed on from older family members to the younger members (Bhagavatula, 2010).

Handlooms have an umbilical linkage with various sectors like transportation, financial services, marketing services, maintenance services, the rural farm economy and hotels. Many handloom centres are well known tourist spots, drawing visitors from far places of India and foreign countries as well. Moreover, agricultural labour gets employment in handloom sector during the non-agricultural season. The sector has self-sustaining mechanism, including training for young weavers, irrespective of gender (Phukan, 2012).

The importance of small enterprises in rural areas in emerging economies is generally acknowledged by many researchers, academicians and practitioners. In a country like India, where about 70 percent of the people live in rural areas, non-farm enterprises are important for their ability to absorb excess labour that may not find employment in the farming sector (Lanjouw, 2001). However, non-farm activities like weaving represent more than an income opportunity and are deeply embedded into the social reality of rural people. Unfortunately, the activity is not unaffected by trends in the

market economy, these trends have transformed weaving activities and forced weavers to change their livelihood strategies (Tamim, 2010).

Mazumdar (2013) in her book goes beyond the fundamentals of traditional textile to remind the modern society that indigenous textiles of different ethnic groups in Assam are not merely a commodity but a reflector of socio-cultural life of the people of this region. She concludes with confidence that handloom weaving of Assam has tremendous potential to flourish further based on the long-term rich tradition in textile production and the availability of natural resource talent of the indigenous weavers.

Dutta & Nanavaty (2012) traced the recent global status of silk country-wise and described in depth the sericulture practices followed in both temperate and tropical regions of the world as also silk processing and marketing of raw silk, finished silk and ready to wear. They have tried to establish the fact that silk sells and is superior to other textiles. Though natural fibres have lost their share in global textile fibre consumption, these have withstood severe competition from manmade and by the beginning of the 21st century, their production and consumption are slowly rising. In fact, the future of silk in the 21st century is quite bright.

Zethner et al. (2015) analysed the status and future of sericulture and silk production in South Asia. They found that a steady trend of increase in demand for synthetic fibre for apparel consumption has been the biggest threat for sericulture and silk production all over the world. On a positive note, the authors also highlighted the fact that sericulture and silk production across the world is contributing significantly to the achievement of four of the Millennium Development Goals of the United Nations 2015: eradicating extreme poverty and hunger, promoting gender equality and

empowerment of women, ensuring environmental sustainability and contributing to a global partnership for development.

Zethner et al. (2014) analysed the importance of silk in the history and civilisation of India and the world. Using case studies from three different parts of India (namely, the Hanuman Weaving Factory, Bengaluru, The Rajkharsawan Training Centre, Jharkand and Fabric Plus Private Limited, Guwahati), the authors have tried to illustrate how these units have been successful in making silk production a very lucrative and profitable avocation for young people of the villages and therefore, suggest carrying forward of this silk tradition of India based on these models of silk production through conservation of natural resources, improved technologies, education, training and extension, product diversification, quality control and proper marketing of fabrics.

Baishya (2005) in his work on the silk industry of Assam threw light on the sociological aspects and customs of the Sualkuchi area of Assam. In spite of a wide range of problems overshadowing this commercial weaving cluster of the state, Sualkuchi has been thriving since long and is still expanding. The author has given due credit to growing consumerism for traditional products for its expansion and growth.

Das (2009) in his study on the economic analysis of sericulture especially *eri* culture in Assam safely argued that there is good prospect for development of *eri* culture activities in Assam. However, at present, the deficiency of *eri* feed plants is one of the most important limitations of this sector which needs to be addressed.

Singh & Sarathchandra (2012) emphasized on introduction of *eri* culture in North East India considering its potential as an attractive secondary occupation and as a tool for poverty alleviation and also as possibilities of vocation in rural and semi-rural areas.

Morever, it is also stressed that the eri silkworm can sustain wide variation in relative humidity and temperature and is well suited for this part of India.

1.4.2 Crises faced by rural livelihoods post globalisation

Hassan et al. (2002) have studied the impact of international trade and multinational corporation activities on the environment and sustainable livelihoods of rural women living in Niger Delta, Nigeria. The activities of these companies have damaged the environment to such an extent that the people cannot farm or fish because of oil spillage and pollution, they can hardly obtain potable water and their health is in severe jeopardy.

In the agricultural domain, IFAD (2006) has reported several cases in African, Latin American, Caribbean and Asian regions that show how the reduction of agricultural import tariffs had led to the influx of imported food products (some of them subsidized) which had disrupted the locally produced products of small farmers.

Karmarkar (2010) discussed in his paper on how sea-water pollution due to regular oil spills and hazardous industrial effluents leads to a great depletion of fish resources and is threatening the livelihood of a small community of fishermen living in Vasai (Maharashtra). Large Indian and MNC trawlers, the dynamics of FSI, CRZ and so-called land re-development schemes, WTO and other domestic policies and such other domestic policies have forced the fishermen of Vasai to abandon their business and join the unstable and unreliable informal sector jobs. In short, the globalisation process that acts little slowly in the peripheral areas due to spatial marginality of these areas in larger globalisation network is steadily but severely influencing the livelihoods of these fishermen in Vasai.

Rahman (2012) in his study on the silk industry of Mushidabad district of West Bengal analysed that the process of globalisation in different parts of the world is a combined effect of opportunities and constraints. While in some sectors of the economy, the impact is positively remarkable while in some other sector, a reverse trend of growth is significant. It is found that inspite of a glorious and hegemonic record in silk production, both now and just after the beginning of globalisation of trade, Murshidabad silk industry is unable to compete with other silk producing regions due to a host of factors, most prominent of them being governmental non-interference, acute scarcity of incentives and finance, lacking innovation as well as diffusion of technology.

Mooij (2002) is of the opinion that despite various welfare policies, weavers remain poor and vulnerable and their economic situation remains precarious particularly because they do not provide sufficient compensation for loss of income.

Reddy (2014) discussed the impact of globalisation which pauperised several skilled and semi-skilled artisans particularly handicrafts and leather industry of Andhra Pradesh who were forced to migrate to urban agglomerations or join the ranks of the unorganised informal labour. Whatever little benefit that accrued was appropiated by urban centred neo-rich class. Hence, the study suggests replacing the top-down globalisation strategy with the bottom-up strategy for the benefit of the poor.

Ramaswamy & Kumar (2012) conducted a study on the entrepreneural motivations of the weavers in the tribal cluster of Thenzawl in Mizoram and evaluated the growth and managerial performance and problems faced by the micro-handloom enterprises. Marketing emerged as a significant problem of the microenterprises in Thenzawl.

Ramaswamy & Hmangaihzuali (2016) examined the promotion and distribution policies of micro-handloom enterprises in Thenzawl cluster of Mizoram and observed that the weavers of this cluster being located in a remote corner of India do not have access to advertisement at a large scale due to several constraints. Moreover, it is observed that the handloom enterprises in the cluster are employing very traditional methods of promotion and schemes of the central govt. towards marketing of the handloom products are not operative here.

Choudhury & Das (2012)) on studying the bell-metal industry of Barpeta district of Assam found that the workers have been facing a number of socio-economic problems such as unsafe drinking water, unhygienic living as well as working conditions which is very unhealthy for the economy of the state of Assam since this handicraft has been producing employment opportunities to more than 20,000 people over a period of several years till date.

Tamuly (1998) discussed the role of petty traders on the fixation of price of *muga* cocoons which prevented the *muga* culturers from adopting this avocation as primary source of income and full-time self- employed activity. In his study on the economics of *muga* in Dhakuakhana sub-division of Lakhimpur district of Assam, he found that high return cannot be earned from *muga* rearing, reeling, weaving and cocoon collected as expected owing to several constraints faced by them which include marketing, financial hardship and low selling price. Due to uncertainty in the price of *muga* cocoon (high price in times of low production and vice-versa), the rearers are deprived from the actual prices in the market.

Jaiswal (2012) through his study of the textile industry of Benaras brings into limelight the stark realities of India's social structure. The socio-economic status of non-textile

workers were better than textile workers as most of them working, either as a salesman or a wholesaler. Similar findings were also reported by Chen et al. (2005) and Yokota and Yamamura (2007).

1.4.3 Gender issues in livelihood studies

Jayaweera (1999) in his study of women workers in garment and textile industries in Sri Lanka has given useful insights into the economic and gender specific factors that have contributed to continuity and change in the lives of these workers and their families. It is found that the quality of employment available to women as a consequence of macro-economic reforms has deteriorated and that women in low income families have borne a disproportionate share of the burden of 'adjustment' to reforms.

Devi (2012) in her paper has tried to explore the lives of Manipuri women weavers who have expressed their feminism in an essentially patrilineal culture by aiming for self-reliance, being financially active and collectively powerful through their weaving activity. But recently, these weavers are facing conflict and compromise due to changes in the market structure and growing competition.

Bortamuly & Goswami (2012) in their paper attempt to analyse the factors influencing the wage structure of the handloom industry in Assam from a gender perspective with the elimination of import quota restriction and expansion of trade. Among the factors such as age, productivity, sex, experience, and education, it is found that only the productivity of the workers influences wage structure of the contractual workers significantly. In contrast, in case of monthly rated weavers, along with productivity, gender (sex) of the respondents influence significantly on their wages. Gender wage disparity is found crucial for monthly rated weavers and reelers.

Goswami (2006) also attempted to analyse the impact of globalisation of silk industry in North East India from gender perspectives. He analysed that the process of globalisation of the industry although generated economic gains from rapid growth of export, the negative aspects such as inadequate healthcare, education, training and credit facilities are a few problems that deprived mostly women workers involved in this industry.

Begum (2009) critically examined the economic, managerial and technological aspects of the silk sector of Assam by taking the example of the Sualkuchi silk industry and emphatically focussed on the crucial human aspects from a gender perspective. By documenting the living as well as working conditions of weavers, the author attempted to quantify the immense contribution made by the weavers to their families and measured the level of gender equity achieved, thereby recommending commercialisation as a safe route ahead for meeting free market challenges even while ensuring women empowerment.

Bhattacharjee (2014) has tried to analyse the gender relations that underpinned the silk industry in Assam and helped it to compete, cope and survive with a host of changes through the century. By unveiling the experiences of the women silk weavers of Sualkuchi both in the household and the labour market, the author has sought to impress upon the need for feminisation of the concept of labour itself so that women do not remain the invisible workers.

1.4.4 Rural household coping strategies faced during crises

It is believed that successful coping strategies have played crucial role in avoiding livelihood crisis and suicides. Ellis (1999) in his article reviews the recent literature on diversification as a livelihood strategy of rural households in developing countries, with particular reference to sub-Saharan Africa.

Adaptation is yet another very important strategy for the success and continuance of traditional livelihood occupations like handloom. In a study of weavers in Nishijin (in Kyoto), for instance, Hareven (2003) analysed that the weavers of the region adapted to the technological reforms of industrialization (from draw looms to Jacquard and power looms and from punch cards coded for the design – which are attached to the warp with a foot pedal – to computers). Nishijin weaving was influenced by and adapted to the trends of the times, and yet, traditional designs were never abandoned and have been stubbornly preserved.

Tamim (2010) while exploring the rationale behind livelihood diversification behaviour of rural Guatemalan households involved in the weaving sector found that livelihood diversification behaviour stems from the necessity for rural households to manage risk, accumulate assets, cope with sudden environmental crisis or pursue diversification as a natural strategy stemming from a historically social importance. Juma (2009) draws on the experience of Turkana pastoralists living in the Turkana district in the arid zone of north-western Kenya. The author highlighted that Turkana people possess a repertoire of adaptive strategies which stand out in relief and draw on social networks as an insurance system. These dominant modes of networks identified were trading, reciprocity, migration, splitting families and the search for allies.

TNEPRP (2004) a Livelihood Assessment Report by the Institute of Development Alternatives, Chennai seeks to understand the broad indicators of poverty in Tamil Nadu by assessing the livelihood asset status of the poor and identifying the impediments that the poor encounter in their present system which include landlessness, decline in agriculture, diversification, poor education and lack of financial resources. The people, however have in due course of time evolved

mechanisms to circumvent these setbacks either in the form of migration, child labour or adaptation.

Apparao & Venkata Rao (2012) have tried to explore the similarities and differences in the coping strategies of two castes of weavers in Andhra Pradesh – Pattusalis and Devangas. While for the Pattusali caste, occupational diversification is an important coping strategy for them. They have not left handloom weaving while adopting a new occupation. On the other hand, the Devanga caste has entered into other sectors within handloom weaving. The success or failure depends on the nature and type of coping strategies which encompasses several linkages like social interaction, social and political status of the group etc.

Mishra (2012) in his study on the fish farmers of the state of West Bengal observed that diversifiaction is a core strategy of the contemporary rural livelihood systems. Diversification helps the fishing households to supplement their income from fish farming and enabled them to overcome risk and vulnerability arising out of production failure or income depletion. Surplus earnings also acted as a source of investment in various other production activities. Moreover, for the weaker fish farmers, diversification as a livelihood strategy is ceratinly helping in sustaining their livelihood.

The overview of literature indicates that although a few studies have been conducted on weaving livelihoods, they have not been adequately probed into and are not based on any theoretical framework of analysis. So there seems to be enough scope for a detailed study on the silk weaving livelihoods of the state of Assam from the perspective of its genesis, the status of resources in the area, its growth and development along with the challenges faced by the sector post globalisation, but on the basis of a strong theoretical undestanding. Therefore, the main aim of the present

study is to establish the real constraints at the local, national and global level faced by silk weavers in developing nations, using Sualkuchi as a case. The analysis draws on Sustainable Livelihood Framework (SLF) as the main theory attempting to highlight the main factors that affect the livelihoods of the silk weavers and the relationship between these factors. It situates Sualkuchi in a global context and sheds light on external factors like that of globalisation as well as climate change.

1.5 Objectives

The main objectives which have been undertaken for the study are as follows:

i) To study the livelihood system and coping strategies of women weavers in Sualkuchi;

ii) To assess the impact of globalisation and analyse the global markets of the handloom industry of Sualkuchi; and

iii) To analyse the economic benefit and sustainability of the handloom industry at Sualkuchi.

1.6 Research Questions

The study attempts to answer the following research questions:

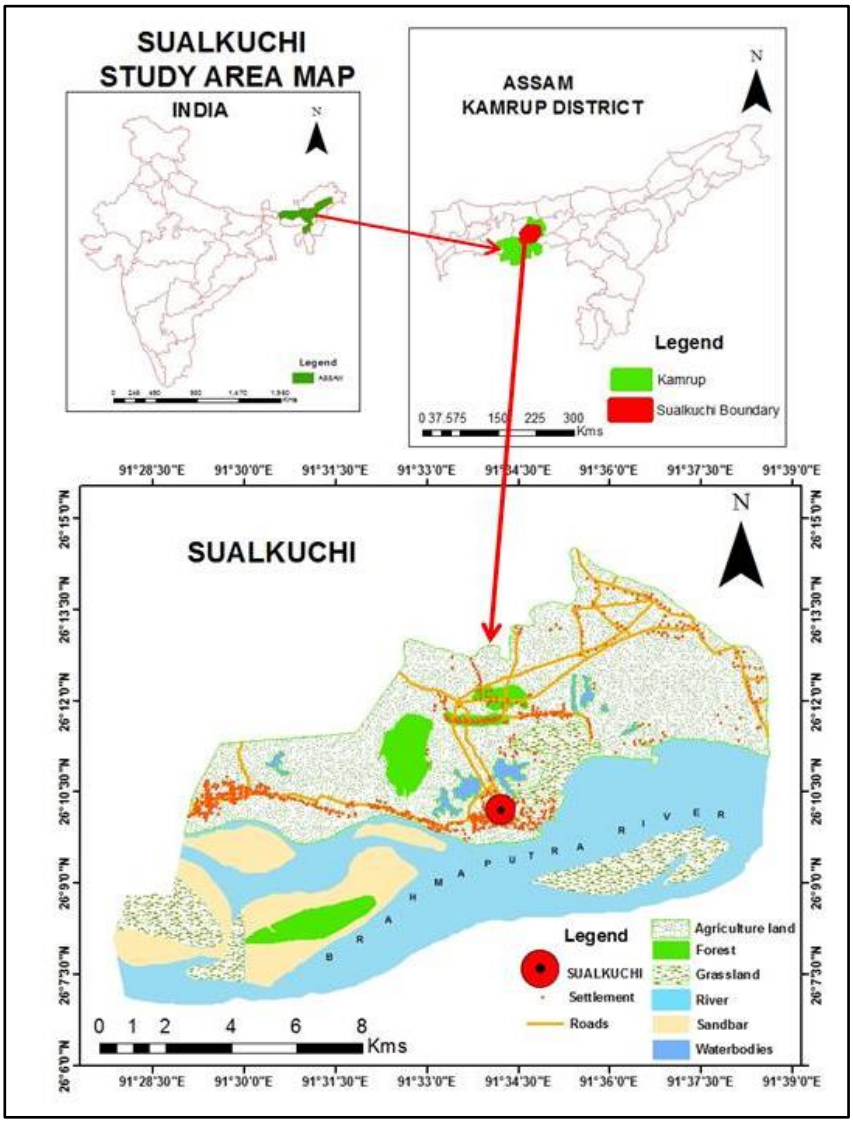
i) Does weaving as a livelihood provide the women weavers with more capabilities to improve livelihood security and to raise their living standards?

ii) Is diversification of design and product as per market need, introduction of modern looms, accessories etc. necessary to meet the challenges of global market in a sustainable manner?

iii) What are the emerging patterns of livelihood strategies adopted by the weavers in moments of crises?

1.7 Choice of Study Area

The study is conducted in the Sualkuchi Development Block of the Kamrup district of Assam. About 35 kms from Guwahati, Sualkuchi has a population of 70,762 (2011 census). There are eight Gram Panchayats in Sualkuchi block, in all of which, weaving is a dominant occupation. Sualkuchi is located at 26.17°N lat. 91.57°E long. and has an average elevation of 35 m (115 ft).



Map 1.1: Location map of Sualkuchi Development Block

Popularly known as the 'Manchester of the East' **S**ualkuchi occupies a unique place in the cultural history of Assam for preserving the heritage of silk weaving in the State. Situated in the north bank of river Brahmaputra in Kamrup district, this town is famous for its sarees and *mekhala chadars*- the traditional attire of the Assamese, woven from mulberry, *tassar* and *muga* silks. This is the abode of the *Baishyas* of Assam, whose primary occupation is silk processing and weaving from time immemorial.

1.8 Database

The whole approach has been adopted keeping in view the involvement of the women weavers in this industry and are covered in the light of the objectives envisaged for the study. The three key areas are interviews with key 'actors' in processes i.e. the weavers, quantitative research in the form of questionnaires and the use of qualitative techniques to investigate individuals' social attitudes and behaviour.

The study has been carried out on a two-pronged basis i.e. desk research and primary data collection. Primary data is collected on two sets of schedules. The first set comprises of a household schedule (see Annexure A) and the second set comprises of a trader schedule (see Annexure B). Focused group discussions (FGD) and strategic interviews have been conducted with various people involved with this activity in the study area. Discussions have also been held with officials and others involved in supply of inputs to the handloom sector and with marketing of handloom products etc. to the local as well as global market.

The secondary data has been collected through desk approaches by collecting information available from published and unpublished sources like research journals, books, project reports, published thesis, magazines, newspaper articles, internet sources, census reports, government documents etc. from institutions like the Department of Handloom & Textile, Directorate of Sericulture and Directorate of

Economics and Statistics (Govt. of Assam) and Regional Silk Technological Research Station, Central Silk Board, Khanapara, Guwahati.

1.9 Sampling Design

Purposive Sampling has been done to select a total sample of 451 Households from the study area from a total of 3967 total households, covering 3 Gaon Panchayats and 4 villages in which weaving is a dominant occupation of more than 50 percent of the households. Accordingly, 4 villages namely, Bathangaon and Srihati from Paschim Sualkuchi G.P., Sualkuchi village from Madhya Sualkuchi G.P. and Bamundi from Pub Sualkuchi G.P. has been purposively selected covering 5 percent to 15 percent of the total no. of households and surveyed. In the rest of the villages, weaving as an occupation has been abandoned and people have adopted other sources of income.

Table 1.1: Village-wise distribution of sample

Gaon Panchayat	Village	Households	
		Actual*	Sample
Paschim Sualkuchi	Bathangaon	467	53
	Srihati	242	27
Madhya Sualkuchi	Sualkuchi	1250	169
Pub Sualkuchi	Bamundi	2250	202
	Total	3967	**451**

*Actual HH size obtained from the Block Development Office, Sualkuchi

1.10 Methodology

The entire work has been carried out based on the Sustainable Livelihoods Framework developed by the UK Department for International Development using both primary and secondary sources of information. With the completion of field surveys, the obtained data were processed after necessary checking. Tabular work of the data was done both manually and with the help of SPSS. In analysing the data, simple statistical techniques such as percentage values, creation of asset pentagon using specific indicators based on SLF, Likert Scale, Multinomial Logistic Regression, Coping

Strategies Index etc. were used to deduce the association among variables to reach conclusion and shown through necessary graphs and diagrams. Maps have been prepared using Arc Gis 3.2. based on toposheet nos. 78 N/8 and 78 N/12 obtained from Survey of India office, Nidhi Bhawan, Guwahati.

For the purpose of indicator designing and creating the livelihood asset pentagon of Sualkuchi weaver households, a number of indicators have been consulted from international and national works like that of Chen et al. (2013), Biradar et al.(2013), FAO (2001) etc. covering all the 5 capital assets mentioned in the SLF and compiled. Various scaling and indexing methods have been adopted for making the indicators comparable and for meaningful interpretation of the results. Weighting methods have been plotted in 3 ways, all of which are based on the design features of the questionnaire:

The first involving questions having 3 choices – Good, average and poor

I= Good% x 1 + Average% x 0.66 + Poor% x0.33

The second addresses questions in the form of two choices: Yes or No

I = Yes% x 1 + No% x 0

The third involves questions on economic benefit, income, expenditure etc. the mean value is the key point in the design of this type of method. Less than the mean has been classified as 'poor' with weight value of 0.33, more than the mean but less than 1.5 x mean has been classified as 'average' with weight value of 0.66 and more than 1.5 x mean has been classified as 'good' with weight value of 1.

I = (Mean)% x 0.33 + (Mean < Average < 1.5 x Mean) % x 0.66 + (> 1.5 x Mean) % x 1

After calculation of weight, the value of each type of capital has been calculated using the formula:

Where, C is the criteria score for each asset (0 <= C <=1), n denotes the nth indicator of criteria,

I denotes indicator, and T denotes the total number of indicators. {Chen et al. (2013)}

A trader survey was conducted by preparing a structured questionnaire and collecting information from retailers and wholesalers in this business, private silk stores as well as govt. sales counters in Sualkuchi and nearby areas. Simple statistical techniques such as percentage method and bar graph have been used to analyse and interpret the data collected. This was also supplemented using scaling technique (Rating scale). The traders were asked to rank their views on improving the market of their products in the local as well as national market in order of preference or importance. These preferences or choices were then rated by a weighted score to understand their underlying importance on the improvement of marketing in the area of sale. The factor or reason which is ranked first was assigned a score of six points, the second carried five points, the third four points, the fourth three points, the fifth two points and the sixth one point. The weighted score was calculated by multiplying the numerical values assigned to each choice with the number of respondents preferring it for the 'i'th factor/opinion. Based on the percentage of the total weighted score for each of the factors, the overall ranking was calculated and thus analysed.

Again, the Ranking method has been used for constructing the indices of economic and social sustainability of the weaver households. In this method, each of the 4 sample villages is ranked on a scale of 1- 4 with reference to each of the indicators adopted for measuring sustainability. The ranks are assigned in either ascending or descending order depending upon the nature of variables (whether it is a positive or negative indicator). The ranks are then summed up across variables for each village to

obtain the composite index. The composite rank score is arranged in ascending order with the lowest composite score being assigned rank 1 and the highest rank 'x'. Thus, the rank obtained from the composite index for each of the village states the overall status of sustainability in the area.

For assessment of the food insecurity level of the weaver households, the Coping Strategies Index (CSI) has been computed. The CSI is an easy and quick indicator for assessing and measuring the household's food consumption gap and food insecurity (CARE & WFP, 2008). It can be developed by employing a series of questions that depend on what the household does when they do not have access to enough food i.e. the coping strategies. The CSI is calculated by combining the means of scoring the relative frequency with the severity of these coping strategies. The relative frequency is measured by determining how many days per week a household had to rely on various coping strategies from "never" to "everyday". The mean of the score was given for each frequency category and thus, assigned as the value for that category. This provides a numerical estimation for the relative frequency. The severity of the coping strategies was assessed using the FGDs with the key informants in the village (2 FGD from each village; total 8 in the present case). The level of severity for each coping strategy was collected by asking the weavers to classify the strategies they used based on their opinion. The relative frequency and severity are weighted together to obtain a quantitative measurement of food security known as the Coping Strategies Index (CSI). Higher the CSI score, greater is the incidence of food insecurity (Abdalla et al, 2013).

1.11 Limitation of the study

i) Usage of maps is limited in the study.

ii) Since it is a case-study dealing with the livelihood of the weavers, elaborate study on the raw material producing regions of Upper Assam are not within its purview.

1.12 Organisation of study

Chapter I Introduction

This includes statement of the problem, literature review, objectives, research questions, choice of study area, database, sampling design, methodology, limitations and organisation of study.

Chapter II Environmental Setting of the Study Area

This chapter deals with the physical as well as socio-economic setting of Assam in general and Sualkuchi in particular under a no. of heads such as physiography, climate, soil, natural vegetation, demography and economy.

Chapter III An overview of the Silk Handloom Industry in Assam with special reference to Sualkuchi Silk

It deals with an overview of the status of silk industry in India in general and Assam in particular, with special reference to Sualkuchi silk industry. It also deals with a brief historical analysis of the origin of this industry at Sualkuchi, explores the continuity of this age-old tradition till date as well as analyses its current status and functioning.

Chapter IV Livelihood Analysis of Sualkuchi Weavers: Local Realities and Structural Constraints

This chapter focusses on the status of livelihood assets available to the Sualkuchi weavers. The nature of gender relations has also been elaborated upon in this chapter.

Chapter V Sualkuchi Handloom in the Age of Globalisation (The Vulnerability Context)

Building a background understanding of the world market trends, the chapter deals with an in-depth analysis of Sualkuchi silk-its global spread, the nature of markets and marketing channels, the responses of weavers and traders to the changing environment and the role of the government in the age of globalisation.

Chapter VI Livelihood Strategies and Sustainability in Sualkuchi

The chapter reports on the various types of livelihood strategies being undertaken by the weavers of Sualkuchi in the event of crises and the factors underlying peoples' choice of that strategy. It also highlights upon the issues of sustainability: environmental, economic and social, in the study area.

Chapter VII Summary and Conclusion

This chapter concludes the report by incorporating the major findings along with certain recommendations towards sustainability of the industry and survival of the weavers' livelihoods.

CHAPTER- II

ENVIRONMENTAL SETTING OF THE STUDY AREA

The physical and human characteristics of a place provide keys to understand the inter-relationship between people and their environment in a spatial context. Here lies the core of geographical research. Therefore, the environmental setting of any region on the globe revolves around two aspects: the physical setting and the socio-economic setting.

2.1 Physical Setting

The physical landscape of any region on earth is composed of those features of the natural environment that serve as the essential background for human activity. They are the overall natural conditions of the area in situ and are derived from the geological, hydrological, atmospheric and biological processes. They include relief, drainage, climate, natural vegetation and soil.

2.1.1 Location: The state of Assam, popularly known as 'the land of the red rivers and blue hills', is the gateway to the North-Eastern part of India. Located in the tropical latitudes (24.3 ° N- 28 ° N) and eastern longitudes (89.5 ° E – 96.1 ° E), Assam is the most populous state in North-East India. It is bounded by the states of Arunachal Pradesh in the north and north-east; by Nagaland and Manipur in the east; by the states of Mizoram and Tripura in the south-east; by Meghalaya in the south and by West Bengal in the west. It shares international boundaries with Bangladesh in the south-east and south-west and with Bhutan in the north. The entire region is connected with the rest of India by a slender corridor leading from Kokrajhar and Dhubri districts of Assam. This is frequently termed as the 'Siliguri Neck'. There has been

movement of men, materials, plants and animals both directly and indirectly between Assam and her trans-border areas. Assam is in fact, a transitional zone between South-Asia and South-East Asia, which is evidenced by the varieties of human, animals and plant species.

Table 2.1: Basic statistics of Assam

Population	31169272
Area	78,438 sq. kms (2.4% of India's geographical area)
Population density	397 persons per sq.km.
Total no. of districts	27
Forest cover	27673sq.kms (24.58 % of the state's geographical area)
Literacy	78.81%

Source: Statistical Handbook Assam, 2012.

Until recently i.e. as per 2016, the total number of districts of Assam has been increased from 27 to 34. The seven new districts include Biswanath (carved out of Sonitpur), Charaideo (carved out of Sibsagar), Hojai (carved out of Nagaon), South-Salmara Mancachar (carved out of Dhubri), West Karbi Anglong (carved out of Karbi Anglong), East Kamrup (carved out of eastern parts of Kamrup Metro) and Southern Kamrup (carved out of the southern parts of Kamrup Rural).

The physical conditions of Assam can be discussed under the following heads:

2.1.2 Physiography: Physiographically, Assam is not a homogeneous unit as it consists of a variety of physiographic elements such as floodplains, hills, foothills, ancient plateaus, tertiary mountain ranges and small and big river valleys. The present physiographic configuration of Assam has taken its

shape only during the geologically recent times under the effect of several complicated cycles of geological events and varying climatic conditions.

Broadly speaking, the state can be delineated into the following 4 physiographic divisions:

i) The Brahmaputra valley,

ii) The Barak valley,

iii) The Karbi plateau and

iv) The Barail and Southern Hills. (Bhagabati et al, 2012, p.19)

i) The Brahmaputra valley: The mighty river Brahmaputra traversing through Assam in an east-west direction has created a vast alluvial plain about 725 kms length and 80 kms width flanked on both sides by northern and southern foothills known as the Brahmaputra valley. It covers an area of 56,339 sq.km representing about 72 percent of the total geographical area of the state and is a major physiographic unit of Assam (Das, 1984).

It occupies most of the North Assam covering districts of Goalpara, Kokrajhar, Dhubri, Barpeta, Morigaon, Nagaon, Sonitpur, Lakhimpur, Dhemaji, Tinsukia, Dibrugarh, Sivasagar, Jorhat, Golaghat, Bangaigaon, Nalbari, Kamrup, Kamrup (Metro), Darrang, Chirang, Baksa and Udalguri. It is girdled by the Eastern Himalayas on the north and east and the Naga Hills, Karbi and Meghalaya plateaus on the south. It is to be noted that Majuli, the largest riverine island in the world, bounded between latitudes $26^{\circ}45'$ and $27^{\circ}15'$ and longitudes $93^{\circ}39'$ and 94

° 35′ is situated within river Brahmaputra in its upper Assam reach (Bhagabati et al., 2012, p.23).

Composed of both new and old alluvium by the Brahmaputra river and its tributaries, the entire plain is dotted with numerous *beels* (swamps) on both banks in the central and lower regions. The slope is extremely gentle of about 12.5 cm per km from the east to west. Since the river has to flow on an extremely gentle slope, braiding takes place and several temporary river islands commonly known as *Chapories* are formed by the deposition of sediments. The entire plain can be divided again into 5 distinct zones that run parallel to the river Brahmaputra, namely, the northern foothill zone, the middle plain, the middle active floodplain, the plain of the south bank and the southern foothill zone (Bhattacharya, 2004).

ii) The Barak Valley: To the south of the Meghalaya plateau, lies the Barak valley. Like the Brahmaputra valley, the Barak valley also forms an important physiographic unit of Assam covering three districts, namely Cachar, Hailakandi and Karimganj (covering 9 per cent of the total geographical area of the state). The plain is 85 kms long, east to west and about 80 kms wide comprising an area of 6962 sq.km. It is bounded by the foothills of the Barail range on the north and foothills of the Mizo hills on the south. Often linked to these foothills are numerous hillocks and terraces on the interfluves which form ideal sites for tea gardens.

The plain is a product of the erosional and depositional activities of the river Barak and its tributaries. The gradient of the plain is low and supports a system of sluggish streams and swamps locally known as *Jheels* (Bhattacharya, 2004).

iii) The Karbi plateau: The Karbi plateau genetically belongs to the Meghalaya plateau and it consists of two hilly lobes of unequal size, separated by the Kopili valley. The eastern lobe covered by the Rengma hills spans over the entire Diphu and Bokajan sub-divisions of the Karbi Anglong district and the western lobe continuous to the Meghalaya plateau covers the Hamren sub-division of the district. Age-old erosion has denuded the Karbi Hills and active headward erosion by the river Kopili has detached it from the Meghalaya plateau region. The average height of the range is 600m with certain isolated peaks in the central part reaching up to a height of 1200 metres above sea level.

iv) The Barail and Southern Hills: Projecting from Tuensang across the Nagaland ranges, the Barail hills of Assam cover the North Cachar Hills region and divide it into two parts – the northern part falling under the Brahmaputra basin and the southern part falling under the Barak basin. The NC Hills region is of Tertiary origin and has a completely rugged topography.

Tectonically, Assam, particularly the Brahmaputra valley, lies on the frontal part of the north-eastward moving Indian plate. This plate, in its north-eastward migration often comes into friction with the Eurasian plate and hence, the zone is tectonically very much unstable, making it highly

prone to seismic activities like earthquakes. The geological formations present in Assam belong to the Pre-Cambrian, the period from nearly 5 billion to 570 million years ago, Mesozoic from about 248 million to 65 million years ago, Tertiary, both lower and upper, from about 65 million to 2 million years ago and Quaternary, from about 2 million years ago to the present. The relief and drainage features of Assam are the outcome of tectonic and geologic events coupled with climatic characters and activities.

2.1.3 Drainage: The entire state of Assam is drained by the network of two river systems- the Brahmaputra and the Barak river systems and their tributaries, numerous *beels*, ox-bow lakes and swampy areas. The entire drainage system covers about 1/15th of the total geographical area of the state.

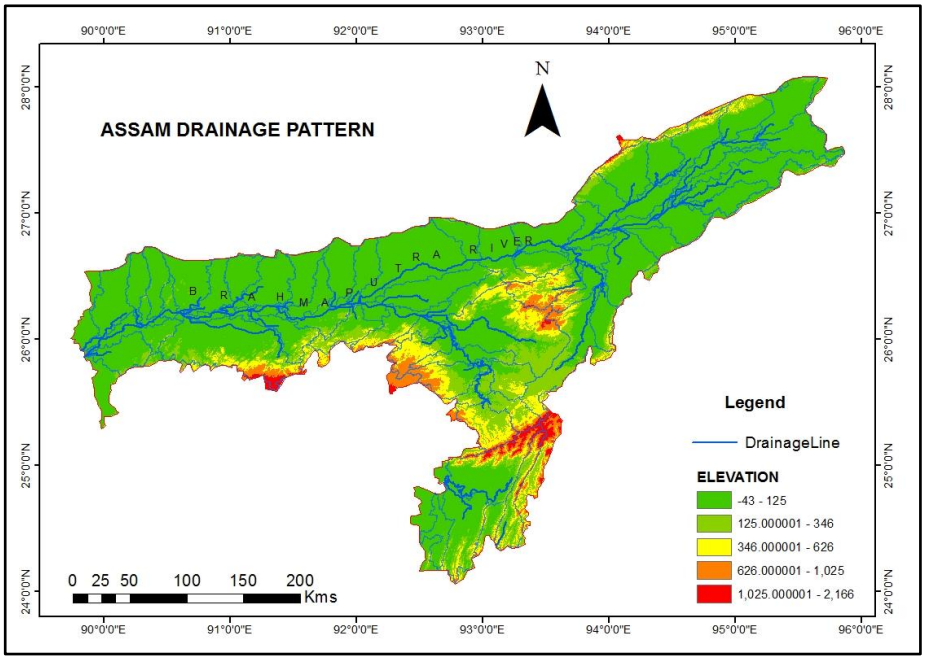
Popularly known as the Tsangpo in Tibet(China), the Siang or Dihang in Arunachal Pradesh and Jamuna in Bangladesh, the Brahmaputra along with its well-knit network of north bank and south bank tributaries, is one of the biggest rivers of the world, covering an area of 5,80,000 sq. kms, of which 1,94,413 sq. kms falls within India. The river in its upper course cuts across the Himalayas east of Namcha Barwa, turns southwards, flows through gorges and rapids and enters the plain in the south near Pasighat.

Next to Brahmaputra, the Barak river system is the second largest river system in North East India as well as in Assam and has an independent river system. With a total river length of 900 kms from source to mouth, it drains an area of 52,000 sq. kms in Assam. The river originates in Ukhrul

district of Manipur, flows along the western part of Manipur, dissects the Cachar plain and joins the Meghna river in Bangladesh.

Floods are a regular occurrence in the two riverine plains causing great havoc to both life and property. This can be attributed to a variety of factors of natural, hydro-meteorological and anthropogenic origin. In addition to this, wetlands locally known as *beels* are the most common and integral features of the fluvial landscape of Assam. These wetlands are of prime importance as they play multiple roles of providing a good ecosystem, possess a rich biodiversity and above all, act as buffer zones for rivers and other waterways during periods of heavy rainfall.

During times of flood every year, the Brahmaputra and its tributaries give up their earlier channels and cut new swathes through the soil. The alluvial deposits that remain in the river give rise to a no. of sandy islands once the water recedes. Some of these islands are very large, and the annually enriched soil has attracted cultivation and semi-permanent settlement (Department of Environment, 2015).



Map 2.1: The drainage system of Assam as well as its topographical elevation (in metres) above sea-level.

2.1.4 Climate: Assam lies in the regime of monsoon climate of sub-tropical belt. So far the spatial pattern of climatic elements; namely temperature, rainfall and humidity is concerned, there is marked variation in the state owing to a number of factors. These are location and physiography, the seasonal change in the pressure conditions over the Bay of Bengal and the north-western Indian Landmass, the tropical oceanic air masses of south-west monsoons, western disturbances during winters, flow of local mountain and valley winds and presence of water bodies and rivers and extensive forests.

The South-West Monsoon in Assam is normally active from April to October with occasional winter rainfall. Strong winds overcast skies accompanied by thunderstorms locally known as *Bordoicilas*, hailstorms and at times by cyclones between April and May are a common feature then. The average annual rainfall of the state varies between 1600mm and 4300mm from place to place. The average rainfall for the state is about 2900 mm with maximum

precipitation during June and July. The average temperature in the state varies from 4 ◦ C to 19 ◦ C during the winter and 26 ◦ C to 36 ◦ C during summer accompanied by high humidity (Geological Survey of India, 2009).

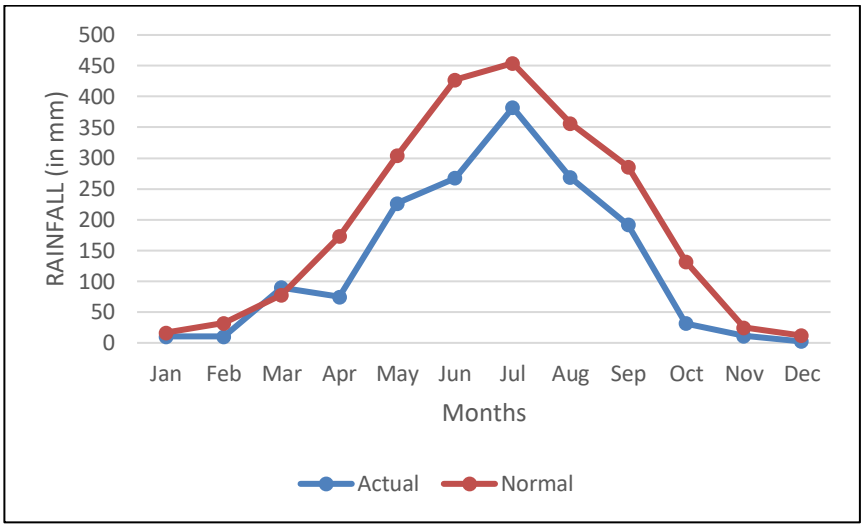


Fig 2.1: Month-wise rainfall pattern in Assam (2011)

Source: Statistical Handbook Assam, 2012.

Broadly speaking, Assam normally experiences four climatic seasons, namely (i) Pre-Monsoon: from early March up to the end of May featuring thunder storms and heavy showers (ii) Monsoon: late June to late September (iii) Retreating Monsoon: from late September up to November and (iv) Dry weather season: from later part of November up to February. In totality, the climate of Assam is said to be characterised by high temperature with heavy summer rainfall, high humidity and dry winter season with occasional spells of rain caused by western disturbances.

2.1.5 Natural Vegetation: With favourable climatic, edaphic and geomorphological conditions, Assam has been endowed with a rich potential of natural vegetation too.

Table 2.2: Forest Cover in Assam (Area in sq. kms.)

	Very Dense Forest	Moderately Dense Forest	Open Forest	Scrub	Non Forest	Geographical area
2011 Assessment	1444 (1.8)	11404 (14.5)	14825 (18.9)	182 (2.33)	50583 (64.5)	78438
2009 Assessment	1481 (1.8)	11558 (14.73)	14673 (18.71)	179 (0.23)	50567 (64.47)	78438
Net Change (-)/(+)	-17	-154	152	3	16	

Figures in Bracket are percentage to geographical area of the state

Source: Forest survey of India, 2011.

Although the National Forest Policies (1952 and 1988) aim at having one-third of the country's land area under forest and tree cover, the situation is not quite promising for Assam. The total area under forest is only 22 per cent (2011-12) which is far below the minimum norm of 33.3 per cent as prescribed by the National Forest policy. Moreover, this area has been declining over a period of a decade (27.61 per cent in 1991-92) which is a matter of grave concern. Few reasons identified for the above changes include prevalent shifting cultivation practices, encroachment and logging in some areas, climate change and recurring floods etc. Positive changes,

however, may be attributed to improvement of shade trees in tea gardens, natural regeneration/plantation and re-growth in areas affected by shifting cultivation.

In the "Revised Survey of Forest Types in India", Champion and Seth have categorised as many as 51 different forest types and sub types found in Assam. But broadly speaking, they can be summarised into the following 7 types: i) Tropical Wet Evergreen Forests, ii) Tropical Semi-Evergreen Forests, iii) Tropical Moist Deciduous Forests, iv) Sub-tropical broadleaf hill Forests, v) Sub-tropical pine forests, vi) Littoral and Swamp forests and vii) Grassland and Savannahs (Department of Environment and Forests, 2015).

Table 2.3: Forest cover in different Forest Types

Forest Type	Area in %
Tropical Wet Evergreen	12.04
Tropical Semi-Evergreen	51.71
Tropical Moist Deciduous	25.64
Tropical Dry Deciduous	0.09
Sub-Tropical Pine Forest	0.45
Plantations	10.07

Source: Assam Forests at a Glance, Forest Department, (2011-12)

Cascading through the length and breadth of the state, the two rivers Brahmaputra and Barak nourish a wide range of fauna and flora in the hills and plains of the region. The forests of Assam are endowed with a number of ornamental, medicinal plants and variety of orchids, besides many rare and endangered fauna including mammals, birds, amphibians and reptiles such as the great Indian hornbill, white winged wood duck, pigmy hog, hispid hare, etc.

Table 2.4: Biodiversity of Assam

Biodiversity Particulars	Estimated Number of Species
Flowering Plants	3017
Wild Orchids	193+
Bamboo	42
Canes	14
Mammals	164+
Primates	10
Bird	800+ (280 migratory)
Amphibians	60+
Butterflies	1500 approx.
Reptiles	116 approx.

Source: Assam Forests at a Glance, Forest Department, (2011-12)

Forests are the lifeline of the state. However, this magnificent array of plant and animal products is facing tremendous biotic and anthropogenic pressure affecting their physical and ecological integrity, bringing serious threat to the State's biodiversity, wildlife and overall ecology.

2.1.6 Soil: Soil is one of the most important natural resource and serves as an essential support for all types of plant growth and agricultural activities. With respect to the soil conditions found in Assam, factors like geology i.e. the type of parent material, topography and climate play a very important role in its formation. Thus, the varying geological, agro-climatic conditions and topographical characteristics result in the occurrence of a wide variety of soils found in the plains, plateaus and hill regions of Assam. Broadly speaking, the soils of Assam are acidic in character with a satisfactory content of nitrogen

and organic matter. The ph level ranges from 4.2 to 5.8 and the organic matter content is medium to high. However, the soils of the hill and plateau section of the state are more acidic than those of the plains.

Major soil groups of the state include alluvial soil (both old and new alluvium) extensively distributed over the Brahmaputra and Barak plain, the piedmont soils covering the piedmont zone of the Himalayan foothills particularly the Bhabar and Tarai region, the hills soils that include both red sandy and red loamy soils and the lateritic soils covering the N.C. Hills region, parts of Karbi Anglong and Golaghat districts

Table 2.5: Distribution of soils in Assam under different orders (area in lakh hectares)

Soil order	Area (in lakh hectares)	Percentage of soils	Local name
Inceptisols	3245.3	41.4%	Brahmaputra alluvial soils or old alluvial soils
Entisols	2640.1	33.6%	Recent alluvial soils or sandy soils
Alfisols	886.9	11.3%	Red soils
Ultisols	436.5	5.6%	Red soils
Miscellaneous	635.2	8.1%	
Total:	**7844.0**	**100%**	

Source: Agri-Horti sector Report, Department of Agriculture, Govt. of Assam, 2013

2.2 Socio-Economic Setting: The socio-economic setting of any region on the globe encompasses the understanding of the dynamics of population, culture, societies and economies over time.

2.2.1 Demography: With an area of 2.39 per cent of India's total land area, Assam shelters 2.65 per cent of the country's total population. According to the Census of India, 2011, the population of Assam stands at 3,11,69,272 (1,59,54,927 are males and 1,52,14,345 females). The decadal growth of the

State's population works out to be 16.93 per cent during the decade 2001-11 as against 17.64 per cent for the country as a whole. The density of population of the State has gone up to 397 (as against India's density 382in 2001). The corresponding State's figure as per 2001 census was 340.

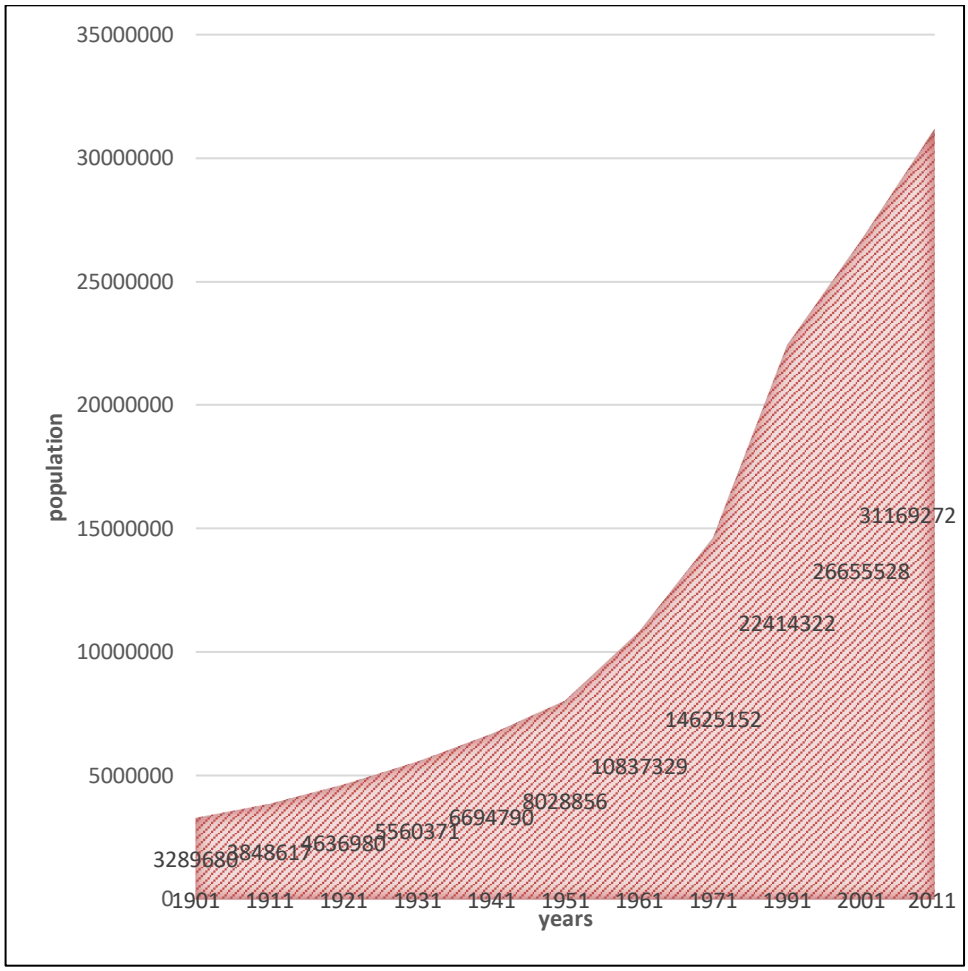


Fig 2.2: Population trend in Assam since 1901
*no census held in Assam during the year 1981
Source: Statistical Handbook of Assam, 2011

The distribution and density of population are not uniform throughout the state. Variations in the physical landscape, economic advancements and degree of transport accessibility are the factors responsible for such a variation. Most of its population lives in the lush and verdant valleys of its

two major river systems in the 24 districts of the Brahmaputra valley and the three districts of the Barak valley. The less densely populated two hill districts- Karbi-Anglong and Dima Hasao, separate the two valleys. For administrative and revenue purposes, the State has 27 districts including Kamrup (metro) district and four districts under the Boroland Territorial Council (BTC) areas viz. Kokrajhar, Baksa, Chirang and Udalguri. In other words. the narrow Bhabar and Tarai belts of the Brahmaputra valley are thinly populated.

The sex ratio in the state shows an improvement from 935 in 2001 to 954 in 2011. The sex-ratio in the age-group 0-6 years is the vital indicator of the future trends of the sex composition in the population in the state. The child sex-ratio in the State was 957 females per 1000 male child as per 2011 census. In Assam, the corresponding sex-ratio for the age-group 0-6 years declined to 967 in 2001 from 975 in 1991. Assam ranks 15th in sex-ratio among the states of India.

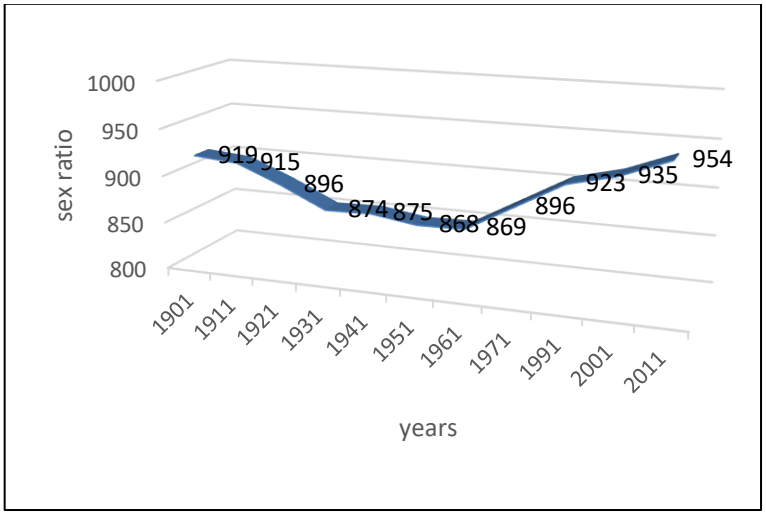


Fig 2.3: Sex-Ratio of Assam (1901-2011)
*no census held in Assam during the year 1981.
Source: Statistical Handbook of Assam, 2011

The growth of literacy in Assam, however, has an encouraging sign. The literacy rate for Assam as per 2011 Census increased to 73 per cent with 79 percent for males and 67 per cent for females. The literacy rate, however, varies widely across the state and this is found to be more significant in respect of rural-urban and male-female components. Such variations are, however, the result of cumulative effects of physical, social and economic constraints and historical legacy. The literacy rates for rural and urban areas found to be at 70.44 percent and 88.88 per cent respectively. When viewed district-wise, Kamrup (Metro) with 88.66 percent has the highest literacy rate and Dhubri (59.36 percent) has the lowest literacy rate among the 27 districts of Assam.

As per 2011 census, the rural population of the state was 86 per cent of the total population. This percentage was much higher than that for All-India (69 per cent). This proportion of rural population has however, declined from 87 per cent in 2001 to 86 per cent in 2011. Around 14 percent of the population of Assam was living in urban areas as per 2011 Census. This proportion increased from 12.9 percent in 2001 to 14 percent in 2011, which is a sign towards urbanisation.

Table 2.6: Population features at a glance

Particulars	Unit	2001 Census	2011 Census
Population	Lakh	267	311
Decadal Growth	Percent	18.92	16.93
Change in percentage of decadal growth	Percent		(-) 5.32
Density	Per Sq. Km.	340	397
Sex-Ratio	Females per 1000 males	935	954
Literacy	Percent	63.25	73.18
(a) Male	Percent	71.28	78.81
(b) Female	Percent	54.61	67.27
Urban Population	Percent	12.90	14.08
(a) Male	Percent	53.41	51.61
(b) Female	Percent	46.58	48.39
Rural Population	Percent	87.10	85.92
(a) Male	Percent	51.43	51.12
(b) Female	Percent	48.57	48.88
S.C. Population	Percent	7.40	NA
S.T. Population	Percent	12.83	NA

Source: Economic Survey, Assam, 2011-12

2.2.2 Economy

2.2.2.1 Agriculture

Agriculture is the major contributor to the economy of Assam as well as provides livelihood to a significant proportion of the state's total population. About 77 percent of the total workforce in Assam is engaged in agriculture and allied activities. In the year 2011-12, agriculture sector contributed around 23 percent to the State's GDP. The net cultivated area of the State is 28.11 lakh hectare (2009-10) which comprises of 88 percent of the total available land for agricultural cultivation in the State. The agro-climatic conditions of the state support the cultivation of a wide variety of crops of which rice remains the staple crop, cultivated on 2/3rd of the total cropped area.

Others include tea, jute, oilseeds and pulses and a variety of fruits and vegetables (IBEF, 2012).

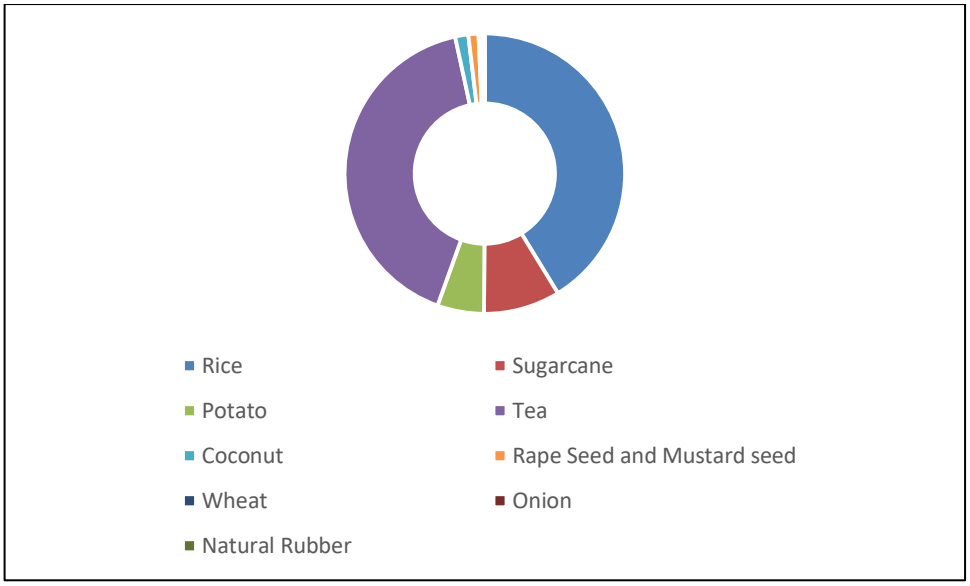


Fig 2.4: Annual Production of crops in'000 tonnes (2011-12)

Source: Economic Survey of Assam, 2013-14

Assam still continues to be dominated largely by smallholder's less productive subsistence type of farming. In fact, broadly two types of farming have been in practice in Assam: small-scale peasant and large-scale tea plantation farming. Only a small section of rich farmers have undertaken transition from subsistence to modern farming techniques. Any development in the sector bears special significance on the overall economic development of the state.

The rural economy of Assam is largely dependent on agriculture with emphasis on kharif or summer crops. Agricultural crops being seasonal and the practice of multiple cropping yet to be adopted meaningfully, a large section of the workforce, especially women not having direct access to land, find themselves out of employment during the lean agricultural seasons. Consequently, they absorb

themselves in other occupations like weaving, yarn making and the like (Begum, 2009).

2.2.2.2 Industry:

Assam is a house of natural and precious mineral resources. During the pre-independence period, the chapter of industrial history of Assam began and Assam finds its place in the industrially developed map of the world. The crude oil was explored and India's first oil well was drilled, established first oil refinery (first in Asia and third in the world) and explored first coalfield. Introduction of tea cultivation during the period, beginning of global export of finished tea as well brought the economic boom to Assam. The continuous process of economic and industrial development of the State was almost stopped after attainment of independence and at present Assam is amongst the industrially under-developed States in the Country. The impediments for such backwardness of Assam are many, varied and multi-dimensional. Some of these are historical, some are sociological and some are geo-political. Therefore, the industrial scenario of the State is confined within the growth of employment-oriented Small-Scale Industries Sector, which comprises of manufacturing and processing industries.

Presently, the major infrastructural support and facilities available to the people of Assam include 17 Industrial Areas, 16 Industrial Estates, 6 mini Industrial Estate, 11 Integrated Infrastructure Development (IID) Projects, 11 Growth Centres, 4 Industrial growth centre, One Export Promotional Park, one Food Processing Industrial Park spread over the different parts of the State. The key industries of Assam include tea, coal, oil and natural gas, limestone and cement, food processing,

cottage industry- handloom particularly silk and handicraft includes bell metal and brass work, and tourism industry.

The Tea industry of Assam possesses a significant reputation in the economy of the globe since the total area under tea cultivation comprises of more than half of the country's total area under tea and the Tea Industry of Assam provides average daily employment to more than 6 lakh persons (50 percent of the total average daily number of labour employed India). Out of 578000 Hectares of land India as a whole, the tea gardens in the state are covering land of 322000 Hectares. Among other plantation crops, rubber cultivation is also gaining vast popularity owing to congenial agro-climate as well as its eco-friendly activity. Assam has ample scope for bamboo based industry like paper manufacturing industry, since this region has highest concentration of bamboo i.e., around 60 percent of the total bamboo of the country.

Traditionally, Sericulture, a major cottage industry of the State, is practiced in more than 10532 villages and provides employment to more than 2.5 lakh of family. Assam has the monopoly in production of *muga,* the Golden Silk in the world and 99% of *muga* silk is produced in Assam. *muga* silk and *eri* silk have a good demand in the national and international market too.

While looking at the spatial context of the major handloom industries of the state, it is mainly confined to the Kamrup district of Assam. The agro-climatic condition of the state is found suitable for the development of sericulture. Nearly 420 villages of the district are engaged in sericulture activities. It is in this connection that the name of 'Sualkuchi'- also known as the silk town of Assam deserves special mention. The silk weaving industry at Sualkuchi has been instrumental in generating employment and providing livelihood opportunities to people in the district.

However, handlooms face severe competition in today's global markets as they are typically perceived as traditional and old fashioned. Therefore, under such circumstances, steps need to be taken to reposition the image of handloom industry of Sualkuchi and build consumer appreciation of the history and cultural identity associated with handloom products.

2.2.3 Concluding Remarks

The environmental settings of a region play a significant role in determining the growth and development of various livelihoods that people have been undertaking to earn a living. Thus, the development of the silk sector of Assam can be attributed to a no. of physical as well as socio-cultural factors which have no doubt provided a congenial atmosphere for the sustenance of silk weaving as an important livelihood of the people of Assam.

CHAPTER III

AN OVERVIEW OF THE SILK HANDLOOM INDUSTRY IN ASSAM WITH SPECIAL REFERENCE TO SUALKUCHI SILK

3.1 Prelude

Sericulture means rearing of silk producing worms in order to obtain reelable cocoons which can be later converted into silk, then into fabric. The post-harvest activities fall into the silk industry. In other words, sericulture broadly comprises inter-linked activities such as food plant cultivation and maintenance to feed the silkworms, silkworm rearing to produce the silk cocoons for unwinding the silk-filament, yarn making, weaving and processing of fabric (Ahmed & Rajan, 2011). Sericulture is the methodological rearing of silkworms in their natural and manmade nests to produce silk fibre. It has over the thousands of years of practice got transformed into an industry on its own virtue (Chakravarty, 2009).

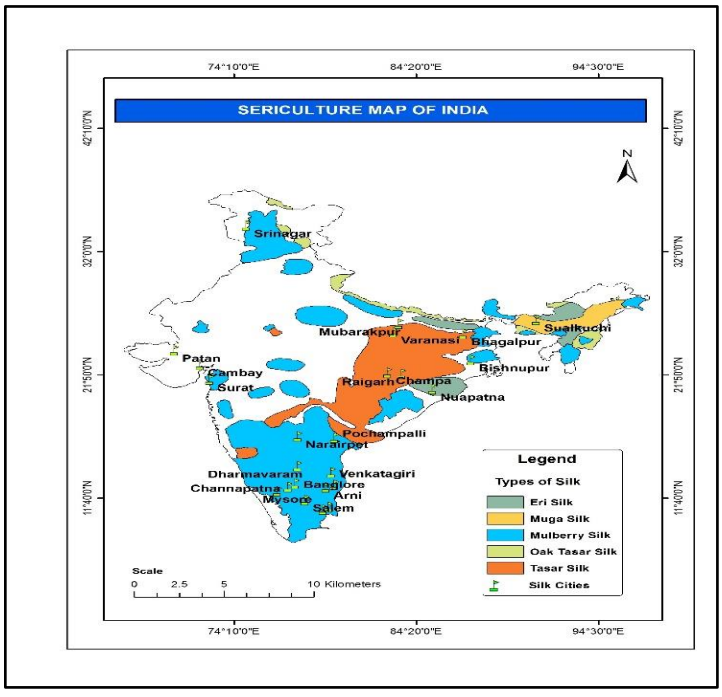
The present chapter deals with an overview of the status of silk industry in India in general and Assam in particular, with special reference to Sualkuchi silk industry. It also deals with a brief historical analysis of the origin of this industry at Sualkuchi and explores the continuity of this age-old tradition till date. The current status and functioning have also been dealt with further in this chapter.

3.2 The Silk Industry of India – Some Reflections

Silk industry is composed of several sectors of different characters from cultivation to weaving and no one sector can work well without having coordination with the other. The industry with its rural base fits well with modern concept of village organisation having small working units, community ownership and regional workplaces. It can be utilised with local labour and indigenous resources. Therefore, sericulture and silk industry find an important place in the Textile Policy announced

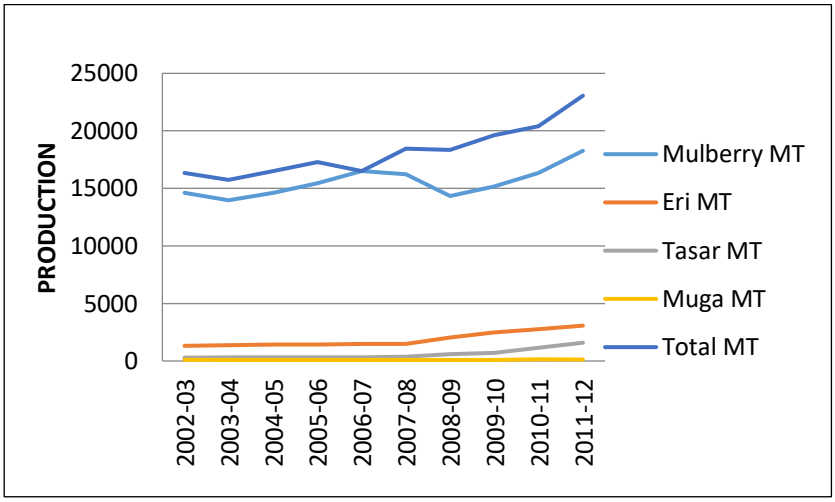
by the Government of India (GOI) in June, 1985 (Chowdhury, 2007). Realising the importance of sericulture as an employment oriented cottage industry suitable for the development of rural economy; the Indian planners have identified it as one of the best suited occupation for the growth of rural India (Rekha, 2013).

Globally, India is the second largest producer of raw silk (after China), contributes about 15.5 percent to the total world raw silk production and generates employment to 6.8 million rural people mostly women folk. It has the distinction of being the only country in the world, producing all the five commercially exploited silk varieties viz. *Mulberry* silk produced throughout the country, Tropical *Tassar* and Temperate Oak *Tassar*, produced by the tribals inhabiting Central India and Sub-Himalayan region, *Eri* Silk produced mainly in North-Eastern India (now practised in many other states) and *Muga*- Golden silk produced only in Brahmaputra valley of Assam in NE region. The non-mulberry silks (*eri, muga and tassar*) are now being popularised as *Vanya silks*.



Map 3.1: Sericulture Map of India

Sericulture in India is a farm-based, labour intensive and commercially attractive economic activity. Both sericulture and weaving are carried out as a cottage industry by rural, marginalised and other weaker sections of the society and provide income and employment to the rural poor, especially farmers with little or no land holdings.



Source: DGIS, Ministry of Commerce, GOI and Statistics of India, Central Silk Board.

Fig 3.1: Statistics of silk production in India (in metric tonnes)

Since 2002-03 India has had a total production of silk ranging from around 16,000-23,000 MT per year. However, this is not enough to satisfy the Indian demand for silk which is around 25,000 MT per year and the country has to import about one-third of the raw silk and silk fabrics consumed. In fact, the import of raw silk into the country during the year 2011-12 was about 5673 MT.

Statistics show that the production of raw mulberry silk has increased slightly towards the end of the decade. However, with respect to wild silk production (*eri, muga and tassar*) only *eri* silk has surpassed the 12th Five Year Plan target of 3000 MT (its production in 2011-12 being 3072 MT) while both *tassar* and *muga* show a very meagre increase. In fact, the production of *muga* silk has increased by only 24 MT since 2002-03. Therefore, the state of Assam which holds a monopoly in the world with respect to *muga* production is found to be in a sad state of affairs owing

to a declining trend of silk production, particularly *muga,* in the state. This downfall in production has both directly and indirectly hampered the livelihood of a number of people involved in weaving silk fabrics in the state.

3.3 Silk Weaving in Assam

Handloom weaving forms an integral part of the socio-cultural heritage of India and the different states of the country have worldwide acclaim for their distinctive features and unique craftsmanship. The state of Assam is also no exception to this. The artisans living in the countryside are greatly influenced by the elements of their physical environment in addition to the various kinds of myths, legends, rituals, customs, traditions, ceremonies, social organisations etc. that get reflected beautifully upon their textile traditions in one way or the other. Moreover, the geographic location and the climate of Assam have resulted in the creation of ecological niches for those rare and interesting species of silk producing insects. Crucial to the survival and flourishing of these insects are the specific plants that naturally grow in abundance in the state providing food and shelter to these sensitive silkworms (Chakravarty, 2009).

Sericulture has been an effective means for generating gainful employment in rural Assam and it has enormous potential in the context of building the rural economy of the region. It is also significant on the context that it helps in creating a humanised habitat of green cover in the face of increasing ecological degradation of the globe. It is a traditional cottage industry rooted in the life and culture of Assam. It comprises of mulberry (*paat*) and non-mulberry *(endi or eri and muga*) culture (Phukan & Chowdhury, 2006). And it is only in *muga* silk production that she holds monopoly in the world. 100% of India's *muga* silk production is originated in Assam and hence Assam silk occupies a unique position in the sericulture map of the world. Assam

also produces mulberry silk, locally called "*paat* silk" or "*Nuni paat*" but, not as much as its demand. Although Assam silk means all the three varieties of silk *(paat* silk, *eri* silk and *muga* silk), most of the mulberry silk used in Assam are sourced from Karnataka or originally from China, because of the qualitative advantages as compared to the locally produced *paat* silk. Although Assam is the fifth largest producer of mulberry (*paat*) silk in India, it has to face competition not only within India but from outside as well. Moreover, an influx of the cheaper Chinese silk has resulted in a steady decline in the demand for mulberry silk in the market (Goswami, 2005). In the real sense Assam silk in the present context is *eri* silk and *muga* silk.

Table 3.1. Types of silk and its respective host plants

Variety of silk	**Name of silkworm**	**Main host plant/plants**
Mulberry silk	Mulberry silkworm	Mulberry
Tassar silk	Tassar silkworm,oak tassar silkworm	Asan, Arjun. Oak
Muga silk	Muga silkworm	Som,soalu
Eri, endi or errandi silk	Eri silkworm	Castor, kesseru

Source: (Das, M., 2009), pp-1

The silk called "*muga*" is the Assamese word for the rich amber colour of the cocoon. The *muga* silk moth (Antherea Assamensis) has its natural habitat in the deep forests of the sub-mountainous regions of Assam and surroundings, including Nagaland and the north-eastern part of West Bengal (Zethner et al. 2014) The larva of these silkworms feed primarily on *som* leaves found in Upper Assam and *soalu* in Lower Assam. The natural golden colour silk produced is known for its own glossy fine texture and durability. *Muga* possesses unique characteristics such as unique method of cultivation and production, colour stability (everlasting), golden colour increases with each wash, high tensile strength (4.53g/dn) among all silks, UV absorption capacity (>80%), durability (over 50 years), acid resistant (resistant to

concentrated Sulphuric acid) and thermal properties. Despite the upsurge of mill made cloth, the old and respectable Assamese, even today wear native outwear and turbans made from *muga* silk (Dutta & Nanavaty, 2012). Dresses made from *muga* silk like *muga mekhela, riha and chador* are very popular among the Assamese people and are considered an important part of their culture too (Tamuly, 1998). Unlike mulberry, *eri* or oak tassar, *muga* culture is a unidirectional activity in that the seed cocoons are procured invariably from the hilly tracts bordering Lower Assam and the worms reared in Upper Assam (Chowdhury, 1981).

Apart from *muga,* the fascination towards *eri* clothes among the folk life of Assam can be easily gauged from an old Assamese proverb "*dair pani, erir koni*" which implies that while curd cools *eri* cloth warms up a person. Next to *tassar* silk in commercial importance is another *vanya* silk known as *Eri* silk. The *eri* silk moth (Philosamia ricini) is now fully domesticated and used mainly in the north-eastern region of India. The earliest reference to *eri* silk culture in India is documented in 1779 and *eri* silk was for long called "Assam silk" (Zethner et al. 2014). The term '*eri*' in Assam is derived from the castor oil plant called 'Varanda' or 'Arandi' on which the worms feed, that grow wildly on the banks of the river Brahmaputra and are also cultivated as field plants in other areas where the leaves are used for rearing eri worms and the castor seeds for oil extraction. A large number of *eri* moths are found on the pastoral blue hills and fertile valley of India's north-eastern states like Assam, Nagaland, Mizoram and Arunachal Pradesh where rearing is practiced upto an altitude of 5000 ft by the animistic tribals. Since the *eri* worms thrive on varying temperatures and feed on various food plants, the industry has been extended into the interior states of West Bengal, Orissa and Bihar (Dutta & Nanavaty, 2012). It has

been found that during the reign of the British, Bengal and Myanmar were the important markets of *eri* silk from Assam.

Oak tassar culture is a recent introduction in some temperate zones of the North-eastern region especially in Manipur, the commercial aspect of which is yet to be ascertained (Chakravorty et al, 2010). It was presumed that the hill people could have been weaned away from the traditional operation of shifting cultivation by engaging them in a gainful occupation when oak leaf as feed is naturally available as the hill areas have natural cultivation of oak in abundance. Hutton (quoted by Watts, 1893) stated that "it may be possible to rear a limited number of those or of almost any other silkworm, it is quite another matter to obtain all the conditions necessary for commercial success" (Chowdhury, 2007).

Thus, the North-eastern region of India as a whole and the state of Assam in particular holds an important position on account of its unique faunal and floral wealth. The hills and valleys with an ideal environment and mixture of geographical, climatic and ecological conditions provide the most congenial atmosphere for the growth and development of the silk industry in Assam.

3.3.1 Weaving pockets in the state

Generally, the production of natural fabrics passes through three distinct stages, namely: (i) worm rearing cum cocoon production, (ii) spinning and (iii) weaving. Many regional pockets of Assam have acquired specialisation in these three components for different fabrics. This specialisation, however, may be attributed to the skills, knowledge and tradition endemic to a particular region that has been passed on from one generation to the next. In addition to this, the environmental suitability of a place also has played a major role in such region-specific concentration.

Table 3.2: Region-wise concentration of silk-textile production in Assam

Components	**Muga**	**Eri**	**Mulberry**
Worm rearing and cocoon production	Dhemaji, Dhakuakhana, Lakhimpur, Tinsukia, Boko, Mirza, Dibrugarh, Jorhat, Golaghat, Sualkuchi, Goalpara	Dhemaji, Lakhimpur, Dibrugarh, Majuli, Karbi Anglong region, Morigaon, NC Hills, Silchar. Karimganj, Hailakandi, Jagiroad, Mirza, Goalpara, Kokrajhar, Bongaigaon, Bodoland Territorial Council region, Nalbari, Darrang, Sonitpur	Jorhat, Darrang
Spinning	Sualkuchi, Palashbari. Kokrajhar	-do-	Sualkuchi, Kokrajhar
Weaving	Sualkuchi, Kokrajhar	-do-	Sualkuchi, Kokrajhar

Source: Central Silk Technological Research Institute

Besides this, in the sphere of weaving in Assam, three types of establishment are generally seen: (i) those consisting of amateur weavers, who produce cloth only for meeting the requirements of the family, i.e. on a subsistence basis. Such type of weaving takes place in the *muga* growing areas of Assam in districts of Upper Assam, particularly, Sibsagar, Jorhat, North Lakhimpur, Golaghat etc. (ii) those who carry out their weaving more or less on a commercial basis. That is to say they weave for the family and at the same time sell their surplus products, such workers are mostly part-time in nature. In Kamrup and Goalpara districts of lower Assam, mostly female weavers weave silk cloth of this type and (iii) those who are purely commercial weavers who work on a full-time basis either individually or collectively

under cooperative societies and factories. Such type of weaving is concentrated in Palashbari and Sualkuchi in Kamrup district and in few pockets of Upper Assam.

Table 3.3: Sericulture activities in Assam

	Achievement		**Increase/ Decrease over 2001-02 (in %)**	**Achievement**		**Increase/ Decrease over 2010-11 (in %)**
	2002-03	**2001-02**		**2011-12**	**2010-11**	
No. of sericulture villages	9098	8998	1.11	10740	10532	1.97
No. of families engaged						
Eri	132033	125420	5.27	183000	182979	0.01
Muga	23543	21831	7.84	39750	39444	0.78
Mulberry	29715	25667	15.77	31766	31711	0.17
Total	185291	172918	7.16	254516	254134	0.15

Source: Calculation based on estimates of Directorate of Economics & Statistics, GOA.

As is evident from Table 3.3, the total no. of villages in Assam involved in sericulture was 10740 during the year 2011-12 indicating an increase of 1.97 percent over the previous year (2010-11). When compared with the data of years 2001-03, it is found that the no. of sericulture villages was 9098 in 2002-03 registering an increase of 1.11 percent over the previous year (2001-02). This implies that there has been not much appreciable growth in the total no. of villages in Assam involved in sericulture from 2001 onwards.

Again with respect to the no. of families engaged in *eri, muga* and *mulberry* cultivation in Assam, the rate of growth has declined over a period of 10 years. No. of families engaged in *eri, muga* and *mulberry* cultivation during 2011-12 registered a mere increase of 0.01 percent, 0.78 percent and 0.17 percent over the previous year. But when compared with data of 2001-03, it is found that the no. of families engaged in *eri, muga* and *mulberry* cultivation in 2002-03 showed an appreciable

growth of 5.27 percent, 7.84 percent and 15.77 percent respectively. Overall it can be said that sericulture activities in Assam have shown a declining trend of growth over a decade.

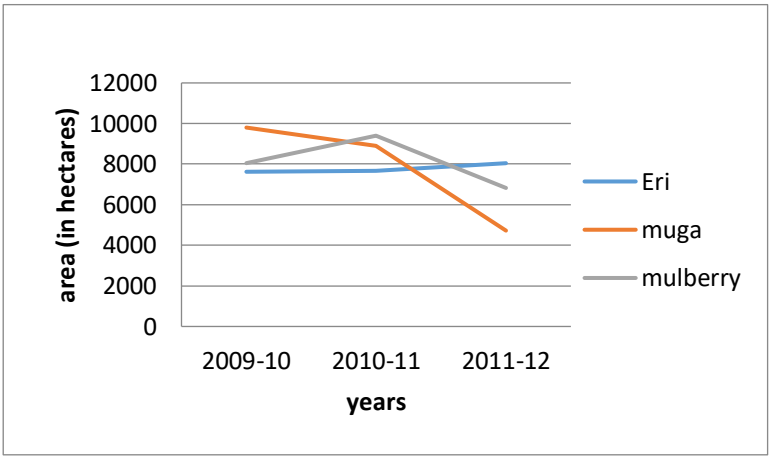
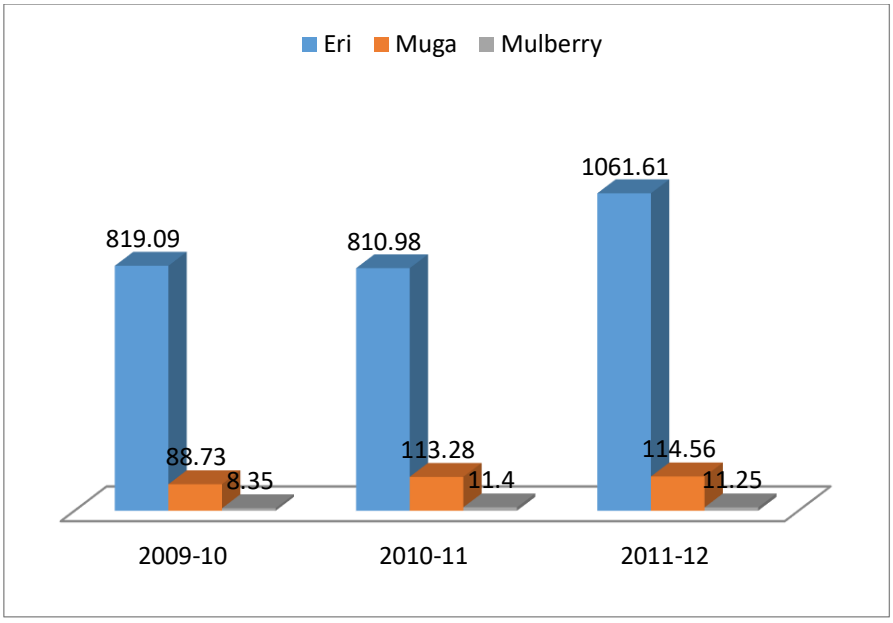


Fig 3.2: Total area under silkworm food plants in Assam (in million hectares)

Source: Directorate of Economics & Statistics, Govt. of Assam.

The total area under silkworm food plants both in Upper and lower Assam on which silkworms feed have shown a decline over a period of three years. While *eri* plantations have not reduced but meagre increase from 7623 MT in 2009-10 to 8044 MT in 2011-12, mulberry plantations occupied an area of 8044 MT in 2009-10, which increased to 9044 MT in 2010-11 but again drastically reduced to 6824 MT in the year 2011-12. The case of *muga* plantations is even worse as it shows a tremendous decline in area from 9081 MT in 2009-10 to only 4723 MT in 2011-12.



Source: Directorate of Economics & Statistics, Govt. of Assam.

Fig 3.3: Production of silk yarn in Assam (in metric tonnes)

Again, with respect to the production of silk yarn, both mulberry and *muga* yarn production have shown a decline over a period of three consecutive years. More specifically, the production of *muga* yarn has declined from 11.4 MT in 2010-11 to 11.25 MT in 2011-12 as against *eri* which shows a production of 1062 MT in 2011-12, with an increase of 250 MT over the previous year.

Overall, it can be said that though *eri* silk production in Assam is showing improvement over the last few years, but the case of *muga* silk is not in a very healthy state with respect to the growth in the no. of villages and families engaged, in the acreage under *som* and *soalu* plantations or in the production of *muga* yarn. Silk is a lustrous fibre and its demand is increasing year by year. However, in the absence of appropriate strategy and purposeful approach, production of all kinds of silk, particularly *muga* is showing a downward trend in the eastern region of India.

3.3.2 Gender dimension in the silk industry

Handloom sector is the only manufacturing sector which has a significant presence of womenfolk. It has been the backbone of rural industrialisation in India. Handloom weaving as a livelihood is engrained in the socio-economic life of Assam since time immemorial. The loom is a prized possession and has been a way of life in the state. The term "*Bowa-kata*" is inseparably related to the Assamese people. It was regarded as a very shameful matter for the Assamese women if someone did not know how to weave in the past. This alludes the instance of women who were weaving armours within a night for their husbands enabling them to take part in the battle (Saikia, 2011). That weaving is intrinsically linked to the social life of Assamese women is revealed in Assamese women's daily chore as ploughing and hoeing are the men's. A Bihu song illustrates this point "…. You could go on with your ploughing and reaping…. I would set about weaving the Bihu towel…. For you I set up the loom" (Dutta, 1994). In fact, Bihu songs too reveal the overwhelming significance of weaving in the traditional Assamese society. According to tradition, the skill to weave was the chief eligibility of a young girl to get married. This perhaps explains why Assam has the largest concentration of handlooms and weavers in India (Phukan, 2012).

Table 3.4: Number of adult (18 years & above) handloom workers in Assam by gender (2009-10)

ASSAM (Location)	Total Adult workers			Adult weavers			Adult allied workers		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural	15253	1443887	1459140	12641	1366176	1378817	2612	77711	80323
Urban	158	24566	24724	122	22461	22583	36	2105	2141
Total	15411	1468453	1483864	12763	1388637	1401400	2648	79816	82464

Source: Handloom Census of India, NCAER, 2009-10.

The rural women of Assam have had a long run tradition of doing various economic and productive activities, out of which handloom weaving is noteworthy. The handloom industry is one of the most important cottage industries with higher participation of women workers. Most of them are involved in performance of different activities starting from spinning, winding, twisting, preparing the loom and lastly weaving (Pathak, 2004). What we witness in the silk industry is a consistent pattern of gender relations. There is no evidence to suggest any major re-allocation of gender roles in this sector. Women by far outnumbered men in this sector - almost 1: 9 (Bhattacharjee, 2014).

However, at present, the changing economic scenario and the removal of trade barriers have led economists, planners, administrators and others to fear that these women working at the looms will be slowly wiped out of employment with the full onslaught of globalisation. The Report of the Sub-Group on Economic Empowerment of Women states that, "Post Globalisation women are likely to be rendered jobless in traditional sectors like farming, textiles etc....." (Begum, 2009).

It is also evident that under the new regime of globalisation, women in particular in the developing countries of the world are placed at a disadvantageous position than the men. Globalisation has given rise to many forms of discriminations in the labour market. While some women might have gained better access to labour market but the majority of them are staying locked in at relatively low levels of pay and skills, becoming increasingly discriminated against. Globalisation has also widened the wage gap between men and women and also increased inequalities of income (Sharma, 2005).

Similar studies across the world like that of Devi (2012), Bortamuly and Goswami (2012), Goswami (2006), Jayaweera (1999) etc. have also provided gainful insights into this significant gender dimension in the handloom industry.

3.4 The silk industry of Sualkuchi

"Every woman of Assam is a born weaver, who can compose fairly dreams in their weaves" This was the statement given by Mahatma Gandhi when he came to Sualkuchi and noticed the woven fabrics. He was surprised and overwhelmed with joy by seeing the skill of the weavers of Sualkuchi.

Sualkuchi is a small census town of Assam, India, consisting of two revenue villages- Sualkuchi and Bamundi. Sualkuchi, situated along the north bank of river Brahmaputra in Kamrup district- about 35 kms from Guwahati, the capital of Assam. In 1951 census, it was regarded as a very large village with a population of 7598 which has grown to 70962 in 2011. In due course of time, Sualkuchi has grown as a Development Block with 16 villages, viz. Sualkuchi, Bongsor, Saupara, Bathan, Srihati, Gandhmou, Sarulah, Barlah, Kaeyatol, Halogaon, Bamundi, Siliguri, Hardia, Tokradia, Sobangsah and Ramdia.

Sualkuchi is the busiest Silk Textile centre of the north-eastern region of India and is referred to as the 'Manchester of the East'. It is also the biggest *muga* weaving cluster in the world. This famous 'Silk town' of Assam occupies a unique place in the cultural history of the state for preserving the heritage of silk weaving in the state. This is the abode of the *Baishyas* of Assam, whose primary occupation has been silk processing and weaving from time immemorial.

Table 3.5: Sualkuchi Development Block at a glance (2011)

Geographical Area	90.74 sq. km
Gaon panchayat	8
Total population i) Male ii) Female	60,438 30,826 29,612
Density of population	666 per sq.km.
Literacy rate	74.2 %
Sex-ratio	960

Source: Office of the BDO, Sualkuchi Development Block, Assam

3.4.1 A retrospect

Silkworms were originally domesticated in China thousands of years ago. According to some apocryphal inferences of ancient history, silk products and the silk rearing practice most probably made deep inroads into the Indian sub-continent through matrimonial alliance of a Chinese princess to an Indian prince (Chakravarty, 2009). From China as a centre, the industry is said to have radiated to other parts of the world including India via Tibet by about 140 B.C. through the famous Silk Route. This was the name given to the numerous mountain passes and ways, known as *Duars* which exist between Assam and Tibet through Bhutan. The date of introduction of silk manufacture in Assam or the tradition of silk weaving in Sualkuchi cannot be exactly ascertained. However historical records point to the fact that the *katonis* or rearers of *paat* silk entered Assam in 12^{th} century AD (Bhattacharjee, 2014).

Sericulture was actively practiced in the present district of Kamrup in Assam which has been documented in Arthashastra, Harshacharit etc. Most likely, sericulture spread to India from China, mainly into the valleys of the Brahmaputra and the

Ganga in 140 B.C. It is however difficult to trace the exact period of sericulture of *muga* in Assam. There are accounts from Periphus around the 1st century B.C and later from Ptolemy and Pliny on *muga* sericulture. *Muga* sericulture earned royal patronage with the Kirats (AD 180-250), the Koches, the Kacharis and later the Ahom kings (AD 1228-1750). Chand Saudagar pioneered the commercialisation of the *muga* thread around AD 300-450. It was also traded with China through Tibetan merchants from Lhasa. The *muga* fabric owing to its uniqueness commanded high demand in the market overseas (Chakravarty, 2009).

The history of Sualkuchi can be traced back to the days of Kautilya. According to Kautilya's Arthashastra, there was a principality named *Suvarnakudya* in ancient Kamrup famous for its silk industry. Among the silk fabrics he mentions *Dukula, Khauma* and *Patrorna* of *Vonga*, *Kashi*, *Pundra*, *Magadha* and *Suvarnakudya* as well as *Kauseya* of China. Historians like K.L. Barua have interpreted *Dukula* as *muga*, *Khauma* as *eri* and *Patrorna* as *paat* silk (Baishya, 2005). As *Suvarnakudya* was famous for silk industry, there must have existed a *Tantubaya* or Tanti community along with traders or *Mudois* in fabrics. But in present day *Sonkudiha* there is no trace of either the *Tanti* or *Mudoi* community whereas Sualkuchi has these communities till this day. As a matter of fact, whatever might be the antiquity of Sualkuchi, its history may certainly be traced back to the early 17th century. From *Swarnakuchi,* the name Soalkuchi/ Sualkuchi may arise as a dialectical variation and the name *Swarnakuchi* may itself be a variation from Kautilya's Arthashastra like Manchester of England arising from the Roman name Mancunium (Mantoux, 1948).

The Ahom reign brought vast progress in the handloom sector of Sualkuchi which could not happen during the British regime in India. This was because of the personal care and interest shown by the rulers in silk industry. Sibsagar, the capital

of the Ahom kingdom became the hub of different varieties of silk and since then fabrics prepared from *eri*, *muga* and *paat* became the folk dress of Assam. Spinning and weaving activities were popularised and became an indispensable profession during the days of the Ahom dynasty (1228-1826).

During the reign of Swargadeo Pratap Singha (1603-1641), his minister Momai Tamuli Barbarua made it mandatory that every male member of the society will have to make a bamboo basket and every female member will have to spin a certain quality of yarn. Necessary steps were also taken to settle professional community and place them under different 'castes'. Accordingly, in the district of Kamrup, weavers from other parts were organised and settled at Sualkuchi. This may be a principal factor why a large number of professional weavers are concentrated in Sualkuchi (Das, 2008). During the reign of King Jayadhvaja Singha (1648-1663), Mohammedan experts in embroidery work were brought from Delhi and were established in Assam which encouraged Assamese people to learn the art of embroidery for the upliftment of indigenous crafts in Assam (Gait, 1982). The Ahom king Swargadeo Rudra Singha who ruled from 1696-1714 himself took this initiative of maintaining the department of weaving and skilled weavers to supply the royal wardrobe with varieties of cloth. Such royal looms were known as 'Rajagharia looms' which were operated by expert female weavers drawn from various places in Assam. In return of this they were given rent free land and such other favours. King Rudra Singha also brought new ideas, techniques and design of the art of weaving from various parts of India through his envoys and encouraged the Assamese weavers to implement those ideas. These kinds of encouragement made by the Ahom kings gave a boost to the silk industry of Assam (Phukan, 2012).

Under the Ahoms, manufacturing of silk cloth was extended to all sections including those of the upper castes in the valley. Queen Sarveswari, the wife of Siva Simha (1714-44) is said to have greatly encouraged spinning and weaving by the ladies and also imported designs and patterns from other parts of India (Bhuyan, 1985). It is perhaps from this point that weaving among the Assamese became a part of women's ordinary household duties. No woman was considered accomplished unless she had attained proficiency in weaving. Female labour thus given a compulsory character was advantageous in many ways. On one hand it helped thousands to fulfill their cloth requirement and also to fulfill the state demand and on the other hand, it helped to keep in the royal store a sufficient quantity of cloth of different varieties for presentation to foreign courts and dignitaries (Bhattacharjee, 2014) Thus, it can be said that with the coming of the Ahoms we get a clearer picture of the importance of silk weaving in the state of Assam, among the Assamese rural folk and also the role of women in it.

The real test of the silk industry's resilience began with the entry of the Britishers in Assam in the early 19th century. The English officials of the East India Company entering Assam after the Yandabu treaty in 1826 made detailed study of the economy of Assam. Among several works, Francis Hamilton's "An Account of Assam" is worth mentioning where one can find the reference of sericulture practice in Assam. According to this account, the native women of all castes from the queen down to the slave girls, could weave all kinds of silk and three fourth of the people used to wear these products. The raw material is seldom purchased, each family spins and weave the silk which it rears (Baishya, 1986)

Up to the 1930s the weaving industry of Sualkuchi remained almost confined within the Tanti community of Tantipara (around the present Bazar Chowk). Sualkuchi had

several cottage industries till the forties of the last century. Besides the handloom industry of the Tantis, oil pressing in the traditional ghani in the Keotpara segment of Bamun- Sualkuchi; goldsmithy of the Sonaripara hamlet, pottery in the Kumarpara hamlet and silk rearing and reeling occupation of a community in West Sualkuchi comprised some of the cottage industries. The industries other than handloom are almost extinct and the artisans have taken up silk weaving as a profession.

The 2nd World War had boosted up the weaving industry of Sualkuchi with demand for fabrics rising with increasing prices which encouraged some 10 to 12 Tanti families to start weaving factories engaging wage weavers. The other important event of technological upgradation was the introduction of the fly shuttle loom by one Kaliram *karikar* (*karikar* means an expert artisan) at the suggestion of one English Superintendent. Handloom weaving got transferred from household occupation to factory-based production because of such initiative. It is reported that conservatives did not like the introduction of the fly shuttle loom initially but after a few years when they realised the importance and higher productivity of the fly shuttle loom, they replaced the throw shuttle with it and thus, this improved loom developed by an English "half weaver and half mechanic" John Key in 1733 was introduced in Assam after more than two centuries of its invention.

3.4.2 Growth of the silk handloom cluster and its survival

In our country several regional concentrations of small firms and factories have emerged. Such type of a particular industrial concentration takes place due to a number of geographical and non-geographical factors such as i) geographical proximity, ii) specialisation in a particular art, iii) close inter-firm collaboration or competition, iv) emergence of marketing facilities for the products, v) availability of raw materials and other equipment, vi) availability of labour, vii) facilities for credit,

viii) spread of information and knowledge, ix) emergence of sub-contracting system x) govt. intervention, xi) geographical inertia etc. As in the case of the emergence and growth of the silk industry of Sualkuchi, the factors that hold true include specialisation in a particular art, availability of labour and raw materials. This cluster began to form since the 70s of the last century. Higher income from the profession has led to vertical occupational mobility from agriculture and other cottage industries. Besides this, it has also attracted a number of migrant weavers particularly Bodo female weavers from the different districts of Assam. This has greatly helped the expansion of the weaving industry to the nearby agricultural villages, thereby leading to the growth of a silk industry cluster or belt.

Significantly however, unlike many other industries, this industry stagnated but did not die out altogether for a variety of reasons. Firstly, it was a local production and there is no question of success. Secondly, there were no matching substitutes for these products and there is no need of extra labour for payment. Thirdly, in the final phase of the work, the ladies of one family help their neighbour and they got their neighbour's assistance in return. Next, in a single process of the loom, the weavers could produce diverse wears like *chadar, mekhela, dhoti,* etc. This advantage of diverse production kept a balance between demand and supply and satisfied the needs of the male as well as female members of the family (Kalita, 2013).

3.4.3 The weaving set-up in the silk town

"Click-clack, click-clack is the rhythmic rattle of the fly-shuttle that attracts the attention of the passers-by along the streets of Sualkuchi which starts at 8 a.m. and continues till 10 p.m. with lunch break from 12 noon to 2 p.m. Silk weaving in the fly-shuttle loom is the occupation of 75 percent of the households of the locality. Almost every house in Sualkuchi has a weaving shed containing looms for

production. Weaving has today organised itself here as small courtyard industries that are fully commercial in nature. In fact, Sualkuchi has become the "Benchmark" for commercial silk weaving in the state. While referring to Sualkuchi, the Census of India, 1961 observed: "Though silk is not uncommon in other parts of Assam, yet Sualkuchi claims a technique, quality and reputation of its own which is unique so far as *paat* and *muga* silk is concerned". The economic development in Sualkuchi owing to the set-up of this industry has provided the people: i) direct and indirect employment and ii) helped in meeting the clothing requirements of the state and the North-east India as a whole (Mahanta & Sonowal, 2000).

3.4.3.1 The core-cluster actors

The core cluster actors in Sualkuchi consist of the master weavers, weavers (both independent and dependent), reelers, yarn winders, ancillary workers, yarn suppliers and traders. The courtyard industries of Sualkuchi are sole proprietorships or partnerships within the family. These owners are styled as '*Mahajans*' more popularly known as *master weavers.* Decades back, this category was itself engaged in the weaving occupation but today they are mainly loom owners cum traders who undertake the overall responsibility of taking orders and getting them executed. They are expert weavers having traditional knowledge of the weaving business. They are the employers of today and lead the industry; they set standards and trends in the design and content of silk handloom products across the state. The *Mahajans* not only guide the entire production line but also look after finance and marketing. They market their own products, and many have their own showrooms or outlets in the commercial hub of the capital city of Guwahati, which is just 35 kms away from the silk town. Most of the master/entrepreneur weavers raise their own finance to install

and run their looms, borrowing sometimes from family and friends or taking loans from financial institutions under different schemes.

Plate 3.1: A master weaver at work in his loom

Very recently, a class of wealthy middlemen have emerged in Sualkuchi centring around the silk industry. The role of these middlemen as a facilitator to market the final silk fabrics cannot be denied from the fact that there is a class of master weavers who do not sell their products directly to the customers but market them through such middlemen operating in the process who are the owners of retail outlets. These middlemen are found stocking their products until the peak season that is particularly during marriage and Bihu season, when the price rises substantially, and they are able to make the most profit. Despite the existence of a number of master/entrepreneur weavers at Sualkuchi, cut-throat competition does not take place among them and excluding a very short lean season, there is demand for the Sualkuchi silk products almost throughout the year.

Next weavers in Sualkuchi are loom-less weavers working under *Mahajans*. The weavers work in the factories owned by the Mahajans for more than 10 hrs a day. The owner provides tea and snacks during working hours which begins at 8 a. m. in

the morning and continues up to 10 p.m. with breaks in between. Accommodation is usually provided by the *Mahajans*. Festival advance is given to weavers during Bihu or Puja. A few *Mahajans* offer the occasional bonus too. However, the weavers are not entitled to other benefits like insurance, medical facility, paid holidays etc. and any retirement benefits like provident fund, gratuity etc.

One of the acute problems faced by the silk industry is the shortage of workforce. The weavers are to be paid an advance at the time of engagement and this has forced many *Mahajans* to keep unused one or two looms or sometimes even more. This has also encouraged many wage weavers from other nearby parts of the state to come and work here as hired weavers. Sometimes, the wage weaver having intelligence and good character starts one or two looms with his primitive accumulation plus the advance amount taken from the master weaver or *Mahajan* and gradually emerges as master weaver employing wage weaver. Such weavers fall under the independent category.

The dependent class of weavers are basically the women weavers. Women dominate the labour ranks in Sualkuchi. The workforce is predominantly migratory young women, mostly from amongst the tribal communities of nearby districts, particularly Bodo and Rabha women, seeking wage employment in Sualkuchi to earn a living. This category of weavers are the worst sufferers because they work as hired, contractual and wage labourers and face exploitation at the hands of the master weavers too. After learning the finer techniques of weaving here and mastering the art, some settle down at Sualkuchi, while others set up their units after returning back to their own village or elsewhere. Comparatively higher wages here has attracted over 5000 Bodo female weavers from different districts of Assam to this place.

Plate 3.2: A female weaver working in a unit under a Mahajan

The reelers, yarn winders and ancillary workers together form a specialised group and are also a part of the weavers' family. They perform the pre-weaving task which is not only laborious but also time consuming. They are also not paid specially for this task. *Bhir* or *Bhowri* is the process used for *muga* reeling. Raw silk is again subjected to re-reeling which produces the yarn in hank form. Local raw silk is available in hanks or *lecchas*. These need to be twisted, bobbined and warped as essential pre-loom processes. Vegetable dyeing of silk yarn is also usual practice with the help of vegetable dyes obtained from various parts of plants and herbs such as stem, wood, root, bark, leaf, flower, fruits etc. Such tasks are done by ancillary workers. When the designing requires card-punching, the job is contracted to specialised persons and are paid for by the *Mahajans.*

Plate 3.3: Reeling being performed by a young girl aged 15 years

Plate 3.4: Instrument which is used for reeling of the yarn from the cocoons

Table 3.6: Persons engaged in the silk industry (2011)

PARTICULARS	NUMBER
Loom owners- Mahajans	4715
Weavers	19168 (Female-10496 Male-8672)
Helpers	7770 (Hired-2148 Domestic- 5622)
Yarn winders and reelers	2271
Total	**33924**

Source: Directorate of Sericulture, Govt. of Assam, Khanapara, Guwahati, Assam.

Table 3.6 highlights the fact that a total no. of 4715 people possess their own looms in Sualkuchi. Of the total no. of weaving workforce, females tend to dominate with 54.75 percent as compared to males with 45.24 percent weavers. Helpers (both hired and domestic), yarn winders and reelers compose 29.59 percent of the total no. of persons engaged in the silk industry at Sualkuchi.

The yarn suppliers too play an essential role as *paat* yarn is bought from Bangalore, *tassar* from Kolkata while *muga* yarn is reeled here by buying cocoons from Upper Assam, Boko, Garo hills etc. Formerly some *muga* weavers used to go to the *muga* cocoon growing areas of Jorhat, Lakhimpur, Dhakuakhana etc. of Upper Assam and collect cocoons directly from the weavers, store them for the year, reel them and weave fabrics in their looms. Nowadays, this has been replaced by local traders who collect the cocoons in sacks, carry them in bamboo baskets and sell them in Sualkuchi. Fuelled by shortage of *muga* yarn, the handloom sector at Sualkuchi is getting more and more dependent on cheap Chinese *tassar* as raw material. While the poor colour absorbance of the Chinese mulberry has confined its roles to wrap

materials, it has the disturbing potential to make deep inroads into this sector for its higher tensile strength. However, exquisite touch and appearance has been the inherent strength of *muga*- a rare quality that Chinese *tassar* does not possess.

Apart from the people directly involved with the silk industry, traders form another core actor as they are instrumental in forming essential linkages between the weavers and the customers. These traders deal with *eri-muga* silk fabrics along with other natural silk fabrics. It has been observed that in silk trading, particularly *muga* and *eri* trading venture, the younger generation is found to be very much interested. In fact, some of the traders are also weavers and possess one or two looms at home, either operated by them during leisure hours or operated upon by hired weavers. Most of the traders engage in both wholesale and retail trading.

Recently in March 2013, the weavers of Sualkuchi went on a vandalism spree to protect their craft and livelihood, against the clandestine sale of imported silk in the name of indigenous silk. The weavers and small-scale handloom entrepreneurs are facing an uphill task as some unscrupulous traders are endangering the famed handloom sector of the state by importing substantial quantities of *paat* fabrics by copying the designs and motifs which have been perfected by the weavers of Sualkuchi. A section of wholesalers had flooded the local shops with Banarasi silk items and local weavers and traders are fast losing market. Some traders had given their exquisite designs to artisans in Benaras who were producing items using the indigenous design of Sualkuchi. A set of Sualkuchi mekhala chadar is sold at Rs. 3500.00 to Rs. 15,000.00 while Banarasi items are sold at Rs. 3000.00 to Rs. 4000.00. Customers therefore prefer Banarasi silk items as they are produced in power looms and the design is more attractive than the handloom products of Sualkuchi.

Plate 3.5: A trader selling silk fabrics at a shop in Sualkuchi

3.4.3.2 Raw materials used:

Paat and *muga* is mostly weaved in Sualkuchi, *tassar* is done by few but *eri* is not woven locally. Some traders of Sualkuchi obtain *eri* products from Palashbari/ Mirza area for their sale. The *paat* yarn is brought mostly from Bangalore. *Tassar* from Kolkata and *muga* is reeled here by buying cocoons from Upper Assam, Boko, Garo Hills etc. Once famous for products made from the golden *muga* silk and Assam mulberry yarns, Sualkuchi today primarily consumes *Tassar* and Karnataka mulberry yarns. *Muga* is still used but in smaller quantities. Blending of *muga-mulberry*, and *muga-tassar* has evolved but there is no specification of the composition in the products. The product is mainly targeted in the domestic market and the product line is limited to local demand. The number of *muga* looms in Sualkuchi however depends on the availability of *muga* cocoons, which, as a matter of fact, is declining due to a number of reasons, discussed later.

Plate 3.6: Muga cocoons bought from Upper Assam used for weaving

Table 3.7: Raw material consumption/ year in Sualkuchi

Particulars	Amount of consumption
Mulberry silk yarn	268 MT
Tassar yarn	26MT
Muga Yarn	42 MT
Rayon design thread	180 MT
Jari- Golden / silver 9 marks- 225 gms	30,000 marks
Dyes	4000kg

Source: Directorate of Sericulture, Govt. of Assam, Khanapara, Guwahati.

Table 3.7 shows the raw material consumption per annum in Sualkuchi cluster. In recent times, the share of *tassar* yarn is slowly increasing while that of *muga* is declining because of a decline in production in the *muga* plantations of Upper Assam. . The total number of looms in Sualkuchi has reported to have gone down from 27,000 (1995-96) {First All India Handloom Census} to 15,000 (2009-10) {Second All India Handloom Census}and thus number of weaving units have also reduced from 700 (1995-96) to 550 (2009-10) {Data as provided by the Department of Handloom & Textiles, Govt. of Assam}.

3.4.3.3 Loom details and accessories used:

The loom and the accessories used by the weavers have remained very simple. The traditional handloom, locally called *taat saal* is used for weaving silk as well as cotton. Drawboy, dobbey and jacquards are mounted on looms for producing elaborate designs on the fabrics. Jacquards are used for border floral designs while Dobbeys are for designing middle part of the cloth. However, in recent times, only Dobbeys are used and floral borders are woven separately in the same piece of *chadar* or saree and stitched by the tailors later. This is because Jacquard weaving involves a lot of physical labour of the weaver. The designs are drawn on graph paper by design specialists, then hard board cards are punched (this process is known as card punching) and fitted to the Dobbey, and while shedding the warp, picking or throwing the shuttle through the warp weaves the design by beating the sley. Apart from this mechanical designing, small flowers are also done by the skilled hands of the weavers all over the piece of cloth by selecting the necessary picks and weaving the art threads. Thus, the entire process of weaving is extremely tedious in nature. Weaving of a *mekhela* takes about 2 days of labour, a *chadar* takes almost 3 to 4 days while a saree takes a week's time. Wages are based on the number of floral picks woven in the piece of fabric plus the general weaving charge of the piece of cloth. The punch card indicates the number of designs with picks of 100 called a unit or *Muthi* and wages are paid on the basis of units. Besides the looms and its accessories, other small appliances such as *letai*, *chereki* and *ugha* mostly made of bamboo are used traditionally in the process of manufacturing of fabric.

Plate 3.7: Accessories used in weaving such as bobbins and card punches for designing

Table 3.8: Loom status of Sualkuchi and nearby areas (2011)

Particulars	Sualkuchi	Nearby areas	Total
Households in Sualkuchi cluster	4023	7771	11794
Households with looms	2968	5711	8679
Total number of looms	16717	11070	27787
Number of silk looms	16717	7155	23872
Households with silk looms	2968	1832	4800
Number of active silk looms	13767	5401	19168
Number of inactive silk looms	2950	1669	4619
Average number of looms/households	5.63	4.04	4.83
Average number of active silk looms	4.63	3.1	3.86

Source: Directorate of Sericulture, Govt. of Assam, Khanapara, Guwahati, Assam.

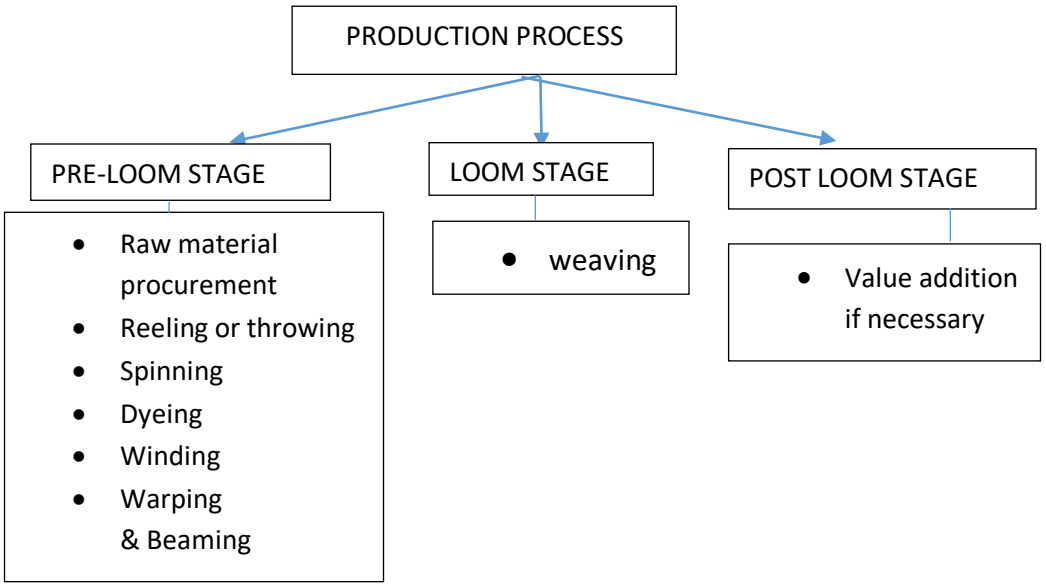
Plate 3.8: An abandoned muga loom at Sualkuchi

Table 3.9: Yarn wise loom status in Sualkuchi and nearby areas

Engagement of looms	Sualkuchi	Nearby areas	Total
Mulberry silk: frame looms	9738	5172	14910
Muga looms	2645	172	2817
Tassar looms	1384	57	1441
Eri looms	0	85	85
Cotton/acrylic looms	0	3915	3915

Source: Directorate of Sericulture, Govt. of Assam, Khanapara, Guwahati, Assam.

3.4.3.4 The production procedure: The entire process of production of silk fabrics in the looms of Sualkuchi can be broadly categorised into 3 main parts as provided in the following chart:



Each stage of the production process has been briefly explained below:

1. The pre-loom stage begins with the procurement of raw materials, primarily *paat* yarn (imported from Karnataka), *tassar* yarn (bought from Kolkata), and *muga* is reeled here by buying cocoons from Upper Assam like Jorhat, Sibsagar, Dhakuakhana etc. and from Boko and Garo Hills region.
2. Since the other raw materials are obtained from outside the state in the form of yarn, only the *muga* cocoons are reeled here. The process of unwinding of continuous filaments in the form of yarn is called *'reeling' or 'throwing'*. Reeling is done mostly in '*charkha*' and 'cottage basins' which are now almost inoperative.

   Bhir or *Bhowri* is the process used for *muga* reeling. Two expert reelers reel in *Bhawri* in warm water at $40^{\circ} - 45^{\circ}$C by keeping the material and liquor in the ratio 1:20. Proper de-flossing of the cocoons is essential to get the filament end and 6-8 nos. of filaments are generally collected at a time to get the filament yarn. During reeling, raw silk is washed with water to remove excess alkali from it. This raw silk is again subjected to re-reeling which produces the yarn in hank form, whose standard circumference is 125-150 cms (Chakravorty et.al , 2010).

Plate 3.9: Reeling under process known as Bhir or Bhowri

3. The process of producing single yarn from out of discontinuous filaments of cocoons is called *spinning.* Drop spindle (*takli* or *takuri*) is the principle means for spinning the cocoon into yarn. Spinning is a craft mostly practised by womenfolk as well as by children during leisure hours.
4. After the yarn is obtained, dyeing is mostly done by using natural sources. However, nowadays, artificial dyed yarn is also readily available in the market.
5. After dyeing, the yarn is loosened or wound on reels. This is a prelude to the preparation of warp and weft known as winding. The most acceptable method among the weavers is the winding of the warp yarn on bobbins (for warp).
6. Warping is a specialised process in which the warp yarns are wound on bobbins, which are arranged in a wooden frame called reel. The yarns from these reels pass through a reed to be wound around a vertical drum. This is locally known as '*tattbati'* or '*batikata*'. The newly introduced drum warping is better as it can be done indoors and is more beneficial for commercial use.

7. The next step is the task of passing the warp through the reed and the healds and the sheet of yarn is wound in tension upon a beam. This is known as beaming.
8. Card punching is also an ancillary activity carried out by specialised persons during the pre-loom stage. Designs are drawn on graph paper by design specialists after which hard board cards are punched and then fitted to the Dobbey, which is an essential loom accessory needed for weaving intricate designs and product upgradation.
9. Looming is a process undertaken for proper fitting up of warp on the loom and to complete the arrangements as necessary for weaving.
10. Weaving is the process of interlacement of two sets of yarn –warp and weft at right angles in an established sequence to produce fabrics according to design. The art of weaving is governed by 3 movements: shedding, picking and beating. The shedding movement consists of pressing the treadle with one foot which makes the opening in the warp thread. The picking movement propels the shuttle to move across to the other side by pulling the handle. The beating movement consists of packing the weft threads by drawing the sleigh with the left hand. When the process repeats the weft thread passes from side to side and under another, alternately over one set of wrap threads. The weaving machine locally known as '*taat saal*' is the central point of the entire method of cloth production. The beauty of product however lies upon the perfection and skill of the weaver.
11. As regards, the post loom stage, the Sualkuchi fabric is cut off from the loom to be sold. Very little is done by way of labelling and product specification and by way of customised packing methods.

3.4.3.5 The product line:

The looms in Sualkuchi are primarily engaged in weaving traditional fabrics used mainly by the female folk namely, *mekhela and chadar*, garments for ladies respectively for lower and upper part of the body, blouse piece, plain pieces or thans or plain sheets of 10 metre length which may be stitched as mekhela, shirt, chadar etc. Besides, traditional products for Assamese female folk, looms are also engaged in weaving *Dhara* and *Jainsem*, the traditional female dress of the Khasis and Jaintias of Meghalaya. Some looms are also engaged in weaving sarees but in very limited quantity.

Table 3.10: Annual silk fabric production in Sualkuchi

Silk products	No. of looms	Fabric (no of pieces in lakh)	Fabric (in lakh sq. Metres)	Production per annum (Rupees in lakhs)
Mekhela, Chadar, Blouse	15017	3.37	18.43	4718
Saree	2902	0.78	5.17	1560
Thaan	1216	0.76	6.08	760
Khasi dress	33	0.16	0.40	22
Total	**19168**	**5.07**	**30.08**	**7060**

Source: Directorate of Sericulture, Govt. of Assam, Khanapara, Guwahati.

A cursory look at Table 3.10 reveals that out of the total no. of looms working in Sualkuchi, almost 78% (15017 looms) are engaged in weaving Mekhala, Chadar, Blouse and its production comes to Rs 4718 lakhs per annum. While 22% of the total working looms are engaged in weaving Sarees and Thans. Only 33 looms weave the traditional dress of the Khasis of Meghalaya.

3.5 The Sualkuchi design phenomena and its geographical association

Assam is the land of confluence of a number of varied ethno-cultural groups which has its own cultural background and distinct history. The influence and contribution

of these ethnic groups are easily marked in the field of handloom weaving especially in the numerous designs, motifs and colour schemes of the textiles of Assam.

It is generally found that textile as an aspect of material culture wraps not only the human body but also reflects the cultural need of the people at a given time and space. Each and every item of material culture is inexorably tied with the environment or ecology. The artisans living in the countryside are greatly influenced by the elements of the physical environment as well as by their myths, legends, rituals, ceremonies, festivals, cultural norms etc. All such elements get reflected upon their textile traditions in one way or the other. The weavers, both men and women, part-time and full-time, work not only to cater to the needs of the individual, the household or community at large but this is also a means of satisfying their personal urge for self-expression and creative impulse.

There seems to be a marked geographical association between the development of designs and motifs found in textiles and the geographical environment. Ecology determines the growth, development, form and function of textiles. Under different environmental conditions, the basic art of weaving remain more or less same but variation exists in its form. The motifs are derived from natural sources of varied nature distributed over different geographical zones.

The handloom fabrics of Assam are traditional and known for their indigenous artistic designs; traditional in the sense that they have been handed from generation to generation without losing their original characteristics and indigenous in their source of inspiration. Broadly speaking, the term design implies a composition produced by integration of different elements for some specific purpose or intention and can be categorized into five broad categories, viz. naturalistic, stylized, geometric, abstract and structural. *Naturalistic designs* are those that are drawn from

flowers, leaves, plants, animals, landscapes etc. The motifs are kept realistic to provide an authentic image of nature. In *stylized designs* the motifs do not exactly maintain the image of the natural object. Usually the lines are simplified and conventionalized and at times even distorted. *Geometric designs* are based on true forms of circle, square, triangle, rectangle, diamond shape etc. Endless variations and combinations of these basic geometric forms are used. *Abstract designs* are mostly based on geometric form, yet the abstract implies an element of impressionism and a greater freedom as compared to most geometric designs. The designs are called *Structural* when the structure of an object forms the design. Simplicity is the main form of structural design (Stepat, 1964).

Artificially beautifying the body is an age-old human tendency. This inclination has grown the art of designing as well as dyeing of fabrics. Ornamentation of handloom fabrics of Assam is done in the loom itself and embroidery as a mode of ornamentation is not commonly found. However, it is evident from historical records that embroidery with the needle was introduced in Assamese textiles with the advent of the Mughals. It was during the rule of Ahom king Rudra Singha (1696-1714) that many Mughal elements came into Assamese textiles. The most exquisite brocade work '*Kinkhap*' was executed from this period. *Kinkhap* is interweaving of coloured silver and gold threads to form attractive floral motifs. The word '*Kinkhap*' is said to have derived from the Chinese word "*Kumkhwab*" meaning "less sleep". This is because the irritation caused by gold and silver threads while wearing Kinkhap can indeed impair sleep. Besides this, *Kinkhap* in black colour known as "*Gomcheng*" and imported from China was very popular during the days of the Ahoms. However, both *Kinkhap* and *Gomcheng* are non-existent these days. In this connection, {(Samman, 1897)cited in(Basu, 1970) says "In former days, the gold and silver wire

(*guna*) used for embroidery was made within the province by a class of workers called *Gunakatia*; the process of manufacture was a trade secret. The class of *Gunakatia* is rapidly becoming extinct". So far as ornamentation of textiles of Assam is concerned, the design refers to the arrangement of motifs or units either as border, *buta*, *buti* all over pattern or other regular, irregular plans. Nature seems to be the basic source of inspiration of such arrangements.

Floral and plant motifs: When the designs and motifs drawn on the silk fabrics produced on the looms of Sualkuchi have been studied, observed and analysed during field study, it has been found that Sualkuchi silk fabrics are adorned with designs mostly taken from nature. These are known as *phul* (flower) or *phuljali* (flower pattern). Flowers from the simplest and smallest configuration (a small dot with short radiating lines on all sides) to the most complex configuration (with well-defined petals) are seen. Big, bold flowers in stylized and geometric forms, either used singly as *buta* or a unit in the design. *Padum* (lotus) and *golap* (rose) are two of the most commonly used flowers in fabrics of traditional importance and never used in mekhela traditionally. Besides, the floral motifs, running motifs called *lata* (creeper) is used as a textile design either singly or in combination with other motifs like that of fruits, flowers, vegetables etc.

Plate 3.10: Use of floral designs in the silk fabrics

Kalki or kalka (paisley), one of the most commonly used designs in Indian textiles, representing the shape of a mango with curved ornate top is also a common feature of Sualkuchi silk. Another name by which it is locally known is *mogor*. *Kalkas* best adorn the borders of the chador and are used singly as a *buta* or as a unit.

Animal motifs: A variety of animals and birds find impression in the Sualkuchi textiles. *Charai* (bird) in general and *mora-charai* (peacock), *hanh* (duck and swan) are commonly used bird motifs. Fishes, lion, tiger, elephant etc. in stylized form are also occasionally seen. More recently, rhinos have also caught the imagination of the weavers in the area and commonly known as "Kaziranga designs" are also increasingly in use nowadays.

Structural motifs: The influence of artefacts and material objects used in the socio-cultural day to day affairs of the people of the region of Sualkuchi are also marked in their silk textiles. Such designs are generally classified under structural designs. *Sarai* (metal dish with raised border with or without cover, mounted on a decorated pedestal), *dhupdani* (incense stick holder), *ghoti* (pot), *letai-cereki* (weaving implement), *chaki* (earthen lamp) are some of the structural motifs incorporated in the Assamese textiles.

Geometrical motifs: In the textiles of Assam in general and Sualkuchi in particular, geometric designs representing various geometric forms are used either singly or in combination with other stylized motifs since a very long time. The most common among such is the diamond motif. Besides this, the geometric replica of *golpata* (a type of necklace) and *gamkharu* (a type of bracelet), two of the indigenous traditional Assamese jewelleries have also occupied an important place in the Sualkuchi silk fabrics.

A close observation of geometrical designs reveals that these are essentially symbolic in nature. Use of geometric designs in traditional weaving may be regarded as an achievement in symbolic communication (Mazumdar, 2013).

As regards the preservation of the design, this itself is an art which has evolved gradually over the years and also in different stages. Information collected in this regard from Sualkuchi area revealed that in olden times, the simple banana leaf was used as a mode of preservation of designs. Since the leaf of the banana tree was not much durable, it was replaced by the thick sheath of the areca palm tree. However, with the limitation of the preservation of designs even on the leaves of the areca palm tree, the indigenous weavers developed yet another method by weaving the designs on coarse fabric or net like cloth. Use of graph paper and other computer techniques using suitable software by skilled and trained weavers is also gaining popularity nowadays. The mode of preservation of designs by the weavers reveals the fact that the scraps of designs are the storehouse of traditional designs in rural areas but the problem of them facing an unnatural death is looming large. Hence, efforts should be made for revival and scientific preservation of the traditional designs so that new ones can be evolved from the old ones without disturbing their original character and can be suitably used in a range of products and fabrics.

Plate 3.11: A shopkeeper displaying various natural motifs of plants, animals and birds being used on the silk fabrics for designing purpose

Colour schemes: The different vibrant colour schemes found on the silk textiles of Assam are a reflection of the aesthetic taste of the weaver. Such colours on fabrics are the result of a process called dyeing, which is an important subordinate craft under weaving and is an ancient art of Assam too. Due to diverse landscape as well as ecological conditions, the state of Assam is a treasure house of a wide variety of plant species, each having its own distinctive characteristic. Some of them have medicinal and aromatic properties while others contain natural colouring matters in their leaves, flowers, roots, barks, stems, etc. Dyeing with natural sources is still in

practice in some parts of Assam and vegetable dyeing of silk yarn is a usual practice. The natural dyes are basically categorised into three groups depending upon the sources from where they are obtained, namely; i) Plant sources: Dyes were prepared from different parts of plants and herbs like leaf, flowers, fruits, seeds, bark, roots, wood, stem etc. which were easily obtainable from the nearby forests. The most common among them include turmeric, indigo and elephant apple. ii) Animal sources: the prominent dyes derived from animal and insect sources include lac, kermes, cochineal, lichen etc. In fact, one of the most popular red dye of antiquity was obtained from animal sources. Cochineal and kermes were widely used in the western world for the production of bright purple and red hues. However, in the North-eastern region of India, the dyes extracted from animal sources are rare. iii) Mineral sources.

Apart from the sources, the name of colour were also procured from nature- the yellow conception came from turmeric, the orange from orange fruits, the green from banana leaves, the violet from brinjal, the muga from muga yarn and the pink came from rose (Saikia, 2011).

The entire process of dyeing can be divided basically into 3 parts- a) Scouring: Before dyeing the material, it is necessary that the material should be made free from impurities. This essential wet process applied on textile materials both yarn and cloth is known as scouring. Several natural ingredients like *monichal* (soap nut tree), *ritha, kalakhar* (ashes of dried bark, roots etc of plaintain tree- *bhimkol*) are used as natural detergents for this process.

b) Dyeing: The dyers adopt their own conventional methods of dyeing which include boiling, scraping, mixing with other materials and also fermentation at times to get the desired colour. The vegetable, animal or mineral extracts are boiled in certain

concentrations (light to deep) for 1-2 hours. After this, the solution obtained is filtered well and made ready for dyeing. The dye bath is prepared by mixing different proportions of dye solution and cold water. The material is treated with this solution and then after proper exhaustion of dye, it is taken out from the bath, squeezed well, rinsed thoroughly in cold running water and dried well. This entire process, however, varies from place to place and from tribe to tribe.

c) Mordanting: The natural dyes are basically water soluble. Hence, to fix the colour on the textile materials, treatment is done by some fixing agents both natural and synthetic known as mordants. Natural mordants like tannin (from Bark of a tree) and artificial ones like alum (potassium aluminium sulphate), copper sulphate etc. are applied to obtain a wide range of shades.

With growing awareness towards a healthy and sustainable environment, the use of eco-friendly natural dyes on fabrics of cotton, wool, silk, jute etc. is gaining popularity all over the globe. These natural dyes are safe because they are non-toxic, non-carcinogenic and bio-degradable in nature. The people of Sualkuchi are also aware of the environmental problems associated with the use of synthetic dyes. Hence, the environment friendly products are becoming a top priority nowadays. But sadly, due to increasing commercialisation and a wider impact of the processes of globalisation, the entry of artificial products is one way or the other hampering our traditional roots. The emergence of ‘Thai threads’ has gradually engulfed the market. These threads are already coloured and weavers can directly put them into the loom thereby cutting down cost and time. The indigenous weavers of Sualkuchi do not want to use it for its inferior quality but they have no other option left with them.

3.6 Governmental Initiatives Post-Independence

Recognising the special needs and problems of the people associated with the silk sector, the Government of India along with the respective State Governments have made several attempts to develop the silk handloom industry from time to time post-Independence. In fact, the silk handloom industry has received considerable attention of the planners ever since the inception of the Five-Year Plans in India. Some of such initiatives include:

❖ *Central Government initiatives*

- The setting up of the Central Silk Board (CSB) at Bengaluru is a milestone in the development of sericulture in India. The CSB, Ministry of Textiles, Govt. of India has taken up initiatives for sericulture development on cluster mode with participatory approaches and active participation of people in planning and implementation through its flagship Catalytic Development Programme (CDP). The CSB through its premier research & development organisations in the mulberry and *vanya s*ector, has evolved R & D technologies which are user and women friendly. The CSB through its Silk Mark Organisation of India (SMOI) has been catering to the needs of the mass clientele by bringing the Silk Mark Fusion Label and SMS authentication to enable the silk consumers to ascertain the authenticity and to trace the source of silk.
- A new component has been approved for implementation during the XII Plan for brand promotion of Indian Silk. The scheme will provide tremendous impetus to the Indian Silk Export Promotion in international market which can be in the form of advertisement and market promotion, participation in international show as 'Indian Silk Brand', road shows etc. The progress made under the schemes is as follows: a) Promotional programmes for Indian Silk

at Sualkuchi in Assam has been completed, b) orders for procuring equipment for the laboratories proposed to be set up at Guwahati has been placed and c) an exclusive e-commerce portal, www.silkmark.gocoop.com to promote the products of silk clusters has been set up. Sualkuchi cluster has been covered under this phase (Ministry of Textiles, 2014-15).

- A Muga Raw material Bank has been established at Sibsagar, Assam by CSB. Under the muga sector, 8 Basic Seed Farms and 1 Silkworm Seed Production Centre (SSPC) are functioning. For production and supply of eri seed, CSB has established 5 SSPC. (Ministry of Textiles, 2014-15).

The details of scheme-wise approved outlay for XII Plan are given below:

Table 3.11: Scheme-wise approved outlay of Central Silk Board

PLAN SCHEMES CSB	OUTLAY FOR XII PLAN	EXP. DURING 2012-13	EXP. DURING 2013-14	EXP. DURING 2014-15	EXP. DURING 2015-16	EXP. DURING 2016-17	TOTAL XII PLAN
Central Sector Schemes							
R&D. Training, Transfer of Technology and IT Initiatives	203.71	30.25	37.97	44.50	88.30	75.12	276.14
Seed Organisation Co-ordination and Market Development	159.44	19.54	33.82	39.58	59.78	54.85	183.41
Quality Certification Systems	11.85	3.05	7.00	0.42	9.02	9.50	42.68
Export/ Brand Promotion & Technology Upgradation	5.00	7.00	0.30	1.00	1.00	1.00	12.85
Catalytic Development Programme	889.00	205.16	295.75	213.00	20.00	20.00	753.92
Total	1269.00	258.00	74.84	298.50	178.10	160.47	1269.00

Source: Annual Report (2017-18), Ministry of Textiles, GOI

- Other initiatives taken in this regard include the setting up of three Central Sericultural Research and Training Institutes at Mysuru (Karnataka), Berhampore (West Bengal) and Pampore (Jammu & Kashmir); Central Sericultural Germplasm Resources Centre, Hosur (Tamil Nadu); Silkworm Seed Technology Laboratory, Bengaluru (Karnataka); Seri-Biotech Laboratory, Bengaluru (Karnataka); Central Tassar Research and Training Institute, Ranchi (Jharkhand); Central Muga, Eri Research and Training Institute, Lahdoigarh (Assam) which are actively involved in R&D of sericulture in India. In addition to these, GOI has also set up 10 Regional Research Stations for mulberry, 8 for *tassar* and 1 each for *muga* and *eri* in different locations of India. The result of such efforts is that the leaf productivity and cocoon productivity has increased per hectare and India has become the 2nd largest producer of mulberry and *tassar* silk in the world (Das, 2009).
- As regards building a sustainable ecosystem around the industry workers, the GOI has taken up specific steps such as Cluster Deveopment Programmes to make small units viable and be able to reap the benefits of economies of scale, setting up of Handloom Export Promotion Councils to assist Handloom cooperative societies and corporations in developing export worthy products, market penetration by participating in international fairs and exhibitions, buyer sellers meets and brand development through Handloom mark and setting up design studios (Ministry of Skill Development and Entrepreneurship, n.d.)
- A number of welfare schemes are also being implemented from time to time to uplift the living and working conditions and to provide social security and

health insurance to the handloom industry workers and weavers. Some of these include: Handloom Weavers' Comprehensive Welfare Scheme. Mahatma Gandhi Bunkar Bima Yojna, Rajiv Gandhi Shilpi Swasthya Bima Yojana, Deen Dayal Hathkargha Protsahan Yojana and many others.

The National Handloom Development Corporation (NHDC) is a public sector undertaking working under the Ministry of Textiles, GOI. The NHDC has 721 yarn depots to ensure steady and timely supply of hank yarn at mill gate prices to the handloom weavers (Strategic Plan 2011).

❖ *State government initiatives*

- The setting up of the Directorate of Sericulture and Department of Handloom and Textiles by the State Government is a major step to develop the overall silk sector scenario in the state of Assam. Both these offices have been implementing various schemes and taking up new initiatives ever since their inception for the promotion and development of the silk industry in Assam and providing assistance to the weavers in a number of ways. Some of these include a). employment generation, b). modernisation and upgradation of technology, c). input support, d). marketing support, e). publicity, f). infrastructural support, g) welfare measures, h). composite growth-oriented packages, i) extension of training facilities, j) development of exportable products, and k) research and development.
- The Govt. of Assam has set up 94 Eri Concentration Centres and 26 Eri Seed Grainages in different parts of Assam to develop *ericulture* in the State. It has also established and has been maintaining Collective Mulberry Garden for mulberry culture and Village Grainage Reserves for *muga* culture (Das, 2009).

Table 3.12: Sericulture farm and grainages in Assam (2001-02 to 2011-12)

	ERI SEED GRAINAGES		MULBERRY FARMS		BASIC MUGA SEED FARMS			ERI CONCENTRATION CENTRES		
YEARS	**Total area (in hect.)**	**Area under plantation (in hect.)**	**Total area (in hect.)**	**Area under plantation (in hect.)**	**Total area (in hect.)**	**Area under plantation (in hect.)**	**Production of muga cocoons (in nos.)**	**Total area (in hect.)**	**Area under plantation (in hect.)**	**Production of eri cocoons (in nos.)**
2001-02	192.59	119.52	125.76	43.73	244.10	186.19	261814	726.96	473.43	18172.49
2011-12	178.01	119.75	129.61	76.70	341.01	231.96	372700	616.17	307.64	10109.00

Source: Statistical Handbook Assam.

As is evident from the above table 3.12, over a period of 10 years from 2001 to 2012, there has been changes in the overall area under plantation under *eri* seed grainages, concentration centres, mulberry farms and basic *muga* seed farms, both area under plantation and production of *muga* cocoons have shown increase of 213.77 hectares. and 110886 nos. respectively, while others have shown a slight change.

- The Government also runs a no. of handloom training centres, weavers' service extension unit, handloom production centres, and demonstration circles.

Table 3.13: Statistics of Handloom and Textiles in Assam

Years	**2001-01**	**2011-12**
Handloom training centres	102	102
no. of trainees	1650	1390
weavers' service extension unit	98	98
production of cloth (in metre)	344551	93714
No. of handloom production centres	20	20
production of cloth (in metre)	13939	15487
No. of demonstration circles	263	209

Source: Statistical Handbook Assam,2011.

As is evident from the table, the no. of handloom training centres, weavers' extension units, handloom production units have remained unchanged, while that of demonstration circles have shown considerable decline over a decade.

- A variety of schemes have also been taken up by the Govt. of Assam which aim at providing weavers for production of quality fabrics, modernization of looms, creation of commercial motivation amongst the weavers etc. (Phukan, 2012).

The number of beneficiaries under various schemes may be analysed in the following table:

Table 3.14: Achievements in Handloom and Textiles in Assam under centrally sponsored schemes during the year 2011-12

Name of schemes	2010-11	2011-12
Health insurance scheme		
Male	35450	NA
Female	319872	NA
Total	355322	NA
Mahatma Gandhi Bunkar Bima Yojana		
Female	34619	57599
Total	34619	57599
Integrated Handloom Development Scheme (including ARTFED):		
Clusters	12	24
Groups	33	34
Male	230	280
Female	4030	7600
Total	4260	7880
District Level Fairs (nos.)	55	60
Special Handloom Expos (nos.)	17	23
National Handloom Expos (nos.)	6	6

Source: Directorate of Handloom and Textiles, Assam.

- While certification provides the weavers with a safe and conducive work environment, it is also being increasingly demanded by customers as a guarantee that they are buying genuine products. With Indian and global markets being flooded with counterfeit "Made in China" products, certification has become a pressing issue. Therefore, certification and standardisation will open up global markets for Indian silk products like that of Sualkuchi and provide the indigenous weavers with a competitive edge.

  A recent good move taken in this regard is that the *muga* silk of Assam has been registered as the Geographical Indication of Assam under the Geographical Indication of Goods (Registration and Protection Act, 1999).

This is the first Geographical Indication of the State. Popularising its use will ensure that the *muga* silk of Assam is secured from the threat posed by unscrupulous traders. Similar initiatives in the near future, therefore, can greatly help to develop the silk industry of Assam.

3.7 Institutions involved for the promotion and development of the silk sector in Assam: The handloom industry in Assam predominantly involves the silk industry. The following institutions have been engaged in the development of this sector since a while:

- **The Weavers' Service Centre (WSC):** The Weavers' Service Centre was established at Guwahati in the year 1978 with a view to develop the handloom sector in Assam and few of its neighbouring North Eastern states like Meghalaya, Arunachal Pradesh and Sikkim. The main objective behind the setting up of this institute was to explore the viability of the vibrant designs and colour schemes of the North East region by means of product development and diversification but retaining its traditional look. For this purpose, the WSC intends to divert the loin loom weavers in the region to frame loom weaving by organising various training programmes and by technological upgradation of the already working fly shuttle looms in some places. The WSC has 3 different technical sections, namely, Weaving, Processing (Dyeing and Printing) and Designing. All the three sections work smoothly in collaboration with each other. The end products of the centre are displayed before the visitors both in the centre as well as in various expos and exhibitions organised at different places from time to time and those samples which attract the attention of Handloom Development Co-

operations, fashion designers, NGOs etc. find their way for a wider market both within the country as well as abroad.

The WSC has so far identified about 27 handloom clusters in the North Eastern region of which 11 have been identified at several places in Assam. Of these, 9 clusters, viz. Rampur, Bijoynagar, Rangia, Nalbari, Farkating, Golaghat, Morigaon, Jorhat and Sualkuchi have been taken as thrust areas for technological upgradation, design as well as product development.

A Regional Design Centre has also been started recently in this centre by the Office of the Development Commissioner of Handlooms. This serves as an inventory data bank of designs, motifs as well as patterns on paper or printed cloth for the persons concerned.

Thus, the WSC has been playing a very important role in preserving as well as documenting traditional skills of the people of the region and imparting necessary training to the weavers and all others engaged with the industry from time to time (Ministry of Textiles, n.d).

- **The Assam Textile Institute:** Functioning under the administrative control of the Department of Education, Govt. of Assam, the Assam Textile Institute was established in the year 1920. Located at Guwahati, this institute has facilities for providing training to students undertaking Diploma courses in Textile, Garment and Fashion Technology in its various laboratories and by organising Handloom and power loom workshops (Begum, 2009).

  For providing marketing support to the weavers and artisans of the handloom sector, the Govt. of Assam has set up two centralised marketing agencies, namely, The Assam Apex Weavers and Artisans Cooperative Federation Limited (ARTFED) and The Assam Government Marketing Corporation

(AGMC). Both these organisations have been registered with the Department of Cooperatives, Govt. of Assam and have been organising fairs and exhibitions at district, state as well as national level every year with cent percent assistance from the Central Government (Phukan, 2012).

The AGMC was established in the year 1959 with the intention of marketing the handloom products both within and outside the state. Focusing mainly on the unorganised sector outside the cooperative fold, the organisation markets its products through its 14 sales counter 'Pragjyotika Emporia', including 2 at Kolkata and 1 at Delhi. It also participates in a number of handloom fairs and exhibitions.

The ARTFED was formed in the year 1977 with the aim of organising cottage industries such as handloom in the state on a cooperative basis. It has a membership of 1018 Primary Cooperatives and 16 District Cooperatives. It has a chain of 59 showrooms styled as 'Jagarans', 5 of which are located outside the state, 1 weaving unit, 1 design centre, 1 craft development centre and a computer aided design centre (Begum, 2009). Since 2004-05, ARTFED entered into the global market by participating in 32 International Fairs, Product Promotion Programmes in Germany, France, Japan, U.S.A, U.K, South Africa, Malayasia, Thailand. Mexico, South America etc. During the last 8 years, the Federation has obtained international orders of handwoven textiles such as curatins, quits, cuhion covers, duvet covers, Kimomo fabrics etc from the buyers abroad. During 2012-13, the ARTFED has also been a participant in the International Fair held at Frankfurt, Germany for the purpose of export (ARTFED, 2012-13).

- For modernising the production of muga and eri silk in Assam, private establishments such as Fabric Plus India Pvt. Ltd. have been playing quite an active role since its inception in the year 2009. Established at Guwahati, Fabric Plus is a modern silk factory probably the first for *eri* and *muga* silk in this region. More than 300 local women and men are already employed and trained here. Efforts are being made to create an overall better feel of the fabric by improving the structure of the yarn and the fabric and to bring traditional design in line with the modern trends. The factory is manufacturing *eri* fabrics weighing less than 30g and are already being exported to Europe, even to Como in Italy which represents the elite of silk among the European countries (Zethner et al, 2014).
- **Project Sualkuchi and the setting up of the Sualkuchi Institute of Fashion Technology:**

Plate 3.12: The Sualkuchi Institute of Fashion Technology set up in 2009

The Sualkuchi Institute of Fashion Technology has been set up at Sualkuchi under the aegis of the North Eastern Council and National Institute of Fashion Technology, Kolkata with the aim of reviving the silk industry at Sualkuchi and creating a skilled labour force by providing training in various

aspects such as introduction of modern design and weaving techniques, exploration and development of a design bank specific to the Sualkuchi region etc.

Under the Project Sualkuchi, The Deputy Commissioner of Kamrup District during March, 2009, sought the participation of NIFT in the above Project for the development of managerial capacity and upgrading the technical skill of the self-help groups comprising of weavers of Sualkuchi. Accordingly, NIFT strives to develop Sualkuchi handloom cluster through technological and skill up gradation, establishment of R & D centres for product innovation, design diversification and conversion of handloom materials into fashionable garments, setting up of yarn bank, and conduction of various training and exposure programmes for the weaving artist of Sualkuchi region (Kamrup District Administration, n.d).

3.8 Major findings of the chapter

i) The state of Assam in general and Sualkuchi in particular, has carved out a niche of its own in the arena of silk production in the world since time immemorial owing to a no. of geographical factors such as specialisation in weaving, availability of skilled labour and easy availability of raw materials. However, the situation of this industry post globalisation is not quite encouraging.

ii) With respect to the sericulture activities in Assam as a whole, over a period of a decade (2001-11), it has been found that although *eri* silk production is showing improvement but the case of *muga* silk is not, both in terms of growth in the villages and families engaged, the acreage under

som and *soalu* plantations or in the production of *muga* yarn is in declining trend.

iii) Over a period of three consecutive years (2009 to 2011), it has been reported that the area under *eri* plantation has increased with fewer margins. In case of *muga* plantation it shows a tremendous decline including production of *muga* silk yarn. Ultimately all these conditions are affecting the silk production at Sualkuchi either directly or indirectly. The total number of looms in Sualkuchi has reported to have gone down from 27,000 (1995-96) {First All India Handloom Census} to 15,000 (2009-10) {Second All India Handloom Census}and thus number of weaving units have also reduced from 700 (1995-96) to 550 (2009-10).

iv) The study reveals that the weavers are greatly influenced by the elements of the physical environment as well as myths, legends, rituals, ceremonies, festivals and cultural norms etc. to create a specific design on the textile, which are depicted. Thus, designs and motifs that adorne Sualkuchi silk fabrics are depicting phenomena of nature. The organic vegetable dyeing of silk yarn is also a unique in Sualkuchi. However, of late due to commercialisation of products and the entry of Thailand threads has gradually changed the market in terms of demand and supply. Thailand-made threads are pre-coloured and weavers find them easy to use since it can be used directly into the loom which cuts down the cost of production and thus become cheap and affordable compared to Assam silk products. The weavers from Sualkuchi may not like to use such quality threads but they have no other alternatives to compete in the emerging market.

v) Although a no. of schemes and policies both at the Centre and at the State have been taken up and governmental institutes been set up for the promotion and development of the silk sector in Sualkuchi, one has to dive into the field to see its actual implications at the grass-root level that has been dealt with further in the next chapters.

CHAPTER IV

LIVELIHOOD ANALYSIS OF SUALKUCHI WEAVERS: LOCAL REALITIES AND STRUCTURAL CONSTRAINTS

4.1 Prelude

The main aim of this chapter is to present an assessment of the empirical data drawn from fieldwork revealing the status of livelihood assets or resources available to the Sualkuchi weavers. While the previous chapter introduced and provided an insight into the Sualkuchi silk industry: its past and present, on a broader perspective; the focus in chapter IV is a shift from the broad and the general to the local and the particular, thereby allowing a deeper understanding of the various kinds of responses at the grass-root level.

The Sustainable Livelihood Approach (SLA) is central to this discussion. The SLA offers a comprehensive framework for understanding the complex multi-dimensionality of poverty, from global to local level. It draws on diverse disciplinary perspectives and cuts across sectoral boundaries, offering a tool of analysis that differs from previous monovalent approaches (Scoones, 2009). Most literatures emphasize on SLA as a tool for assisting development practitioners. Some other interpretations identify them as tools to assist people in assisting themselves, i.e. they place more emphasis on people or 'the poor'(Njagi, 2005). Basically, it can be said that SL Approaches are derived from complex understandings of the multi-dimensional facets of poverty ranging from the global to local or household level. Therefore, this approach has been used in this thesis to help us identify the strengths, weaknesses and the barriers to the development of weavers particularly women in Sualkuchi. A deeper analysis on the livelihood assets of Sualkuchi weavers has been

done henceforth in this chapter, while the vulnerability context, strategies and outcomes have been broadly discussed in Chapters V and VI respectively.

4.2 The Sustainable Livelihood Approach: Principal roots and substance

The emergence of the SLA dates to the late 1990s when a more productive actor-oriented perspective came to be adopted in development studies in contrast to the structural perspective of *Dependencia* and *Neo-Marxism* of the 1970s and 1980s. This new perspective laid more emphasis on the micro-world of family and community, more particularly households with clear focus on issues related to poverty, vulnerability and marginalisation. There was a kind of optimism in this new approach in contrast to the earlier approaches that had pessimist conclusions. Optimism in the sense that the central objective of the livelihood approach is to look for more effective methods to support people and community, in ways that are more meaningful in their daily life as well as needs (Haan & Zoomers, 2003). Hautala (2013) stressed on the fact that the SL approach offers a new way of thinking about development that differs from the top-down neo-liberal policies. Rather, it uses a participatory and bottom-up perspective when analysing people, particularly the poor. However, Scoones (2009) concludes that the SLA did not emerge from nowhere in the 1990s, rather it shares insights with past approaches like village studies, political ecology and resilience studies.

The phrase 'Sustainable Livelihoods' can be traced from the work of Gordon Conway and Robert Chambers in the Institute of Development Studies (IDS Discussion paper) in the year 1992 through a research programme that was undertaken by the IDS at Sussex involving work in Bangladesh, Ethiopia and Mali in particular (Murray, 2001). This approach has been largely adopted by the British

state development cooperation, Department of International Development (DFID) and later on taken up by numerous other development agencies like OXFAM, CARE, UNDP and IFAD who all have adopted their own version of the SL approach (Hautala, 2013).

Livelihood is seen as a highly complex, all-encompassing concept, which is not restricted to the ecological or to the economic or productive aspects of life. The most quoted definition of livelihood is that given by Carney (1998, based on Chambers and Conway 1992, p. 7): "a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base". The holistic nature of livelihood is also stressed by Bebbington (1999, p. 2022) "A livelihood encompasses income, both cash and in kind, as well as the social institutions (kin, family, village), gender relations, and property rights required to support and to sustain a given standard of living."

Thus, The Sustainable Livelihood Approach presented by DFID (1999) [developed over a period of several months by the Sustainable Rural Livelihoods Advisory Committee] is a feasible theoretical instrument to understand the livelihoods of the rural population. In essence, it suggests that: 1. the rural poor derive their livelihoods using five capitals: human, social, physical, natural and financial; 2. livelihood activities are carried out in the context of vulnerability and shocks caused by weather changes, movement of global markets and man-made events such as war; 3. the economic worth of these activities are governed by transformational structures and institutions in the society and polity; and 4. state policies can help improve the

capitals, reduce or buffer against various vulnerabilities and induce changes in the transformational structures and institutions (Phansalkar, 2005).

Poor people are at the focal point of livelihood studies. But as opposed to earlier approaches to poverty that tended to portray people as victims of structural constraints and focused on the material aspects of life from the perspective of specific, locally bound man-land interactions, the modern approach recognises that livelihood is multi-dimensional, covering not only economic, but also political, cultural, social and ecological aspects. Moreover, livelihood studies are still characterised by a micro-orientation, which is by a focus on household members, households, families, or at best, local communities (Haan & Zoomers, 2003).

Murray (2001) in his paper has also identified six core concepts of the SL approach which include: i) it is people-centric, ii) it is holistic and recognises multiple actors, multiple influences, multiple strategies as well as multiple outcomes, iii) it is dynamic as it attempts to understand change and cause-effect relationships, iv) it begins with analysis of strengths rather than needs, v) it attempts to bridge gap between micro and macro levels and vi) it is committed to different dimensions of sustainability: environmental, economic, social and institutional.

4.3 'Sustainability' in the SL approach

The concept of 'sustainable livelihoods' has gained momentum recently all over the globe. Broadly speaking, sustainability has two main dimensions or interpretations: Environmental and Social. Environmental sustainability relates to global issues like that of pollution, climate change and global warming, large-scale deforestation, overexploitation of non-renewable resources etc. Social sustainability implies ability to maintain and improve livelihoods while maintaining and enhancing local and global assets and capabilities on which livelihoods depend.

Sustainable Livelihoods became an important theme in the UK's Development policy, with the DFID initiating a number of research projects as well as policy debates on this subject. While there was only a slight modification on the definition of livelihood that was developed by Chambers and Conway in the year 1992, but sustainability remained to be understood as both long-term flexibility and ecological soundness. When we talk of sustainability in livelihood, it implies the ability of any social unit- from household to community level to be self-reliant and resistant against shocks and stresses. It also indicates a function of maintaining as well as preserving of capabilities and assets on a long-term basis (Chambers and Conway, 1991, DFID 1999). However, one of the main challenges for sustainability within the SL approach that has been identified by (Hautala, 2013) in his work is the trade-offs between livelihood outcomes and sustainability. Examples include rift between – locally identified needs for improving livelihood security on one hand and greater concern on environmental sustainability on the other; between maximising incomes in the short-term on one hand and guarding against vulnerability to external stresses on the other, and such others.

Some scholars like Scoones (1998) have however, argued that this people-centric approach compromises on the sustainability factor since the SL Approach has not been able to move beyond its focus on short-term adaptations and coping strategies and has undermined the long-term changes that affect livelihoods. For e.g., in the case of global environmental changes such as climate change, desertification etc. local adaptations may not be sufficient. In fact, more comprehensive strategies may be necessary in such situations.

4.4 The SL Framework

The SL Framework has been derived and developed by the DFID over a period of several months and is basically a tool which helps us to understand livelihoods particularly that of rural communities. The framework presents the main factors that affect people's livelihoods and typical relationships between them. These relationships all of which are highly dynamic have been shown with the help of arrows in the figure below. None of the arrows however imply direct casualty but a certain level of influence. In essence, the framework: i) provides a checklist of important issues and sketches out the way these are linked to each other, ii) focuses on core influences and processes, and iii) puts emphasis on the multiple interactions between various factors affecting livelihoods. Such factors and forces that affect livelihoods are themselves constantly shifting. People-centred analysis is likely to begin with simultaneous investigation of people's assets, their livelihood outcomes and livelihood strategies which they adopt to achieve these objectives or outcomes. Feedback is likely between: i) Transforming structures and processes and the Vulnerability context, ii) Livelihood Outcomes and Assets. It is to be mentioned that the SLF continues to be developed. It can be used as a flexible tool and adapted as and when required for individual analysis (DFID, 1999).

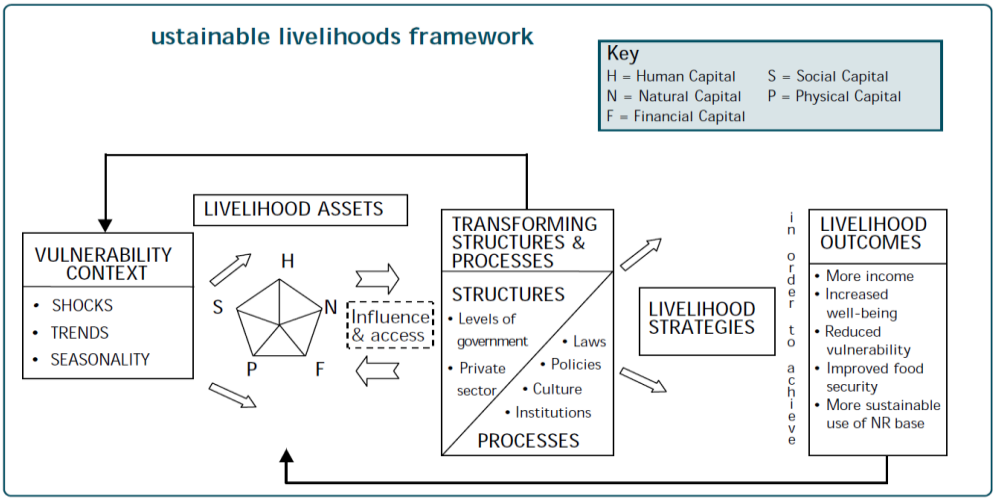


Fig 4.1: The Sustainable Livelihoods Framework developed by UK DFID

Source: DFID, SL Guidance sheets, 1999.

Fig. 4.1 shows what a typical SL Framework looks like. On the left-hand side is the Vulnerability Context comprising of trends, shocks and stresses (external agents) that may prevent access or support to resources or assets as well as livelihood strategies from being undertaken. The next column is called the Livelihood Resources or Assets that people combine to eke out a living that include 5 assets in totality, namely, human, natural, social, physical and financial. Next to it includes the institutions, policy decisions and legislations determining the extent to which an individual or community can have access to its resources. The next column shows the strategies such as extensification/ intensification, migration etc. that are employed by the people (particularly rural communities) against vulnerabilities. The final column represents the outcomes, aspirations and goals. The sustainability of these Livelihood Outcomes is a key factor in the SL Approach.

4.4.1 The Vulnerability context

The Vulnerability context constitutes of the external environment in which people exist and over which they have limited or no control. These include, particularly, trends, shocks and seasonality (Trends such as those of population, resource trends including conflict, national and international economic trends, trends of governance and also of technology; shocks such as natural, economic, conflicts etc.; and seasonality of prices, production, health and employment opportunities). All these factors have a direct bearing upon people's assets (DFID, 1999).

Discerning the vulnerability context is an essential aspect of the SL Framework. However, this becomes very difficult as it remains farthest outside people's control- in the short to medium term. Understanding the nature of vulnerability is a key step towards the effective analysis of the SLF. For this, a distinction has to be made between local, national and global trends. Shocks need to be analysed by the community or households' understanding of past events to predict future ones. When thinking of seasonality, it is essential to consider both immediate and distant effects. Vulnerability is a function of how a particular household's livelihood would be affected by a particular hazard and the ability to cope with it. On one hand is the stress to which the household is exposed to and on the other hand is the internal side of defencelessness which reduces the ability to cope with the stress. The issue of vulnerability is multi-faceted and the SL approach seeks to mitigate against such insecurities by building up resilience with the help of strategies like diversification, migration etc.(Hautala, 2013).

4.4.2 Livelihood resources/ Assets:

Livelihood assets are also referred to as livelihood capitals or resources and their presence or absence determines the extent of vulnerability in the livelihood perspective.

The Livelihood Framework identifies 5 core asset categories or types of capital upon which livelihoods are built; namely Human capital, Social capital, Natural capital, Physical capital and Financial capital. These assets are typically displayed using a pentagon, of which there are many variations. The shape of the pentagon can be used to show schematically many variations in people's access to resources. The central point of the pentagon implies zero accessibility to assets whereas the outer perimeter represents maximum accessibility to assets. Based on this, different shaped pentagons can be drawn for different communities or social groups.

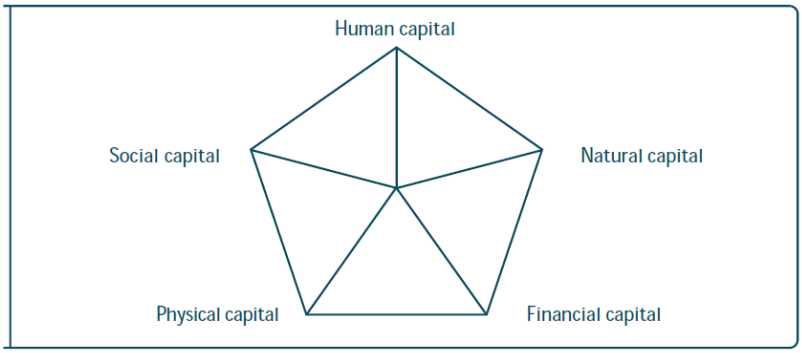


Fig 4.2. The Livelihood Asset Pentagon
Source: DFID, Guidance Sheets, 1999.

4.4.2.1 Human capital

Human capital refers to "the skills, knowledge, creativity, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives" (DFID, 1999 – 2.3.1). Human capital in fact, can be said to be the most important of all capitals because in addition to its own intrinsic value, it is essential to make judicious use of the other 4 assets or capitals.

Such assets include the amount of labour available within the household/community and the quality of the labour can be determined by assessing their level of education as well as health status. Further support towards accumulation of human capital can be provided by building schools and hospital, providing training sessions and other employment opportunities etc.

4.4.2.2 Social capital

All kinds of social relationships within and outside the community and household are treated as social capital. DFID (1999- 2.3.2) identifies these assets as "the social resources upon which people draw in pursuit of their livelihood objectives. These are developed through networks and connectedness, membership of more formalised group, relationships of trust, reciprocity and exchanges that facilitate co-operation, reduce transaction costs and may provide basis for safety nets amongst the poor.

Attempts to build social capital can include focusing on local institutions directly by improving the internal functioning through capacity building, leadership training etc. and by extending the external links of the local groups and also indirectly by creating an open democratic environment in which they flourish.

4.4.2.3 Natural capital

Within the asset pentagon, natural capital plays an important part in rural areas since majority of the people are engaged in one or the other kind of agricultural activity, be it agriculture, fishing, gathering, sericulture, horticulture, mineral extraction etc. These assets are not only essential for livelihood creation but for sustaining life itself.

The term 'natural capital' refers to all natural resource stocks from which resource flows and services useful for livelihoods are derived. It ranges from intangible public

goods such as biodiversity and climate, to assets such as land, trees, water that are used directly for production.

More secure access to and better management of natural capital can be achieved through more sustainable use of natural resources and biodiversity with the help of technology and also through proper environmental legislations and institutions to manage and govern proper access to these resources.

4.4.2.4 Physical capital

Physical capital comprises of (a) basic infrastructure: this includes affordable transport, secure shelter and buildings, adequate water supply and proper sanitation, affordable energy and access to communications ; and (b) producer goods: these are the tools and equipment that are used by people to function more effectively.

Infrastructure such as roads, railways and telecommunications are keys to the integration of remote rural areas. Proper infrastructure not only enables faster to and fro movement between rural and urban centres but it also implies that the poor people are more likely to be informed about opportunities (or lack of them) in areas to which they might want to migrate either temporarily or permanently. Therefore, to enable poor people to achieve their livelihood outcomes, it is necessary to provide direct support towards physical asset accumulation in the form of development of means of transport or telecommunications, capacity-building for community based construction and management and support to development of private sector alternatives.

4.4.2.5 Financial capital

Financial capital includes financial resources of the people in the form of savings, regular inflows of money such as pensions or other transfers from state and remittances and can also be obtained through credit providing institutions. According

to DFID, financial capital is the most versatile of all 5 categories of Livelihood assets since it can be converted into other types of capital depending upon Transforming Structures and Processes such as institutions, policy decisions and legislations. Moreover, financial capital is also the asset which is least available to the poor.

4.4.3 Transforming Structures and Processes

Transforming Structures and Processes within the Livelihood Framework represent the institutions, organisations, policies as well as legislations that influence access to livelihood resources and the composition of livelihood strategy. They operate at all levels, ranging from household to the international arena and in all spheres from private to public.

The influence of Transforming Structures and Functions extends throughout the framework in the following manner:

i) There is direct feedback to the Vulnerability Context. Processes (policies) established and implemented through structures affects trends both directly (fiscal and economic trends) and indirectly (health and population trends).

ii) Institutions can restrict people's choice of Livelihood Strategies (such as in rigid caste systems).

iii) There may be a direct impact on livelihood Outcomes. Responsive political structures that implement pro-poor policies such as social service extension services in rural areas can significantly increase people's sense of well-being.

4.4.4 Livelihood Strategies

Livelihood strategies denote the range and combination of activities that people make or undertake in order to achieve their goals or livelihood outcomes. The diversity of livelihood strategies exists at every level – within geographic areas, across sectors, within households and over time. Various versions of the Livelihood Approach use the terms 'adaptive' and 'coping' strategies as well. While 'adaptive' strategies include a process of change in response to long-term trends whereas 'coping' strategies functions as a short-term response to immediate shocks and stresses.

A very common manifestation of a Livelihood Strategy at the household level is 'straddling' whereby different members of the household live and work in different place, temporarily (seasonal migration) or permanently. Scoones (1998) has identified three options available to rural people when trying to improve their livelihoods. These are- migration, agricultural intensification/extension and livelihood diversification.

4.4.5 Livelihood Outcomes

Livelihood Outcomes are the end-products or achievements or aspirations of people or outcomes of Livelihood strategies. A key dimension of Livelihood Outcomes is that of sustainability. Aspirations here do not only imply economic gains but also maximising well-being of people. It essentially signifies:

i) More income – Increased income implies economic sustainability of livelihoods.

ii) Increased well-being – People's sense of well-being is affected by numerous factors like self-esteem, physical security, health status, maintenance of cultural heritage etc.

iii) Improved food security

iv) Environmental sustainability or in other words, more sustainable use of the natural resource base available to the people.

Livelihood programmes should therefore be judged on whether they contribute to the achievement of livelihood outcomes that people consider important.

4.5 Sualkuchi Livelihood Portfolios

The following section provides an account of the various livelihood assets discerned in the Sualkuchi weaver households as well as their constraints. It is however, important to note that these asset endowments keep on changing since they are influenced by the vulnerability context and by various structures, institutions and policies acting upon them. Moreover, the strategies so applied to obtain sustainable livelihoods directly reflect upon the various resources available to each and every unit of analysis. The Livelihood Portfolios of Sualkuchi weavers comprise of divergent capabilities and access to assets which are as follows:

4.5.1 Human assets (labour, education and health)

Considered to be the most important of all livelihood assets, the human capital is necessary for creating income and for judicious utilisation of other available resources too. It includes the quantity and quality of labour force, their knowledge and education, skill and leadership qualities and also their health status.

a. Labour: One of the human assets available to a healthy person in working age is his or her labour. It is generally found that women tend to dominate the labour ranks in Sualkuchi silk industry. Of the total 451 weaver households surveyed in Sualkuchi across 4 villages namely, Bamundi (Pub Sualkuchi Gaon Panchayat), Sualkuchi (Madhya Sualkuchi Gaon Panchayat) and

Srihati and Bathangaon (Paschim Sualkuchi Gaon Panchayat), almost 30 percent of them were female-headed. This implied that although the silk industry here survived due to massive efforts by the womenfolk, only a meagre 30 percent of them were strongly the decision-makers in their family.

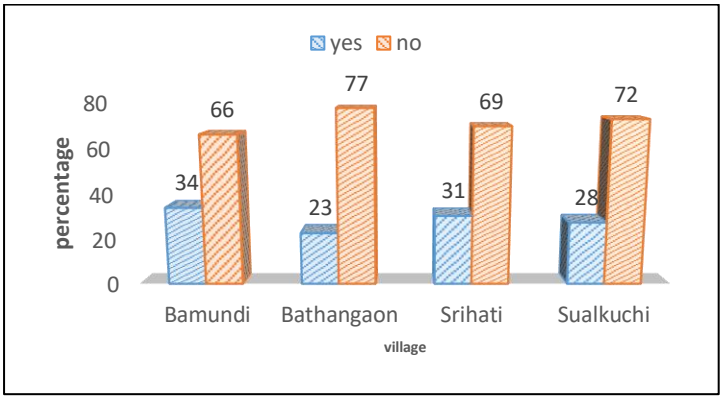


Fig 4.3: Female-headed households in Sualkuchi

Source: Field survey, 2015-16.

Family size indicates the extent of labour available in the family approximately. The average household (HH) size in the weaver household comprised of 3-4 members. The biggest HH comprised of 6 members while the smallest comprised of 2 members. Table 4.4 shows the HH size in each of the sample villages. Around 36.14 percent of the total households in Sualkuchi have a moderate household size of 3-4 members. With a rapid pace of modernisation, improvement in education, medical facilities and an increasing awareness in family planning measures, the present generation of Sualkuchi weavers do not consider large family as an advantage. However, this is indirectly leading to a decline in the labour available for weaving in the household.

Table 4.1: Family size of the Weaving Households

Village	0-2	% of HH	2-3	% of HH	3-4	% of HH	4-5	% of HH	5-6	% of HH	Total
Bamundi	28	13.86	65	32.18	67	33.17	42	20.79	0	0.00	202
Bathangaon	10	18.87	11	20.75	19	35.85	13	24.53	0	0.00	53
Srihati	4	14.81	6	22.22	10	37.04	6	22.22	1	3.70	27
Sualkuchi	29	17.16	41	24.26	67	39.64	32	18.93	0	0.00	169
Total	71	15.74	123	27.27	163	36.14	93	20.62	1	0.22	451

Source: Field survey, 2015-16.

For majority of the households, the main economic activity is weaving, apart from that a very few of them have taken up subsidiary occupations like agriculture (6 percent), wage labour (25 percent), government service (18 percent) and trade (68 percent). In fact, the marketing of silk fabrics in Sualkuchi continues to be a male-dominated activity. The diversification of economic activity is quite low here as results show that only 10 percent of the HHs pursue more than one economic activity.

Table 4.2: Population as per age-group in the study area

Gram Panchayat	Village	Age (in years)				Total
		15-30	30-45	45-60	60 & above	
Madhya Sualkuchi	**Sualkuchi**	51(25.24)	122(60.39)	27(13.36)	2(0.99)	202
Paschim Sualkuchi	**Bathangaon**	9(16.98)	37(69.81)	7(13.20)	0	53
	Srihati	5(18.51)	19(70.37)	2(7.40)	1(3.70)	27
Pub Sualkuchi	**Bamundi**	40(23.66)	108(63.90)	16(9.46)	5(2.95)	169
	Total	105(23.28)	286(63.41)	52(11.52)	8(1.77)	451

Source: Field survey, 2015-16.

While analysing the age of the women weavers, it was found that majority of the workforce in Sualkuchi (63.41 percent) belonged to the 30-45 age group.

Only 23.28 percent of them were between 15-30 years of age, 11.52 percent and 1.77 percent of them belonged to 45-60 age group and above 60 years respectively. Hence, the working force comprised of women basically aged between 30 to 45 years.

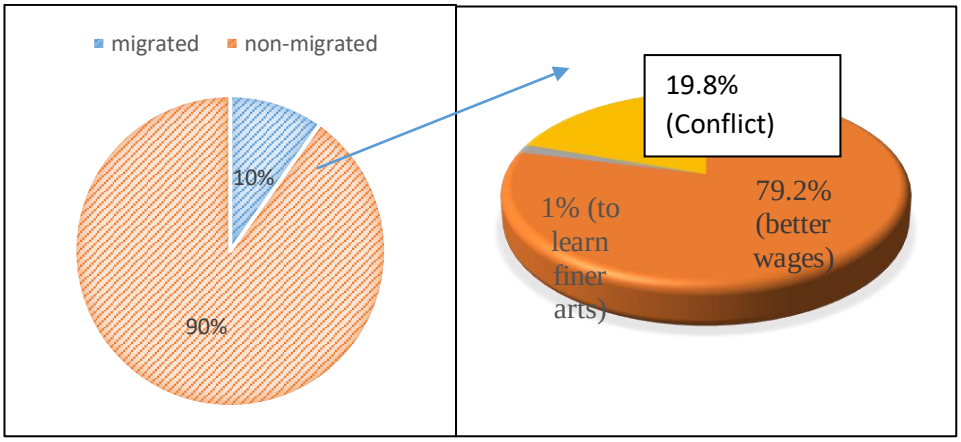


Fig 4.4: Migratory status of the respondents and Reasons behind migration to Sualkuchi

Source: Field survey, 2015-16

The survey also shows that of the total no. of weaver HHs in Sualkuchi, about 10 percent of them had migrated from nearby areas. These migratory young women, mostly from amongst the tribal communities of nearby districts, particularly Bodo and Rabha women have settled here seeking wage employment to earn a living. While 79.2 percent of these women have reported to have settled here for getting better wages, 19.8 percent of them have migrated here due to conflict in their place of origin and only 1 percent have reported to have come here to learn the finer techniques of weaving.

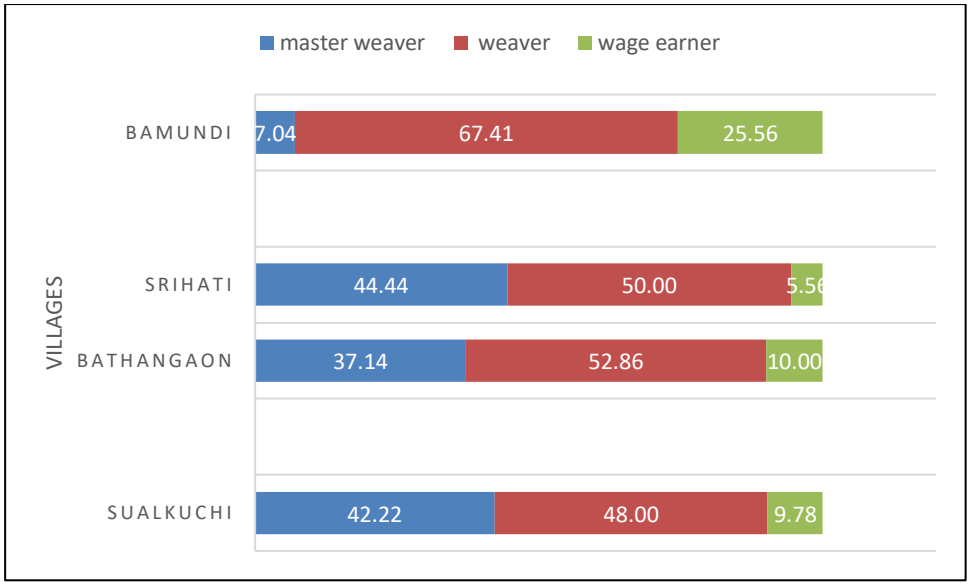


Fig 4.5: Weaving category of the respondents

Source: Field survey, 2015-16

It came to be understood further from the survey that majority of the women weavers in Sualkuchi belonged to the class of dependent weavers working under Mahajans and also independent ones (67.41 percent in Bamundi, 50 percent in Srihati, 52.86 percent in Bathangaon and 48 percent in Sualkuchi village), the rest however were either master weavers or wage earners. When asked about the reasons for choosing weaving as a primary economic activity here, 70.7 percent of the women weavers responded that it was their hereditary occupation that was passed on to them by their forefathers who were experts in this field, 15.22 percent had adopted this avenue as it required minimal investment, 13.8 percent of them responded that weaving is the only skill known to them and a meagre 0.28 percent took it up for learning and mastering the art.

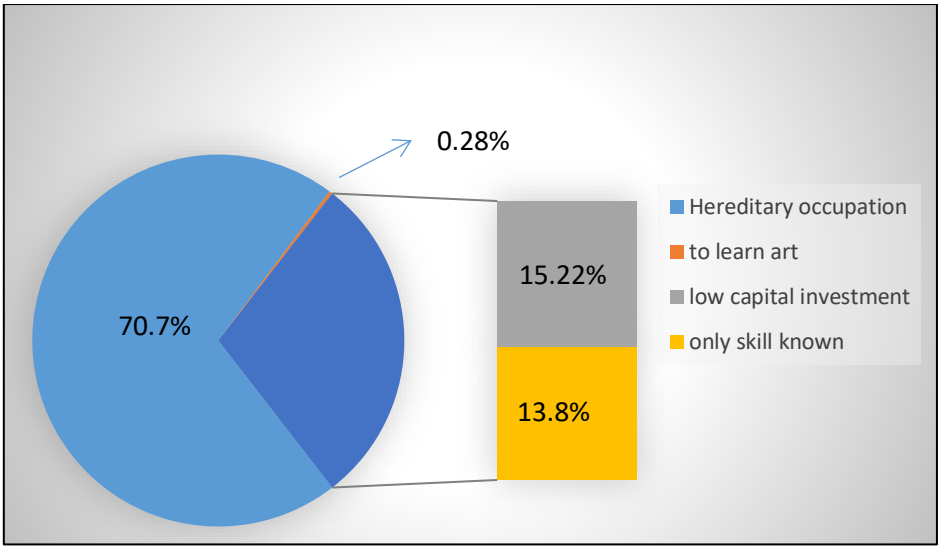


Fig 4.6: Responses of the weavers with respect to the choice of occupation

Source: Field survey, 2015-16.

Due to insufficiency of skilled workers in the study area, most of the weaver households had to hire workers for carrying out their occupation. It was found that of the total 451 weaver HHs surveyed in Sualkuchi, on an average, 3 members of the HH were involved in weaving and every weaver HH had to hire at least one worker for the smooth running of their work. In fact, 92.7 percent of the women weavers believed there is an acute shortage in the supply base of skilled weavers in Sualkuchi. The main reasons identified behind such a dearth in the silk labour-force here include: inadequate wages (20.75 percent), workers are not adequately trained in weaving (23.48 percent), occupational shift such as weavers have started investing in other retail or wholesale business, employed as MNREGA workers etc. (10.38 percent) and migration to cities in search of better standard of living or for education, being the prime factor (45.39 percent of responses).

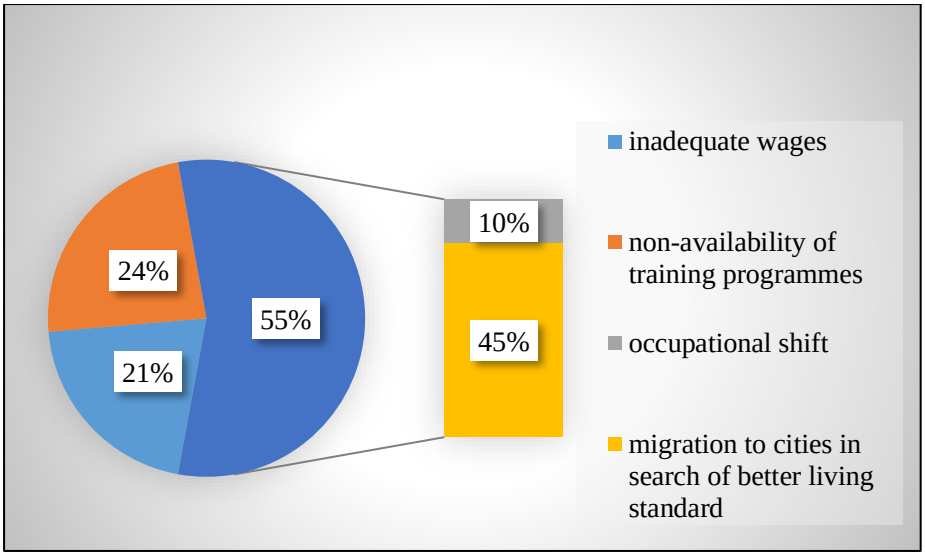


Fig 4.7: Reasons behind the inadequacy of silk labourers in Sualkuchi

Source: Field survey, 2015-16

b. Education and skills:

Access to education is an important factor impacting the human capital. In fact, a number of scholars argue that education is in fact a pre-condition for coping with vulnerabilities and for poverty reduction. Although higher education does not guarantee more income or lacking formal education a disadvantage with respect to weaving, education can no doubt offer more opportunities for working in other fields and can also facilitate a greater diversification of income-generating activities. It is interesting to note that among the 451 weaver HHs in Sualkuchi Development Block, a substantial number of the women weavers within the HHs in each of the 4 villages are educated (75 percent literate women in Sualkuchi, 70 percent in Bathangaon, 78 percent in Srihati and 80 percent in Bamundi). In fact, the overall literacy level can be said to be very high (76 percent). The educational level also ranges from primary, secondary, senior secondary, graduation till the post-graduation level.

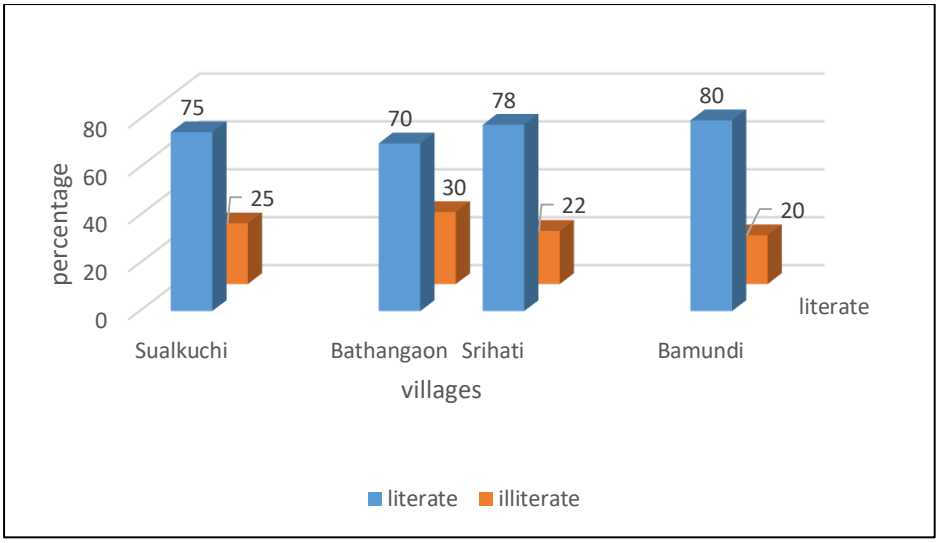


Fig 4.8: Educational Status of the weavers

Source: Field survey, 2015-16.

It can further be highlighted that apart from formal education, it is more the experience as well as expertise in weaving that can greatly help people to improve their economic condition in this sector. With respect to the experience of the women weavers it was found that nearly 53.2 percent of the women weavers had almost 10-20 years of experience in weaving and other allied activities and a remaining 46.8 percent of them had minimum 5-10 years of expertise in this field. Again, when the average working hours per day of the women weavers was analysed it was found that 70.4 percent of them spent nearly 4-8 hours every day in weaving and other allied works apart from their household chores.

The women weavers of Sualkuchi did not receive any kind of formal training in weaving. Although the Sualkuchi Institute of Fashion Technology (SIFT) was set up by the Govt. of Assam (just adjacent to the Block Development Office in Sualkuchi), it came to be understood from the FGDs with the women weavers that such training programmes undertaken at the SIFT were

of little use to them. Since the training course was designed for girls in the age group 18-25 years and hence after obtaining the training, most of such girls were married off to nearby villages because of which the skill so obtained through training in the institute could not be effectively utilised in the study area. The women weavers of Sualkuchi no doubt differed in their skills and knowledge but they mostly used the same tools and techniques for weaving and other allied tasks which they had inherited from their forefathers.

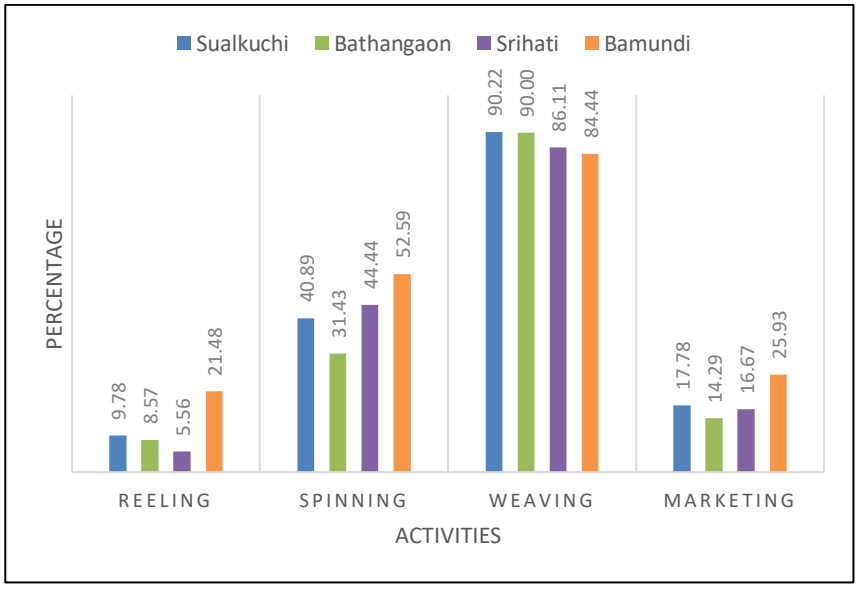


Fig.4.9: Village-wise silk related activities specialised by the weavers

Source: Field survey, 2015-16.

Although Sualkuchi is a commercial weaving cluster in the entire North-eastern part of India, the women weavers here also are found to specialise in activities apart from weaving alone; these include reeling, spinning as well as marketing (marketing happens to be more male-dominated in the area). When the silk related activities of the weavers were analysed village-wise it was

found that among the 4 villages, reeling of *muga* cocoons (21.48 percent) and spinning (52.59 percent) was carried out mostly by women belonging to Bamundi village, while only 5-10 percent were specialised in spinning and 30-40 percent in reeling in the other three villages namely, Bathangaon, Srihati and Sualkuchi. These *muga* cocoons in Bamundi were brought in trade from several *muga* growing regions of upper Assam. Weaving is mostly concentrated in the villages of Sualkuchi and Bathangaon (almost 90 percent of the weavers), 86 percent in Srihati and 84 percent in Bamundi. The village Bamundi lies somewhat in the periphery of the Block and hence, from the survey it can be said that since *muga* reeling and spinning is still dominant here as compared to the core villages like Sualkuchi and Bathangaon, the degree of commercialisation in this village is quite less as compared to the other villages where *muga* is very less to be seen and new artificial silk weaves are fast replacing it.

c. **Health status:** Physical health also plays a crucial role in obtaining a secure livelihood. In other words, the better the health of the weavers, the secure is their livelihood. Although the study of health effects of weaving is not within the scope of this thesis, it seems likely that some negative health effects have also been experienced. During the fieldwork, the primary diseases that have been reported in the study area owing to long strenuous working hours by the womenfolk include back-ache, spondylitis, eyesight problems, headache, lower and upper limb pain, chest pain etc.

The overall health scenario of the region was found not to be quite satisfactory. The informants narrated that hospital and dispensaries were at a distance of 2-3 kms on an average from their homes. However, another issue

that was brought up by during the survey was that a majority of the informants narrated how bad sanitation and hygiene contributed negatively to the health of the population. They claimed that only 40.8 percent of the HHs had access to sanitary latrines and 84.2 percent of them disposed their household wastes in the open fields. 47.3 percent of the respondents also found the quality of water available in Sualkuchi to be quite unsatisfactory.

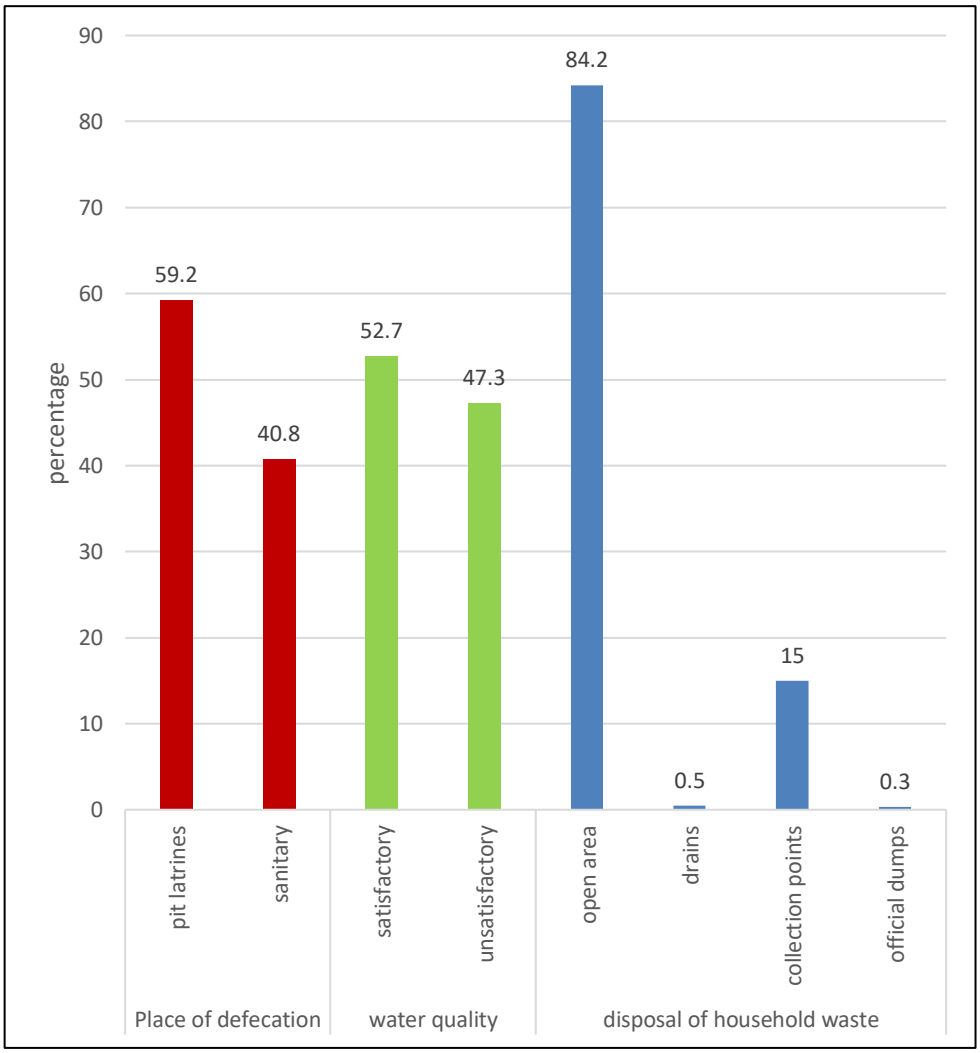


Fig 4.10: Health and sanitation conditions in the study area

Source: Field survey, 2015-16.

Plate 4.1 The Primary Health Centre at Sualkuchi

Overall it can be said that the vulnerability of the surveyed HHs is expressed as: low diversification in economic activity as most of the weavers pursue only weaving to earn income; 62.6 percent of them responded that the nature of their employment is seasonal or casual; there is inadequacy of silk labourers and a lack of skill development programmes. With respect to health and sanitation, the conditions are found to be not quite satisfactory. The weaver HHs are exposed to several other kinds of vulnerabilities which will be discussed in the next chapter.

4.5.2 Natural assets (raw materials)

Natural capital comprises basically of all stocks of natural resources be it land, soil, vegetation and water from which rural livelihoods derives their flows and services. Natural capital is no doubt, the basic foundation for any rural livelihood but as this study is concerned with rural HHs, especially those that pursue weaving as their primary economic activity, therefore, the natural capital in the form of land, soil or vegetation is not of prime importance here. With respect to water supply in Sualkuchi, almost 60

percent of the HHs had provision of tube-well for obtaining drinking water and the other sources included taps (23 percent), wells (16.6 percent) and pond (0.3 percent). The natural assets in this case more importantly include the various types of raw materials used by the weavers for production. As already mentioned, Sualkuchi is a commercial weaving cluster in the entire north-eastern region of India and it gets its raw material supply from outside (both within the country as well as abroad). 56.25 percent of the total women weavers reported that they received the raw materials for production of their silk fabrics directly from the market (silk yarn either from the local market at Sualkuchi or Guwahati and *muga* cocoons from Upper Assam), 31.38 percent of them obtained it from govt. depots, 12.13 percent of the weavers who belonged to the category of dependent weavers got their requirement from the Mahajans and mere 0.25 percent from the cooperatives operating in Sualkuchi.

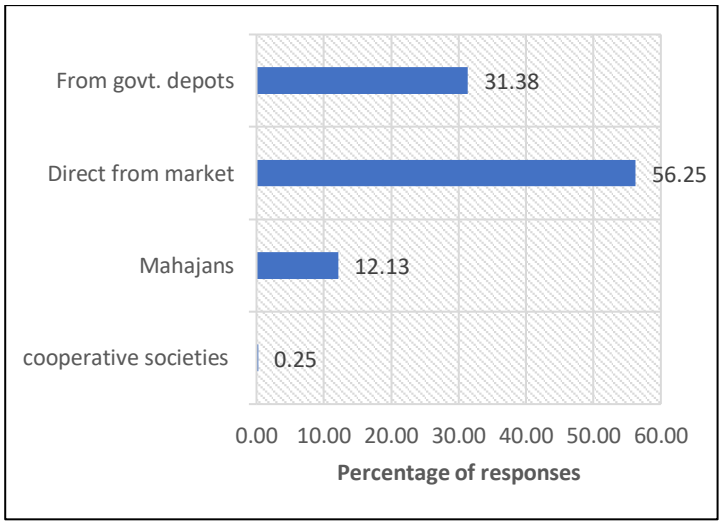


Fig 4.11: Source of raw materials for production of silk fabrics

Source: Field survey, 2015-16.

The raw material types used for weaving in Sualkuchi looms comprise of varied types such as *muga* silk yarn, *paat*, *eri*, *tassar*, cotton, rayon, various types of artificial yarn etc. It is found that with respect to the usage of various types of silk yarns in the looms across the 4 main surveyed villages of Sualkuchi, the consumption of *muga* is more in Bamundi village (37 percent of the HHs using muga as a primary raw material, as compared to 10-16 percent of the HHs in the remaining 3 villages). While the usage of other varieties of silk be it *mulberry*, *tassar* or *eri* is found to be high in the rest apart from Bamundi village.

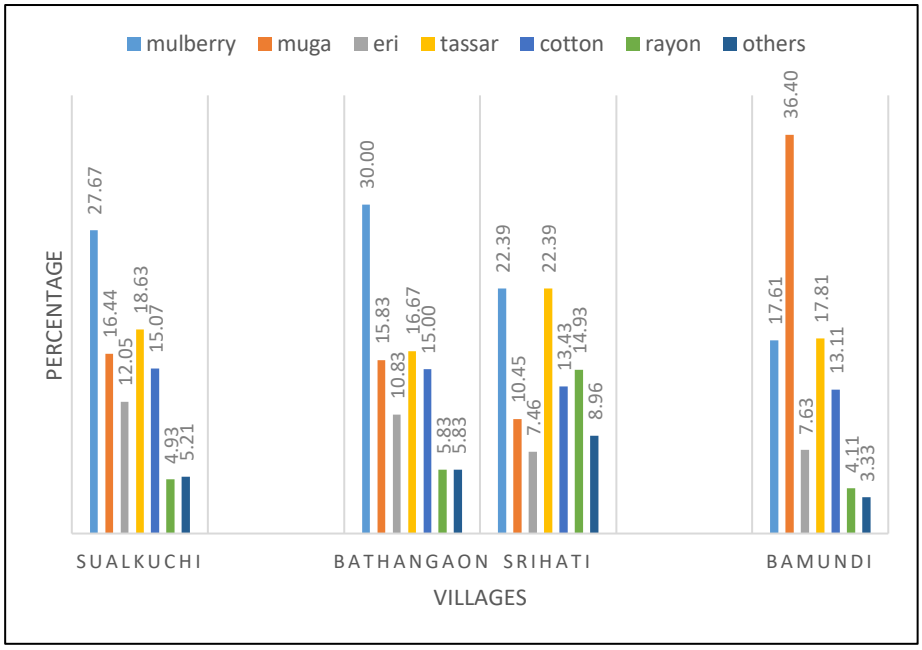


Fig 4.12: Village-wise usage of types of raw materials for silk fabric production

Source: Field survey, 2015-16.

Further when the percentage share of raw material consumption was analysed as a whole in Sualkuchi, it can be stressed that *muga* yarn comprises of only 26 percent share while the rest that also included artificial silk such as tassar, rayon, and cotton comprised of the remaining

74 percent and are fast replacing the original weaves of the region which is indeed a matter of great concern.

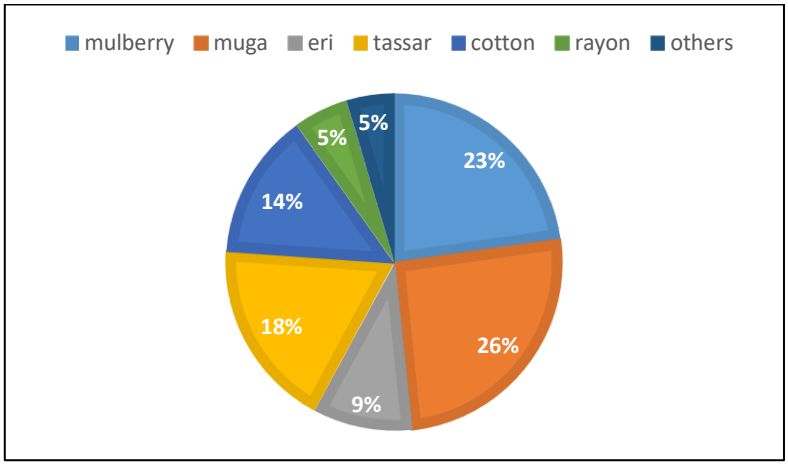


Fig 4.13: Share of the raw material type used by the weavers

Source: Field Survey, 2015-16.

4.5.3 Physical assets (basic infrastructure and producer goods):

Physical assets refer to both publicly as well as privately owned assets. It includes type and quality of housing, basic services like drinking water and access to electricity and producer goods that include tools and other equipment available to the women weaver for pursuing their livelihood.

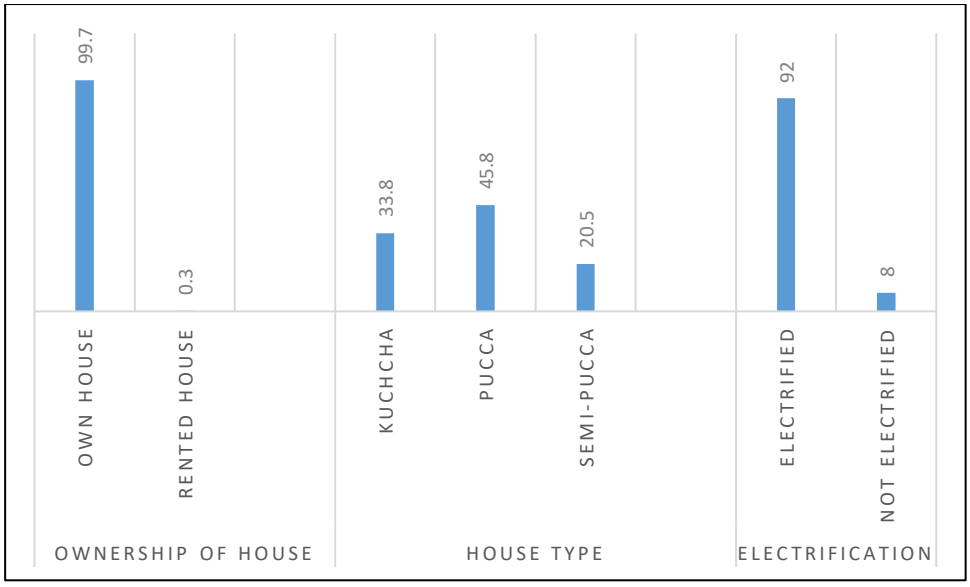


Fig 4.14: Status of physical assets in Sualkuchi weaver households

Source: Field Survey, 2015-16.

With respect to shelter, the majority of the HHs (about 99.7 percent) live in their house and only 0.3 percent rent their shelter. Looking more closely at the quality of the houses, it can be observed that the house-type of the HHs include pucca (45.8 percent), kuchcha (33.8 percent) and semi-pucca (20.5 percent) type. Depending upon the climatic conditions of the study area, most of the houses are of Assam-type with tin and asbestos roof tops and only a few comprise of RCC buildings. Considering the provision of basic services in the study area such as drinking water and electrification, results show that 60.1 percent of the HHs have tube-well connections in their houses for the purpose of drinking water and utilisation in household chores, rest 39.9 percent derive it from wells, taps and ponds nearby. Almost 99 percent of them also benefit from electric connections. However, the supply of electricity was interrupted by frequent power cuts which led to a delay in executing their work of weaving.

Social infrastructure such as schools, colleges, dispensaries and hospitals are within the reach of the inhabitants and happen to be at a distance of 2-3 kms on an average in each of the 4 villages. The Sualkuchi Development Block is well connected by NH-37 to the nearest metropolitan city of Guwahati which lies at a distance of 32 kms from Sualkuchi.

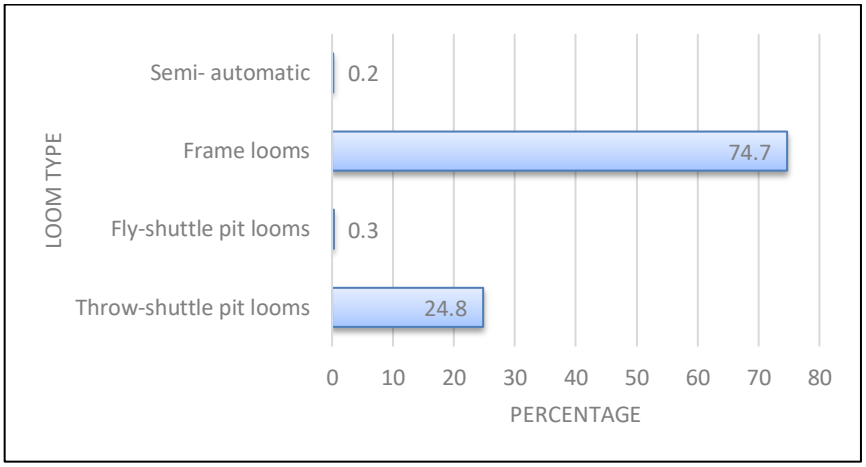


Fig 4.15: Type of loom used for production

Source: Field Survey, 2015-16.

Since the silk industry at Sualkuchi comes under household or cottage industries, therefore, the work-shed or working space is confined within the household premises. The looms in Sualkuchi are not modernised according to the latest trends. 78.7 percent of them believed there has been no modernisation of looms for weaving during the last 10 years and 93.8 percent added that there has been no installation of any new tools or techniques too. The loom is a prized possession for the people of Sualkuchi as their livelihood as well as sentiments is attached to it. However, no amount of effort has been undertaken to improve the mechanism of the single equipment that has been in use since time immemorial. With respect to the

type of looms in use in Sualkuchi, 75 percent of the women weavers responded that they used simple frame looms for weaving silk and the remaining 25 percent of them had throw-shuttle pit looms in use in their houses. The difference between throw shuttle and fly shuttle looms is that the shuttle is thrown across the shed by hand in the former while it is thrown across the shed by means of a mechanical picker and has the advantage of weaving intricate extra weft patterns in the latter. However, this type is limited in use in Sualkuchi. With rudimentary tools and equipment in use for the purpose of silk weaving, the quantity of cloth produced per day per weaver is also very less. More than 74 percent of the HHs on an average produce below 5 metres of fabric per weaver in a day (Sualkuchi-81 percent, Bathangaon-70 percent, Srihati- 61 percent and Bamundi 85 percent)

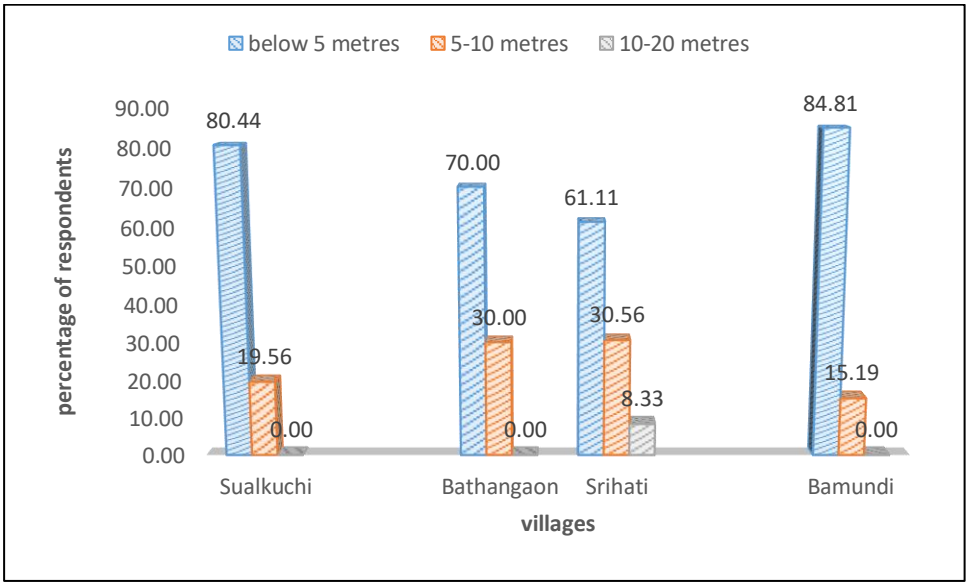


Fig. 4.16: Cloth produced per day per weaver in Sualkuchi (in metres)

Source: Field Survey, 2015-16.

Summarising it can be said that most of the weaver HHs in Sualkuchi had access to basic amenities like shelter, drinking water and electricity provision in their houses but with respect to producer goods like the type of tools and machinery used for weaving, there has been no significant improvement towards installation of improved mechanisms for weaving which has put a detrimental effect on the quantity as well as quality of fabrics produced from Sualkuchi and as such are facing tough competition from power looms and artificial silk fabrics in the market.

4.5.4 Financial assets (household income and savings):

Financial assets imply all kinds of financial resources that help people to achieve their livelihood outcomes in a sustainable manner. It comprises of both stocks (savings in cash or bank deposits) and flows (income, pensions, remittances and transfers from the govt. etc.) of financial capital. Hautala (2013) however argued that while financial resources tend to be versatile, but they alone cannot solve all problems of poverty. Owing to lack of knowledge or constraint by inappropriate policies, institutions and processes etc., people may not be sometimes able to put their financial assets to proper utilisation.

It is a very difficult task to gather accurate information regarding the income of the weavers in the villages since the nature of their work is mostly seasonal (about 62.6 percent of the weavers confirmed to it). Moreover, not all weavers are accustomed towards keeping account of their earnings and expenses as they live mostly on weaving as their primary activity. Data regarding their income have therefore been collected and analysed by asking them about how much they gain from the sale of their fabrics. Another way

of assessing their income status is by asking them about their monthly expenses.

Table 4.3 Monthly income of women weavers in Sualkuchi

Monthly income (in Rs.)	No. of HH	Percentage
Below 6000	183	40.6
6000-8999	265	58.8
9000-11999	3	0.7

Source: Field Survey, 2015-16.

The women weavers of Sualkuchi were not able to give details about their monthly income as a major proportion of them were employed as wage labourers (16.63 percent) and earned income on a daily basis. Most of them were dissatisfied with the low wages they got by weaving. On an average, it was found that 183 weavers (40.43 percent) earned below Rs.6000 month, 265 weavers (58.9 percent) earned between Rs.6000-9000 monthly and only 3 weavers (0.006 percent) earned above Rs.9000 per day from weaving and other allied activities. Income increased to considerable extent only during peak work seasons like Bihu or marriage.

Table 4.4 Mean of the monthly expenditure on various heads by the weaver HHs (in Rs.)

	food	Cloth	education	health	debt	rent	Miscellaneous
N	451	385	352	447	23	2	326
Mean	3573.17	929.35	1193.98	1251.01	2021.74	2200	1574.54

Source: Field Survey, 2015-16.

While analysing the expenditure on various heads such as food, clothing, education, health, debt, rent and other miscellaneous categories, it was found that the weaver HHs spent Rs.3500.00 on an average per month on food, Rs.1000.00 on clothing, Rs.1000.00 on education of their children,

Rs.1200.00 on health, Rs.2000.00 on repaying debt, Rs.2000.00 around on rent and Rs.1500.00 on other miscellaneous aspects. Miscellaneous categories included expenses on obtaining the basic raw materials for production. The expense however, depended on the type of raw material (the type of yarn) that the weavers used for weaving of fabrics. *Muga* yarn is costly and amounts to Rs.8000-10,000 per kg and its annual requirement is about 1 quintal. In case of *paat*, however, the cost is around Rs.4000-5000 per kg and its annual requirement amounts to 12 to 28 kgs depending on its use. In addition to their monthly earnings as well as expenses, only 19 percent of the women weavers recorded a high degree of profit in sales while almost 81 percent of them responded that they received profit only to a considerable extent. The prime reasons for not getting reasonable profit in their sales as identified by the women weavers included competition from power looms (47.6 percent), high cost of production (39.9 percent), lack of marketing facilities (30.8 percent), no government intervention (30 percent) and middlemen involvement (16 percent).

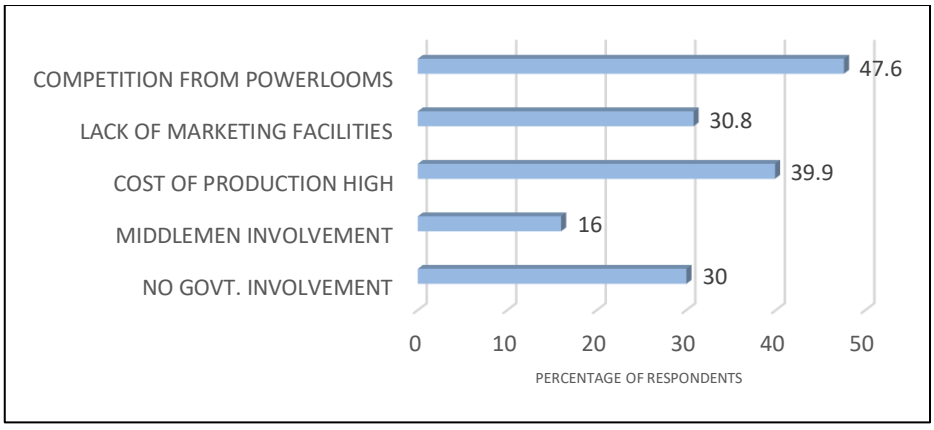


Fig 4.17: Reasons for not getting reasonable profit

Source: Field survey, 2015-16.

Other monetary inflows like subsidies in the form of hank yarn of about 32 kgs and some small amount of money was reported to have been obtained by only 2 percent of the weaver HHs. An important barrier towards achieving livelihood aspirations is the lack of access to reliable credit facilities in Sualkuchi. The women weavers of Sualkuchi produce silk fabrics for income generation as well as for own consumption. The average weaver does not get the opportunity to save money as the income so earned after selling off their products in the local or national market, is immediately put to use for buying yarn or *muga* cocoons or other inputs of production. Most of the times the weavers have to obtain credit from various sources like commercial banks, weaver cooperative societies, money lenders, self-help groups or friends and relatives. Only 35.5 percent of the weavers relied on money lenders for getting credit as the rate of interest demanded by them is quite high. 92.2 percent weavers obtain loan from friends and relatives, while 79 percent from commercial banks, 76 percent from self-help groups operating in Sualkuchi and 62 percent from cooperative societies.

Table 4.5: Credit obtained by the weavers from various sources

	Responses		
	N	Percent	Percent of Cases
Commercial banks	268	22.9%	79.1%
Friends and relatives	346	26.7%	92.2%
Moneylenders	112	10.4%	35.8%
Cooperative societies	265	17.9%	61.7%
Self-help groups	351	22.1%	76.2%
Total	1342	100.0%	345%

Source: Field survey, 2015-16.

Therefore, in Sualkuchi, the most common way to finance expansion or helping in times of crises is through small loans in friends or family groups. In these groups it is generally found that the rate of interest is moderate (71.3 percent of the weavers confirmed to it). Although the money obtained was not much, but these small loans acted as a safety net to the weavers in moments of crises. Summarising, it can be said that the monthly income of the weavers is hardly enough to cover the HHs monthly expenses. Moreover, insufficient credit mechanisms also hamper the livelihood security of the women weavers of Sualkuchi. Only an increasing access to better financial assets can be a key stone towards achieving better livelihood outcomes.

4.5.5 Social assets (social ties and networks):

As already mentioned, social capital includes all kinds of social resources developed through networks and connectedness, membership of formalised groups or associations and relationships of trust, reciprocity and exchanges. Social capital is particularly important as it is a 'resource of last resort' for the poor and vulnerable and it can also compensate for a loss of other types of capital within the household (DFID, 1999).

Most of the women weavers of Sualkuchi are unorganised and only a mere 13.6 percent of them are members of a few weaver cooperative societies in Sualkuchi. Some of the groups of women weavers who took part in the focus group discussions with the researcher have also revealed the fact that they are members of self-help groups (created under the National Livelihood Mission of the Govt. of Assam) and these groups had regular meetings wherein they discussed weaving related issues with the Community Resource Persons (also known as CRPs) in the area and other government officials deputed for

training here. Such self-help groups also assisted the weavers in obtaining loans as discussed already. Again, when enquired about the functioning of weaver cooperatives in the region, 76 percent women weavers confirmed to their poor service to the workers and 77 percent of them believed their service as an essential domestic linkage between buyers and sellers is quite unsatisfactory. It is found that social capital can also compensate for the lack of any other capital within the household. For e.g., shared labour groups can compensate for the scarce labour force within the weaver family. In the case of Sualkuchi weavers, whenever there is a scarcity of members available for working in the looms, on the basis of relationships of trust, reciprocity and mutual cooperation, the women weavers are able to hire at least 1 labour on an average to work in their looms.

Summarising, we can say that the social ties and networks that the weaver HHs depend on include informal ties like kinship, friends and neighbours in times of livelihood crises in Sualkuchi. Formal organisations and networks are not quite common here and support from government organisations is also very low.

4.6 Barriers to achieving livelihood outcomes

An immediate perception from the asset analysis of women weavers and their households can be discerned with the help of an asset pentagon which is analysed subsequently in this section. The asset pentagon kept at the core of the Sustainable Livelihood Framework developed by the Department for International Development (DFID) gives a visual representation of the various resources that people possess and the inter-relationships between them. The shape of the pentagon is a schematic representation of the variation in peoples' access to assets. While the centre point of

the pentagon, where lines meet represents zero access to assets, the outer perimeter shows maximum access. On this basis, different shaped pentagons can be drawn for different communities or social groups within communities. However, these asset endowments keep on changing and hence, pentagons are constantly shifting (DFID, 1999)'

4.6.1 The Sualkuchi Livelihood Asset Pentagon

For the purpose of indicator designing and creating the livelihood asset pentagon of Sualkuchi weaver households, a number of indicators have been consulted from international and national works like that of Chen et al (2013), FAO (2001), Nagaratna and Satyapriya (2013), etc. covering all the 5 capital assets mentioned in the SLF and compiled in Table no 4.7.

The status of livelihoods in Sualkuchi presented as a pentagon in Fig. No 4.23 depicts the possession of 5 types of capital: human, natural, physical, social and financial by the weaver households. The pentagon is asymmetrical which implies a disproportionate distribution of assets in Sualkuchi. It explicitly shows limited financial capital (0.44) and average human (0.61), natural (0.60) and physical capital (0.59), although social capital dominated the pentagon (0.62) but it also falls within the average category. The findings of the pentagon are deliberated on the light of the results shown in table no 4.7

Table 4.6: Status of Livelihood Assets of Sualkuchi Weaver Households

Capitals	Indicators	Indicator weight	Capital value
Human (Ch) (labour, education &health)	Household Members	0.52	0.61
	Hired Members	0.57	
	Educational Status	0.77	
	Skill and Knowledge	0.58	
	Water Quality	0.53	
	Place of Defecation	0.70	
	Disposal of HH Waste	0.57	
Natural (Cn) (resources for production)	Access to drinking water	0.76	0.60
	Raw Material	0.44	
Physical (Cp) (producer goods and basic infrastructure)	House Type	0.70	0.59
	Electrification	0.92	
	Loom Status	0.32	
	Status of Fabric Produced	0.40	
Social (Cs) (social ties & network)	Community Membership	0.14	0.62
	Participation in HH Decision Making	0.85	
	Family Networks	0.86	
Financial (Cf) (income & savings)	HH Income	0.53	0.44
	HH Expenditure	0.53	
	Subsidy	0.02	
	Credit/ Loan	0.68	
Livelihood assets (LA)	**=(Ch+Cn+Cp+Cs+Cf)/5**		**0.57**

Source: Field survey, 2015-16

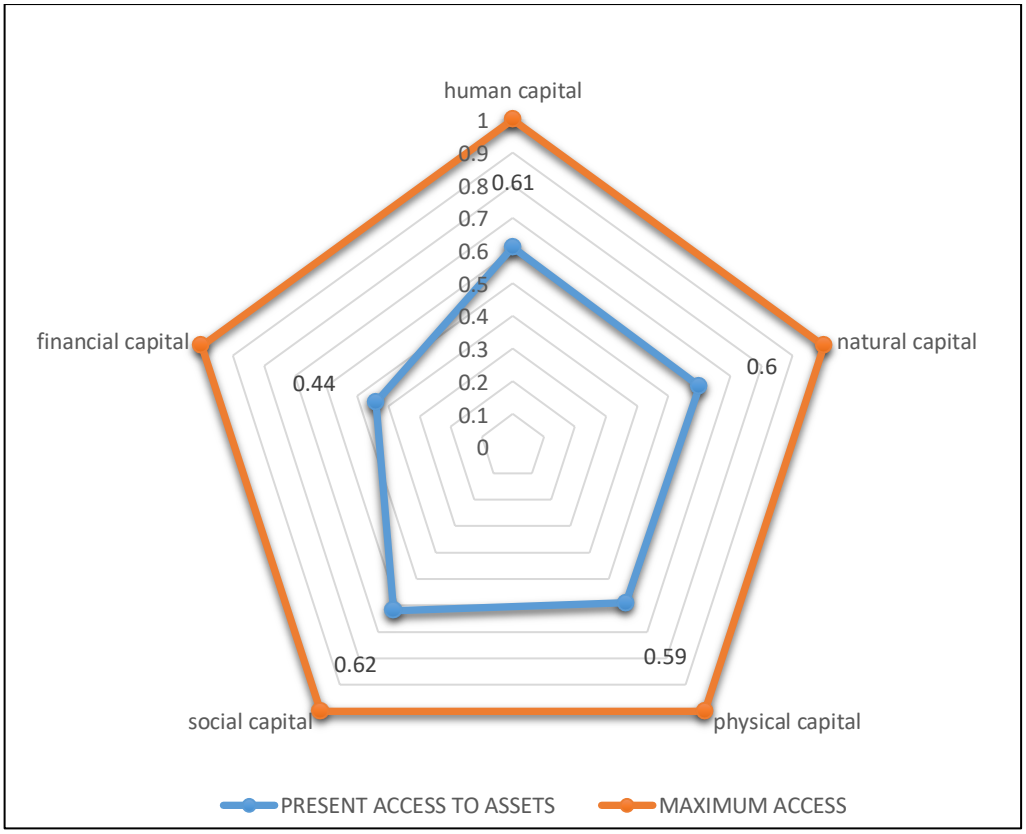


Fig 4.18: Livelihood Asset Pentagon of Sualkuchi Weaver Households

Source: Field survey, 2015-16.

Overall it can be said that the weavers here have been undertaking an occupation which requires a high price for investment and a higher labour requirement but what they have been getting in return is minimal in nature and amount. Secondly, owing to this, a majority of the weavers are not satisfied with their jobs and fear that the younger generations will not be much interested in carrying forward their age-old legacy. Many of them are either shifting to other occupations in Sualkuchi or are moving out to nearby city of Guwahati to earn a better living. There is a dearth of human capital, lack of sufficient financial capital, shortage of both physical and natural capital and a limited scope of social capital in Sualkuchi. All these factors pose a serious threat to development of the silk weaving sector in Sualkuchi and under such circumstances new opportunities for growth are likely to be beyond their

reach. The next chapter, therefore, seeks to understand as to why there has been limited maintenance and intensification of the livelihood resource base in Sualkuchi. This is done through an analysis of the vulnerability context in the study area.

4.7 Gender relations in the Sualkuchi Weaver Households

Sexual discrimination of labour is at the root of gender imbalance in the family and therefore, in society. Society has placed three major roles on women- productive, reproductive and managerial but burdens men with only two: productive and managerial. Sualkuchi is a commercial weaving hub in the entire North-Eastern region of India where more than 60 percent of the adult weaving workforce is women. Even then, weaving as a livelihood in today's global world has not been able to guarantee them a secured lifestyle and accord them with a better social status in society owing to a few reasons. It is found that in Sualkuchi, all pre-loom activities such as twisting, spinning and reeling (also known as "*Jugaar dhora*" or aiding) are a part of the women weavers' daily household chores. In order to cut down the cost of production, the Mahajans as well as the male weavers engage the women members of their household to do the pre-loom activities as part of their household work. Moreover, if the hired weavers remain absent from work due to illness or personal problems, the women weavers are expected to fill the gap in work and complete it on the stipulated time. Men on the other hand, are more involved in the market-oriented side of the continuum of work. Hence, it is found that although women play an indispensable role in sustaining this historic craft but their labour remains invisible, unaccounted and unpaid for. Therefore, to analyse the nature of gender relations within the families of the women weavers, it becomes necessary to examine the extent of this sexual discrimination of labour in the family by analysing several aspects as discussed below.

4.7.1 Time spent on Household chores

The women weavers in Sualkuchi have to bear the dual burden of maintaining their household chores as well as involving themselves in weaving and other allied tasks in their spare time. The average daily time spent on household chores by 31.67 percent of the weavers is less than 4 hours, 44.33 percent of them spend around 4-8 hours in household chores while the remaining 24 percent of them spend around 8-12 hours.

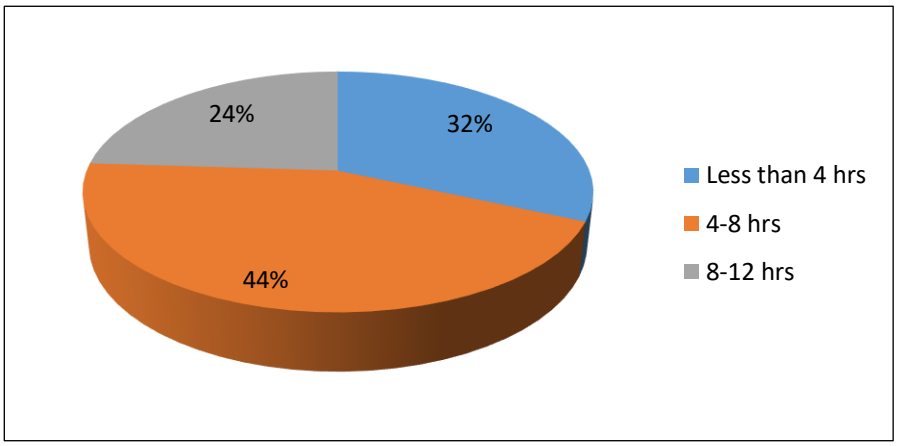


Fig 4.19 Time spent on Household chores by the women weavers

Source: Field survey, 2015-16.

4.7.2 Sharing of Household chores

64 percent of the women weavers have to perform all household chores alone besides working at the loom. Data reveals that only 5 percent of them are assisted by their husbands in the chores which indicates a marked sexual discrimination of labour in the family, 30 percent of them are helped by other female members in the family and the remaining 1 percent of them are assisted by hired help.

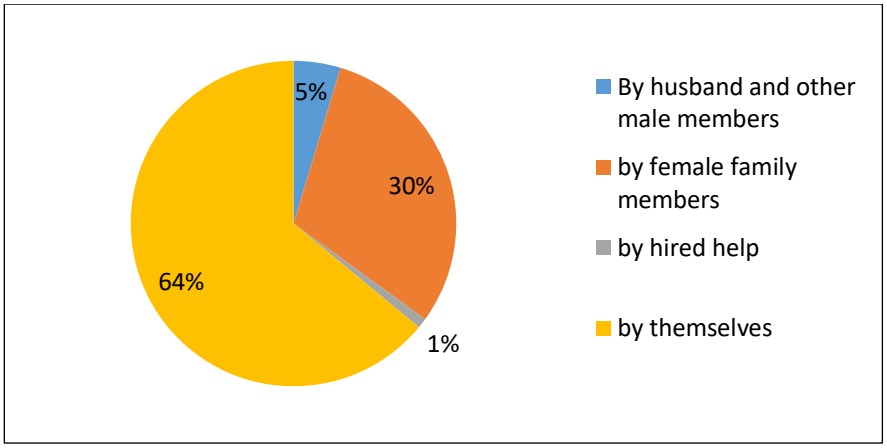


Fig 4.20: Sharing of Household chores by other members

Source: Field survey, 2015-16

4.7.3 Sharing of child rearing responsibility

Again with respect to the sharing of child rearing responsibility, 60 percent of the women have to single-handedly take up the task of child rearing even while they work and only the remaining 40 percent of them are assisted either by their husband or by other female or male family member or by other hired help.

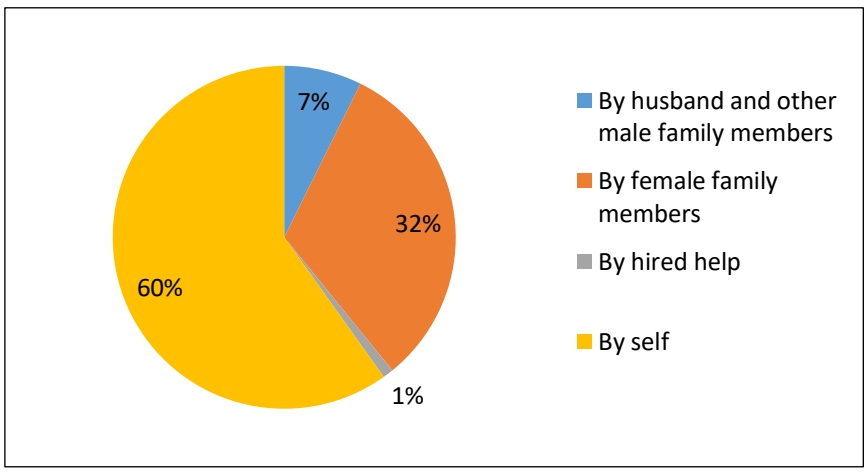


Fig 4.21: Sharing of Child rearing responsibility

Source: Field survey, 2015-16.

4.7.4 Participation in Community activities and Household decision making

With increased commercial demands post globalisation, the labour of the womenfolk was found inadequate to meet the requisites of the market. This gap was met by workers coming to Sualkuchi from nearby areas. In Sualkuchi, almost 53.6 percent of the women weavers showed less involvement in any kind of community activity and 57 percent of them have little say in their family matters. Significantly, most of the women felt that they would not be able to even participate in the decision making if they had not contributed to family income through weaving. All decisions regarding delivery, buying of yarn and other marketing strategies are the sole authority of the male members.

Hence, it can be said that weaving has not provided the women weavers in Sualkuchi the much-needed respect and status they deserve both in the family and the society at large. There is lack of women empowerment and a sense of patriarchy still exists here.

Plate 5.2: The researcher during the process of conducting Focus Group Discussions

4.8 Major findings of the chapter

i) Resources constitute a major plank of the livelihoods of the poor and their proper access play a significant role towards the achievement of a sustainable livelihood system. The Livelihood analysis of Sualkuchi conducted within the SLF of human, natural, physical, financial and social capitals helped in reaching the following conclusions:

a. Considering the access to various types of human capital, it was found from the study that there is low diversification in economic activity and the nature of their employment is seasonal. There is an acute shortage in the supply base of skilled weavers in Sualkuchi. The

main reasons identified behind such a dearth in the silk labour-force here include inadequate wages, lack of training measures, occupational shift and migration to cities in search of better living. Even health and sanitation conditions are not satisfactory in their place of work.

b. The natural capital, *muga* yarn comprises of only 26 percent share of total raw material that is required in Sualkuchi. The rest 74 percent is artificial silk such as *tassar,* rayon and cotton which occupies major share. Due to such conditions the original products are losing the market share.

c. In terms of physical capital, it was found that most of the weaver HHs in Sualkuchi had access to basic amenities like shelter, drinking water and electricity provision in their houses but with respect to producer goods like the type of tools and machinery used for weaving, there has been no significant improvement towards installation of improved mechanisms for weaving which has put a detrimental effect on the quantity as well as quality of goods produced from Sualkuchi and as such are facing tough competition from power looms and artificial silk fabrics in the market.

d. If we look at the financial assets, the monthly income of the weavers is hardly enough to sustain for the month. Moreover, insufficient credit facility to them also hampers the livelihood security of the women weavers of Sualkuchi. The most common way to finance their looms and raw material is borrowing from friends and relatives.

Although these small borrowings are not sufficient, but it helps the weavers during crisis period.

e. The social bonding and networks that the weaver household normally depends on include kinships, friends and neighbours during crisis in Sualkuchi. Majority of women weavers of Sualkuchi are not working with any organised group. Due to lack of such formal organisations and networks they are deprived of any form of support from government.

Summarising the status of livelihood assets in the study area it can be said that there is a disproportionate distribution of assets here as shown with the help of the asset pentagon.

ii) Weaving is a strenuous task but what the weavers have been getting in return is minimal in nature. This has forced them to move out of Sualkuchi and in turn led to the closure of a no. of working units. The younger generations are also no longer willing to continue their forefather's tradition because of limited profit. This is greatly affecting the growth of the silk industry in the present times.

iii) Women constitute the major workforce in Sualkuchi. Despite that it is found that weaving has not provided the women weavers in Sualkuchi the much-needed livelihood and sustainable income to live a dignified life. They do all kinds of pre-loom activities and weaving as part of their daily household chores, but their work is not duly acknowledged as well as paid for. They get very little support from the male members of their family and their presence in the economic as well as political activity is not much felt.

CHAPTER V

SUALKUCHI HANDLOOM IN THE AGE OF GLOBALISATION (THE VULNERABILITY CONTEXT)

5.1 Prelude

Reddy (2014) in his book 'Rural artisans in India – Globalisation perspectives' has tried to take a peep into the dynamics of globalisation and its backdrop. During the long colonial period, Western Europe industrialised by de-industrialising the erstwhile colonies. But the situation reversed in the post-war period and the erstwhile colonies started getting de-industrialised. This movement in the opposite direction has come to be known as 'globalisation'. The author has identified two reasons behind such a movement, which include, i) a rebellious urge for Industrial Development in the East, and ii) ubiquitous pressures for easing out the labour-intensive industries in the West. Instead of allowing cheap labour from the erstwhile colonies to flood the labour markets, the better option was found to be that of the industry out-migrating into the colonies. The consequence is the new strategy of globalisation.

In the contemporary world 'Globalisation' is a buzzword for any economy and a challenge which no one can escape from. Although it is the most talked about term in the present decade, there is hardly any agreement on how to define this thing called 'globalisation'. While its prospects and potentialities have taken hold of the imagination of some, for some others it has been viewed as the primary cause for all the ills of the world. Globalisation has been defined in two interrelated contexts. One is the economic context and the other is the non-economic which broadly includes socio-cultural, political, historical and environmental dimensions of it. It is this non-

economic dimension which is more complex than its economic counterpart as it includes all aspects of human life of which economy is just a part (Sen Gupta, 2008). In this sense, globalisation does not only mean removal of trade barriers and growth in international exchange. It is in fact, a process of reconfiguration of geography so that social space is no longer wholly mapped in terms of territorial places, territorial distances and territorial borders (Scholte, 2000). It is perceived as a process of intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events many miles away and vice versa (Giddens, 1990).

It is however, observed that over time such processes and change beget the growth of socio-economic inequalities and wide spatial gaps in development. Thus, as Harvey (1997) argues, the globalisation process can be better understood as 'a process of production of uneven temporal and geographical development'. The beneficiaries of such a process are basically the handful class of people and their spaces who are engaged in the accumulation and flow of international capital. The rest are the masses and their spaces who are left with nothing but an elusive image of 'development'. It is the status of these innumerable communities that has become precarious in such a process. In other words, their traditional subsistence livelihoods have very little or no role to play in this complex system of market forces and ever-rising competition. Globalisation has redefined the lives of these people in such a way that an in-depth understanding of their changing livelihood under the current scenario and the need to overcome all obstacles amidst stiff competition becomes all the more inevitable.

The present chapter is therefore an attempt to critically examine the livelihood dynamics of the weaving community of Sualkuchi, Asia's largest muga weaving

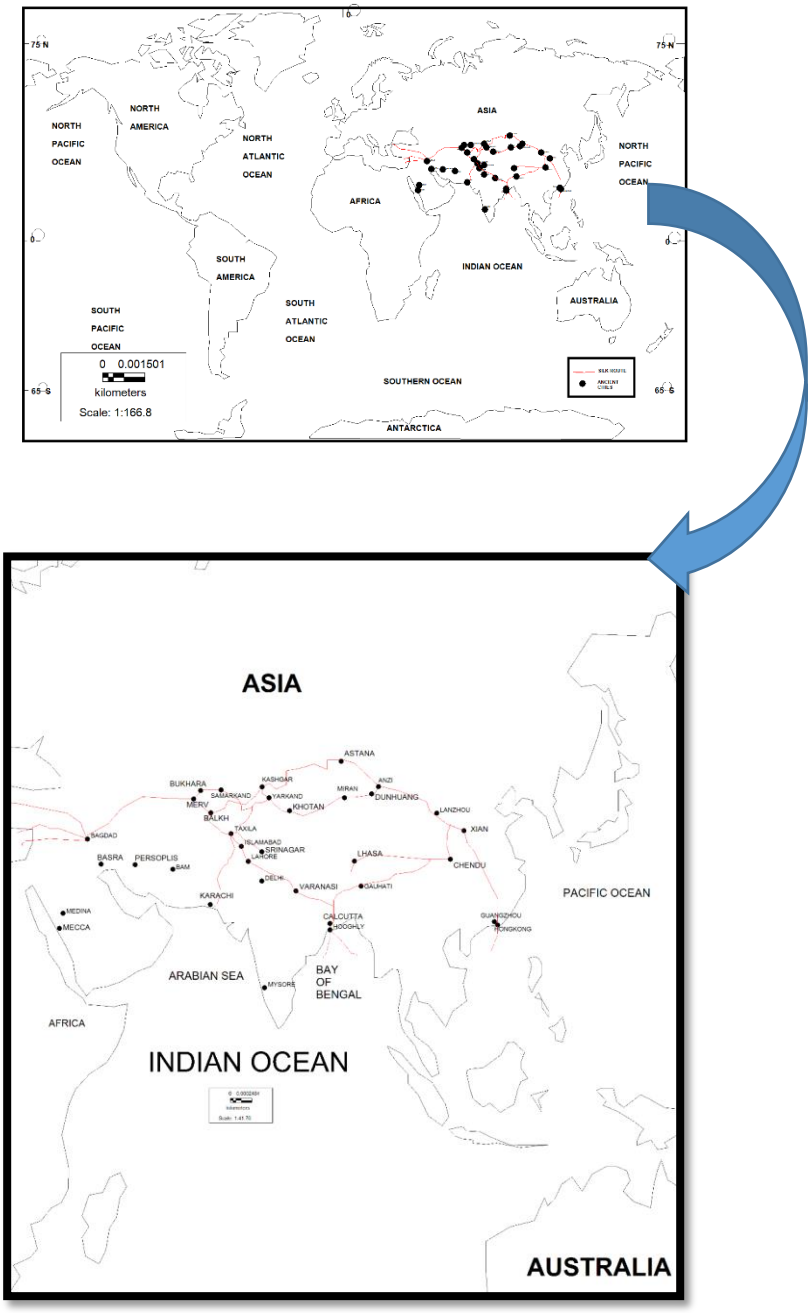
cluster, located in the Kamrup District of Assam, on the backdrop discussed above. Building a background understanding of the world market trends, the chapter deals with an in-depth analysis of Sualkuchi silk-its global spread, the nature of markets and marketing channels, the responses of weavers and traders to the changing environment and the role of the government in the age of globalisation.

5.2 Silk History and Global Trade Development

5.2.1 The Ancient Silk Routes

The history of silk development and trade in raw silk as well as fabrics spans through centuries and must have been a significant source for the weaving industries in India as it thrives even today. This trade development can be traced along the world's most ancient trade route called the "Silk Road" covering a length of approximately 6900 kms, which originated from the imperial city of Xian (earlier Chang'an) in China, passed through Central Asia and from there, there were ship connections to Europe across the Mediterranean Sea. It is also believed that Buddhism reached China from India and as far as Japan through this route.

The overland silk routes also extended to as far as Bharuch in Gujrat in the west and through Sichuan into Tibet, through several passes in Sikkim and further into Bengal in India. Another route is believed to have extended from Chengdu in Yunnan province in China through Burma to the north-eastern part of India particularly Assam and Manipur. Thus, it can be established that trade in silk has been continued since time immemorial in Assam.



Map 5.1: The ancient Silk Route and silk towns of the world

5.2.2 Trade Development since ancient times

The Chinese traders traded gold for silk with the Western monarchs. But some of the Chinese emigrants smuggled silk into Korea from where it entered into Japan, which eventually became the top producer of silk in the ancient times. Japan's production

of cocoons increased from 50,000 tons in 1893 to 3,89,000 tons in 1930 and the country became the world's biggest exporter of silk not only to the European nations but also to USA and others. The downfall, however, came about in 1970 when China surpassed Japan in silk production (Zethner et al, 2014).

Sericulture entered Europe during 140-86 B.C. European countries of Italy and France were pioneers in this field. The golden age of Italian silk production took place during the 15th and 16th centuries and it was the city of Venice that made the most significant contribution. Sadly, however, sericulture almost vanished from Italy during the 20th century except a place called Como in the north which is the most important silk city of Italy in recent times. Silk fabrics of Como are high in quality and one of the most sought after in the world market. Recently, the silk factories in Como have shown interest in Assam's *Eri* and *Muga* silks.

The 18th century was the period of growth of the French silk industry. The Jacquard handloom which found its way all over the globe and even in India owes its origin to the son of French weaver named Jacquard who was a draw-boy. From the 1860s the European countries started suffering huge losses in production because of an infectious fatal disease known as *pebrine* (ibid). This disease wiped off sericulture not only from France and Europe but the entire Middle East. The newer continent of America began sericulture in place of tobacco cultivation in a place named Virginia during the early 17th century. Similar efforts were taken up in Georgia but invariably failed (Dutta & Nanavaty, 2012).

In India, the art of sericulture and its associated weaving industry dates to antiquity. While some historians and scholars are of the view that the first cultivation of silk in India began on the flanks of river Brahmaputra and the Ganges, others opined that

the domestication of silkworms began on the foothills of the Himalayan ranges. Negating the view that this culture must have spread from China, ancient Indian religious scriptures like the Vedas, the Mahabharata as well as the Ramayana point to the fact that culture of wild silks started in India independently of China about 2000 years before the introduction of mulberry silk in China around 2nd century C.E. During medieval times, important silk centres began growing up in Kashmir, Kasimbazar in West Bengal and Mysore in Karnataka and even in Gujarat. Besides, the opening up of sea routes linking the European nations under the patronage of the colonisers in India geared up the silk industry here. The Mughal Emperors in India too, highly patronised the silk industry as Mughal dresses of silk brocades were made by skilled craftsmen in the royal workshops. When the British established their colonies in India, large supplies of silk fabrics were made from the company established trade ports in Surat, Madras, Chennai, Kolkata, Masulipatnam (Andhra Pradesh) and Kasimbazar (West Bengal). India's supply started growing until the mid-19th century after which it declined considerably owing to greater competition from cheaper silk of better quality produced in southern Europe, China and Japan. Therefore, it can be said that India's place in the global silk network owes a major share to the interest of the colonial rule as the British raj had always remained interested in India's resources but for its own use. Inspite of this fact, India began making its mark in the international silk arena much before Independence. After Independence too, Mahatma Gandhi's promotion of ahimsa silk and the development of the spinning wheel (*Charkha*) gave a major boost to the silk sector.

5.3 Contemporary global silk market scenario

5.3.1 World silk production

Although silk accounts for less than 0.2 percent of the global textile market, its production base is widely spread over 60 countries of the world with Asian nations owning a major share by producing 90 percent of mulberry silk and almost 100 percent of non-mulberry silk production. The major silk producing nations of the world include China, India, Brazil, Japan, Republic of Korea, Thailand, Vietnam, etc. Few other countries that produce silk in negligible amounts include Kenya, Bangladesh, Colombia, Sri Lanka, Turkey, Uganda etc. Of late, sericulture industries have also been established in Bulgaria, Egypt and Madagascar.

Table 5.1: World Raw Silk Production in metric tonnes (2014-2018)

#	Countries	2014	2015	2016	2017	2018
1	Bangladesh	44.5	44	44	41	41
2	Brazil	560	600	650	600	650
3	Bulgaria	8	8	9	10	10
4	China	1,46,000	1,70,000	1,58,400	1,42,000	1,20,000
5	Colombia	0.5	0.5	-	-	-
6	Egypt	0.8	0.8	1.2	1.1	1.25
7	India	28,708	28,523	30,348	31,906	35,261
8	Indonesia	10	8	4	2.5	2.5
9	Iran	110	120	125	120	110
10	Japan	30	30	32	20	20
11	North Korea	320	350	365	365	350
12	South Korea	1.2	1	1	1	1
13	Philippines	1.1	1.2	1.82	1.5	2
14	Syria	0.5	0.3	0.25	0.25	0.25
15	Thailand	692	698	712	680	680
16	Tunisia	4	3	2	2	2
17	Turkey	32	30	32	30	30
18	Uzbekistan	1,100	1,200	1,256	1,200	1,800
19	Vietnam	420	450	523	520	680
20	Madagascar	15	5	6	7	7
	Total	**178057.62**	**202072.83**	**192512.27**	**177507.35**	**159648.00**

Source: International Sericulture Commission.

As is evident from table 5.1 China is the world's single biggest producer as well as supplier of silk to the world markets. During the year 2018, China produced 1,20,000 MT of raw silk accounting for 75.16 percent of the total world output. India ranks second and its share during 2018 was 22 percent. Overall the total production of raw silk increased by an amount of 18,409 MT over a period of 5 years from 2014-2018. However, more than 90 percent of Chinese silk output is bivoltine silk, very much necessary for producing silk required for international trade. But in India about 91.4 per cent of silk produced is multivoltine, a major challenge ahead.

When a comparative assessment is done between both China and India's silk sector (mulberry cultivation), the following facts come to the fore as shown in Table 5.2.

Table 5.2: Mulberry cultivation: China vs India

Particulars	China	India
Climatic condition	Temperate	Tropical/ Sub-Tropical
Production system	Organised large pre-cocoon and post-cocoon sectors	Unorganised small scale
Economy	Government controlled	Market driven
Mulberry area (ha)	8.22 lakh	2.10 lakh
Races reared	All bivoltines	78% cross breed, 22% bivoltine
Bivoltine silk grade	Upto 6 A	Upto 5 A
Consumption pattern	80% export	85% domestic, 15% export and 11% import
Export earnings (Million US$) 2015-16	3068.95	389.53

Source: Angadi et.al (2016), pp- 59.

It is therefore evident from the table that the area under mulberry cultivation in China is four times that of India and hence calls for greater production. Moreover, China produces 100% bivoltine races which results in the production of the best quality silk. As of India, it produces poor quality silk. In the recent times, a number of countries like South Korea, Thailand, Brazil etc. are finding it very difficult to

step up their silk output owing to industrialisation with increase in input costs and occupational shifts from agricultural to other service sectors. India is also one of them. But India has certain comparative advantages against any other silk producing country in terms of more arable land than China and also a favourable climate among silk producing southern states like Karnataka, Tamil Nadu, etc. which allows cocoon production all the year round. Thus, there seems to be a better prospect for stepping up silk production in India and acquiring global competitiveness (Angadi et al, 2016).

5.3.2 Global Consumption

The rising popularity of natural textile fibres such as silk among the environmentally conscious consumers of the world has greatly helped the global silk consumption in the recent years. Japan ranks first in the per capita consumption of silk in the world. Although the consumption has fallen recently due to a drop in the demand for *kimonos,* but its position continues to remain the same because of the demand for other silk products.

The European Union and the U.S. are the biggest consumers of silk outside the Asian belt. In Europe, the per capita consumption has been highest in Switzerland, followed by Germany & U.K. France and Italy have lower consumptions but are the leading converters geared towards export markets.

In India, domestic consumption, at 85 percent of production is substantial and no possible rise in export trade can be expected without an accompanying increase in production. Recent reports also indicate that the domestic demand for silk in China is increasing with rising standards of living of the people, particularly in the coastal belt (trade portal, n.d.).

5.3.3 Export-Import Analysis

Raw silk has emerged as a very important international trade commodity and is traded at main markets of London, New York and Lyon (France). After raw silk, waste silk is also one of the valuable export-import commodities. The global exports of silk and silk products have increased significantly over the last decade. During the period between 2002 and 2008, exports grew at a CAGR of 12.2 percent. In 2008 alone, exports grew by 7.2 percent to US$ 3829 million as seen in Fig 5.2.

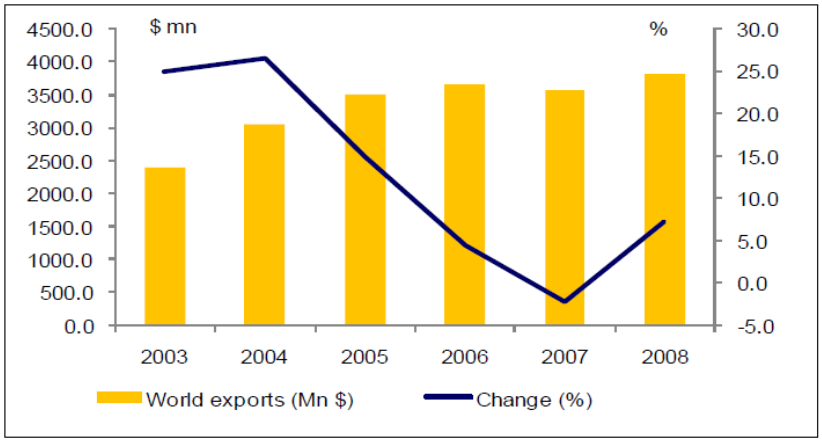


Fig 5.1: Global Export of Silk and Silk products
Source: Final Report, National Fibre Policy

The largest exporter of silk in the world market is China while Japan has reversed its role since 1869 and is the leading importer today. Silk is also supplied to the world markets by certain other countries like Brazil, Korea etc. though in limited quantities. Hongkong even though does not export silk but is the entry port through which silk is traded between the East and the West. The United States of America is the world's supermarket of silk and has a large number of captive units in countries like China, Hong Kong, Korea, India and Mexico in South America. The US basically imports silk fabrics that account to almost $2 billion a year. In fact, huge imports from China in the 1990s led to imposition of quantitative restrictions on

Chinese silk garments in the year 1994. Nevertheless, China continues to dominate the world silk market even today.

The import of silk either in the form of cocoons or raw silk in countries like Japan and India continued to increase, but its exports fell. This indicates that such a trend that must have been due to the dumping of Cheap Chinese silk in the world markets, which will be discussed in detail in the chapter further. In fact, Japan which once ranked as the top producer of silk in the world is now struggling to keep its sericulture industry alive. The survival of the industry largely depends on import silk from China and also from Brazil. Japan has been providing research and technology funding to few silk producing nations of Asia and also to Brazil and almost half of Brazil's output is consumed by Japan.

5.3.4 Demand VS Supply

Silk, the perennial 'queen of textiles' is a much sought-after fibre in the global market and a must have in every girls' wardrobe. Inspite of flooding of the world markets with artificial fibres, silk has succeeded to survive and has a tremendous potential for expansion. It has a wide variety of uses and its demand has gone up with increasing percentage of population, growing globalisation and affluence, particularly among the consumers of the developing nations of Asia.

Ever since its inception, silk has been used as a ceremonial and traditional wear in most Asian countries. In India, it has been a symbol of royalty at social gatherings and festivals. It was the traditional attire of royals and kinsmen. The usage of silk was confined to apparel clothing in the past. However, of late, due to the inherent capacity of silk to be blended with other compatible fibres such as cotton, polyester, linen, bamboo, wool, ramie, viscose etc. and fushioned into all possible dimensions,

the application of silk has been diversified to high-end fashion like scarves, stoles, shirts, blouses, dresses, neck-ties, home-fashion like bed sheets, bed covers, cushion and duvet covers, handbags, upholstery fabrics, knitted wear and many others.

The ITC (International Trade Council) reviews as well as the forecasts made by the Secretary General of the International Silk Association on global production and trade in silk that the world trade in silk garment and finished articles is growing. In fact, there has been a huge demand for silk and silk fabrics in the international arena. While analysing this aspect, the following major trends come to the forefront:

i) The silk apparel trade which was once dominated completely by Europe is now being handled by Asian countries like China, India, Thailand, Hongkong and Korea.

ii) The demand for silk has been expanded to include lower priced goods which are within the reach of the middle income-group consumers of the world. It may be mentioned here that silk once catered to the needs of only the upper income-group of consumers as its usage was limited to high-cost luxury items.

iii) This demand has however, not affected the market for haute couture garments. There has been a popular demand for western clothing which consume more silk every successive year.

iv) Silk has today become more visible on the shelves of departmental stores and supermarkets across the world.

v) Moreover, the growing popularity of natural fibres among the ecology conscious middle-income group consumers of the world has also greatly boosted up its consumption. Pure silk fabrics with proper geographical indications such as silk marks are in great demand as they act as a

guarantee of purity and quality, creating brand equity and help in its generic promotion internationally.

The world silk trade has entered the 21st century and the question mark is whether silk production will be able to keep pace with this shooting demand. There are ample evidences of battle of silk survival across nations today. China, the world's biggest producer is showing signs of stagnancy on account of shrinking mulberry acreage, drop in cocoon cultivation and declining production with spread of industrialisation. Japan and Korea have already withdrawn from the sericulture scene. Brazil is also witnessing a stagnant production. Both Thailand and India produce multi-voltine silk and unless bi-voltine silk in tropical climate is produced, there is little scope for higher silk production. Thus, it can be understood from the above analysis that there stands out to be a huge gap between demand and supply of silk in the world. The main challenge now is to stop gradual decline in silk production and raise both productivity and production so as to meet the growing consumption of this environment friendly fibre i.e., silk.

5.4 Indian Silk in the age of Globalisation

The wave of globalisation appeared on India's shores in the year 1991 and with the onset of the New Economic Reforms in the form of Liberalisation, Privatisation and Globalisation dawned a new chapter for India and her billion plus population. Globalisation phased out government control of the market (Liberalisation), privatised the private sector organisations (Privatisation) and reduced import subsidies and import barriers to enable free trade (Globalisation). This economic transition had a tremendous impact on the overall economic development of almost

all the major sectors of the economy such as steel, pharmaceutical, textile, cement etc., of which the silk industry is also an essential part.

The series of reforms undertaken with respect to the industrial sector, trade as well as financial sector aimed at making the economy more efficient, but it had certain negativity attached to it as well. While on one hand, globalisation provided greater access to developed markets and technology transfer, on the other hand, it has thrown up new challenges like growing inequality across and within nations, volatility in financial markets and environmental deteriorations as well as the dying out of medium and small scale enterprises and the traditional cottage industries. In fact, globalisation has led to an "Unequal competition" between giant MNC's and dwarf Indian enterprises (Savithri & Sujathamma, 2014).

5.4.1 The industry trends

The Indian silk production has shown a 2.9 per cent growth over the last 15 years. While the import growth is around 4.76 per cent, resulting in the overall 3.57 per cent demand growth. However, the export earnings grew by about 9.82 per cent for the same period. The table below indicates the past trends during the last 15 years.

Table 5.3: Indian Raw silk production, demand, import and export trends

Year	Total Raw silk production (MT)	Imports of Raw silk (MT)	Demand of Raw silk (MT)	Export Earnings (US$ million)
FY96	13909	7530	21439	274.88
FY97	14126	5278	19404	276.83
FY98	15236	6074	21310	285.22
FY99	15544	5107	20651	297.04
FY00	15214	9060	24272	404.97
FY01	15857	8406	24263	530.21
FY02	17351	10316	27667	495.29
FY03	16319	12354	28673	474.08
FY04	15742	13444	29186	604.70
FY05	16500	13120	29620	640.90
FY06	17305	13965	31270	721.53
FY07	18475	10104	28579	737.76
FY08	18320	13061	31381	677.40
FY09	18370	13038	31408	691.06
FY10	19690	12462	32152	652.91

Source, Central Silk Board, Bengaluru.

In the FY 2014-15, silk export earnings fetched an annual income of US$ 462.86 million. The ever-increasing demand to meet the domestic silk industry requirements and equally increasing potential for exports, provide tremendous opportunity for the sustainable development of the Indian sericulture industry. Thus, it is clear from this that India has a very strong domestic market for silk, but the problem lies in the ability to meet the international standards for the purpose of exports. Since 91.4 per cent of the total mulberry silk produced in India is from the cross breed and the remaining is bi-voltine. As the silk produced by cross breeds and indigenous breeds is of low quality, it cannot compete in the international market. Until and unless, bivoltine cocoons are made available in sufficient quantities throughout the year and more importantly at prices comparable internationally, it is not possible for the Indian silk sector to reach the desired levels of competence in the wake of Globalisation.

One more issue to be analysed which has hindered the Indian silk sector to occupy a position in the global arena is the restrictions on product-line by the domestic manufacturers. It is found that Indian silk fabrics mostly comprise of traditional attires, sarees and suits made out of silk and there has been very less of product diversification. The main reason behind this is the reluctance on the part of the weavers to switch to other items of production. But as already mentioned there seems to be a huge demand today of varied silk in all possible dimensions ranging from high-end fashion to upholstery fabric etc. This inability of the silk industry in India has forced them to lag behind globally as their production does not meet the global market requirements.

5.4.2 Demand-Supply Gap

The domestic production of raw silk continues to stagnate and is not at all sufficient to meet the rising demand particularly to meet the export requirements. Hence, the country is more and more dependent on cheap Chinese imports, which are imported at prices lower than the local silk. For e.g. in the year 2017-18, India imported raw silk to the tune of 3712 metric tonnes. This has tremendously disrupted the silk reeling industry and the farm sector, leading to huge labour displacements. The prices of sericulture commodities have also come down owing to large-scale dumping of Chinese silk into the country. To support the prices of sericulture commodities, the govt. has levied anti-dumping duties but how far these tariff restrictions can help save the domestic industry is a matter of question.

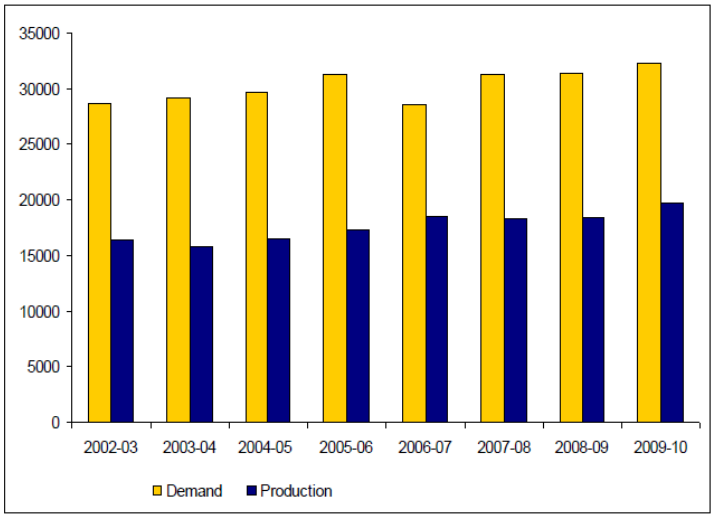


Fig 5.2: Raw silk Production in India: Demand-Supply Gap (in MT)

Source- Central Silk Board, Bengaluru.

It is seen from table 5.5 that there exists wide demand-supply gap of almost around 1500 MT every year in case of silk production in the country. In fact, as per the statistics given by the DGCIS (Directorate General of Commercial Intelligence and Statistics), about 99 per cent of India's raw silk imports comes from China.

5.4.3 The Chinese invasion or 'dumping' of the Indian markets and its associated impacts

The term 'dumping' is used to denote 'export of commodities at prices below the cost of production'. The most common definition of dumping at the WTO is 'the sale of exports at prices below the prevailing prices at the domestic market'. Dumping is however formally prohibited by Article VI of the GATT. Trade officials presume dumping as a good thing for the importing country since they are able to get cheap merchandise, unless the receiving country complains on account of harm caused to the domestic producers. (The Silkworm, 2009).

Ever since the restrictions on trade of commodities have been made easy across international borders, neighbouring country China has found a very easy market in

India to dump its cheap products. Between China and India, the trade is mostly one side i.e. from China to India. Since it is quite clear that India's silk requirements are much higher than its production, this surmounting need is being filled up by the import of both raw silk as well as silk fabrics from China. Imports have increased to over 9000 MT during FY2004 and with a growth rate of almost 37.5 per cent since FY95 until FY2009. The import of woven fabrics is also found to rise sharply since FY02 and is found to be reaching nearly 170 US$ Million in the FY06. This explains the tremendous dependency of Indian silk sector on China. The following figure 5.8 shows that during the FY 09 there was almost 100 per cent dependency of Indian silk on Chinese goods.

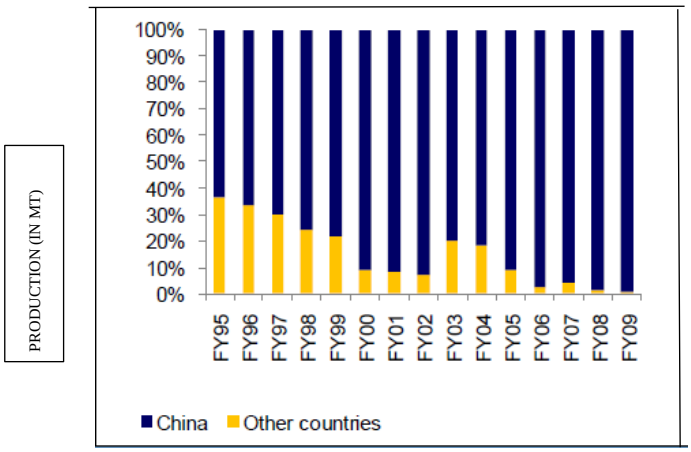


Fig 5.3: Dependency on China for Raw Silk Import
Source: DGCIS.

The Chinese entry of the Indian markets has however created far reaching impacts on various sub-sectors of the silk industry such as the reelers, twisters, traders, exporters etc. and has shook the foundations of the traditional domestic producers.

- *The reeling unit:* The availability of silk with certainty of supply in huge amounts and of uniformity in quality has led to increased preference for Chinese silk than the traditional silk, spun and reeled by the reeling

community. This has put the reeling sector under deep trouble and is a major loss in terms of employment generation.

There is extreme price fluctuations on account of dumping of Chinese silk in India. Prices of raw silk here move in line with the prices of Chinese imported silk. Inspite of imposition of anti-dumping duty, since Chinese exporters have still continued to dump raw silk below domestic raw silk prices in the domestic market, any fall in the prices of Chinese silk continues to push down prices in the local market. Thus, the reelers are left to the vagaries of price fluctuations, mainly determined by imported Chinese raw silk price.

- *The twisters:* Twisters too act as a backbone to the domestic silk industry. The imported Chinese twisted yarn is cheaper by at least Rs.100.00 per kg when compared with the domestic twisted silk. Around 3.5 to 4 lakh people engaged in the twisting sector with an average investment of Rs.10 lakh per unit (on plant and machinery) have either unutilised machinery or closed down their business.
- *The weavers:* Large-scale dumping of silk fabrics has destabilised several powerloom as well as handloom silk weaving units in Karnataka, Uttar Pradesh, Gujarat, West Bengal and Assam.
- *The traders:* The beneficiaries, however, of extreme price level changes is a class of traders and middlemen who procure Chinese raw silk in bulk and engage in hoarding and speculative practices and collude among themselves to set market prices. Depending upon the price information, they charge prices that are un-remunerative and unacceptable to the weavers, reelers and twisters, thus, leaving them to the whims and fancies of the traders.

- *The exporters:* The domestic manufacturers of silk and silk products, particularly the small weavers find it very difficult to market their products because of the poor quality of home production which cannot compete with the international standards and demand. Inspite of the uniqueness of our products, the exporter community suffers from inadequate brand promotion activities and this hampers the prospect of the Indian silk exporters in establishing a brand of repute of 'Made in India' goods in the global arena.

Thus, it can be analysed that the impact of globalisation on the traditional silk industry, from production to marketing, is tremendous. In the current economic climate of international markets and globalisation, the future of a traditional economic activity like that of sericulture is more uncertain than ever. Given these present trends, the study shall now look into the reality of silk industry of Sualkuchi, one of the major silk centres of India and of Assam to present a concrete picture of the dynamics of silk manufacturing and weaving in a changing economic environment.

5.5 Sualkuchi under the New Market Economy- a situational analysis

The picture of silk industry in Assam post 1991 reforms is not quite encouraging. Even though the silk industry of Assam is a major contributor to the state revenue, as *Eri* contributes Rs.31.5 crores, *muga* Rs.40 crores and *paat* silk contributes Rs.120 crores generated annually through the silk industry in Assam (Pandey, 2003). But there are certain problems inherent within the sector that cannot be overlooked. Infact, Assam's globally recognised silk handloom industry at Sualkuchi is passing through a difficult phase, with several constraints now acquiring global dimensions.

- **Competition from artificial silk:** Globalisation and the opening of the global market have infused competition in the recent years with threats like artificial silks flooding the local markets. Due to low production rates *muga* has become a rarity and have made way for *tassar* silk which cost comparatively less. The price of *muga* yarn varies from Rs.3200.00 to Rs.5000.00 per kg while *tassar* yarn ranges from Rs.1500.00 to Rs.2000.00 per kg. Although *muga* is in great demand and its value has increased over the years, the technology used is still traditional which is not giving the desired results. *Tassar* Silk- a variety reared and harvested in the states of Jharkhand, Chhattisgarh, Bhagalpur and Madhya Pradesh is mixed with *Muga* and sold as Pure *Muga.* Cheap Chinese Tassar has also made way disrupting the indigenous industry. A set of Sualkuchi *mekhala chadar* is sold at Rs.3500.00 to Rs.15,000.00 while Banarasi items are sold at Rs.3000.00 to Rs.4000.00. Customers therefore prefer Banarasi silk items as they are produced in powerlooms and the design is more attractive than the handloom products of Sualkuchi.

Plate 5.1: Artificial silk yarn flooding the Sualkuchi local market

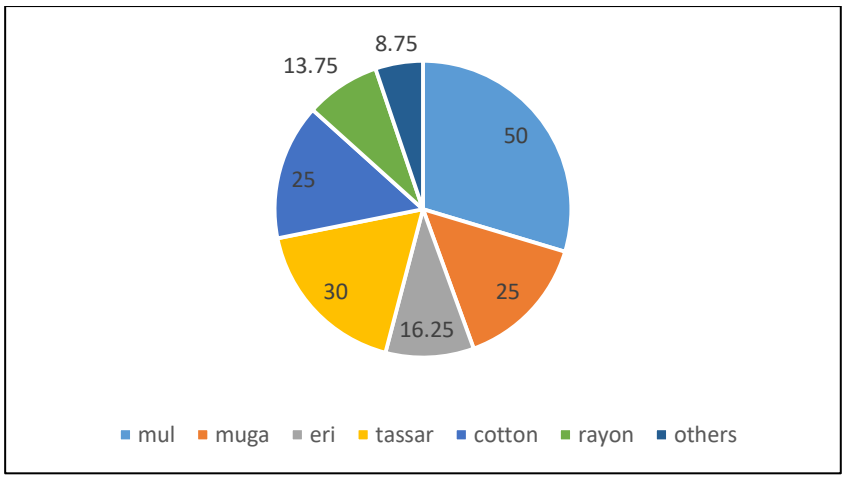


Fig 5.4: Share of raw materials used by the weavers in Sualkuchi

Source: Field Survey, 2015-16.

Muga, upon which the entire silk industry of Sualkuchi was once based has now been increasingly replaced by other raw materials such as tassar, cotton, rayon, mulberry etc. As is evident from Fig. 5.4, the percentage share of muga used by the weavers amounts to a mere 25 percent while that contributed by other varieties and artificial silk comprise the remaining 75 percent of raw materials used. The main factors identified behind such a decline include the impact of global warming coupled with climate change, rapid proliferation of small tea growers in Upper Assam, indiscriminate application of inorganic pesticides as well as bio-pesticides largely affects *muga* silkworm rearing and has also led to shrinkage of traditional *muga* plantations and thereby, its commercial production.

- **Erosion in supply base of weavers:** Due to low profit margins and tedious labour involved in weaving, the younger generations of Sualkuchi are no longer willing to take up weaving as a profession. Most of the weavers working in the looms today are hired migratory workers from the Bodo and Rabha dominated areas of Assam. With the demand for weavers being

extremely high, unqualified weavers are likely to fill this mounting need of manpower, which in turn is sure to affect quality. Quality is the hallmark of Assamese silk and as such any compromise on this aspect will spell doom for the industry.

- Sualkuchi weavers are resenting anomalies in silk yarn distribution at mill gate price by six depot operating agencies who are supposed to supply paat yarn at mill gate price under mill gate price scheme and supplying yarn at 10 per cent subsidy under 10 per cent subsidy on hank yarn of cotton and Indian silk scheme to the beneficiaries of Sualkuchi. But these agencies sell the silk yarn in open market and misuse the mill gate price scheme.

  It may be mentioned that the objective of supplying yarn at mill gate price is to make available all types of yarn at mill gate price to the eligible handloom weavers so as to ensure regular supply of basic raw materials to the handloom sector and help utilize the full employment potential of the sector. The 10 per cent price subsidy on hank yarn of cotton and Indian silk is to provide explicit subsidy on hank yarn cotton and Indian silk to mitigate the cost disadvantages of the handloom sector due to long lead time in weaving due to its complex and exquisite designs and lower productivity as compared to power loom.

- Recently in March 2013, the weavers of Sualkuchi went on a vandalism spree to protect their craft and livelihood, against the clandestine sale of imported silk in the name of indigenous silk. The weavers and small-scale handloom entrepreneurs are facing an uphill task as some unscrupulous traders are endangering the famed handloom sector of the state by importing substantial quantities of *paat* fabrics by copying the designs and motifs which have been

perfected by the weavers of Sualkuchi. A section of wholesalers had flooded the local shops with Banarasi silk items and local weavers and traders are fast losing market. Some traders had given their exquisite designs to artisans in Banaras who were producing items using the indigenous design of Sualkuchi. Customers therefore prefer Banarasi silk items as they are produced in power looms and the design is more attractive than the handloom products of Sualkuchi.

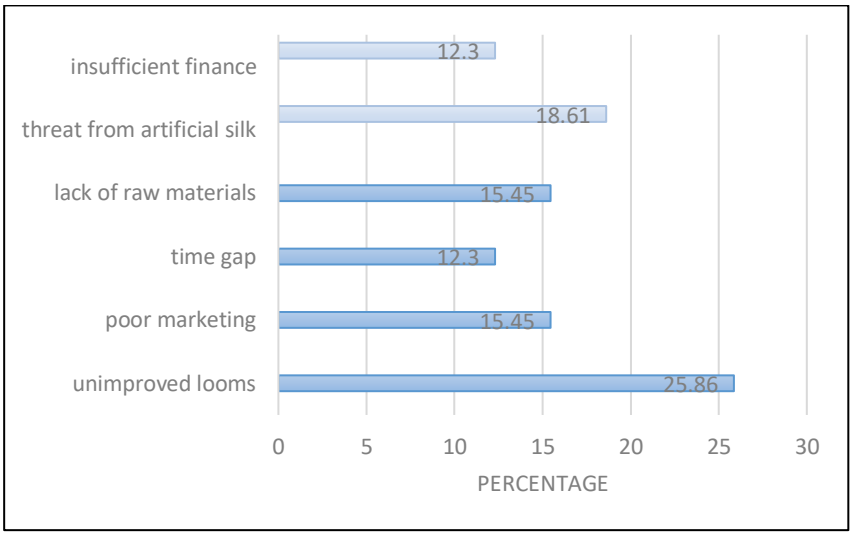


Fig 5.5: Major impediments in the silk industry of Sualkuchi

Source: Field Survey, 2015-16

When the problems as suggested by the weavers working in the industry were summarised under the following six headings (evident from Fig. 5.5), almost 25.86 percent of the respondents said that the biggest challenge confronting them today is that of unimproved looms. This is due to lack of dissemination and also reluctance on the weavers' part to adopt them due to his belief in the age-old traditional technique he is used to. The second biggest problem faced by them include threat from artificial silk like Chinese tassar, rayon, etc (18.61 percent), next in line are poor marketing and lack of

raw materials (15.45 percent), insufficient finance (12.3 percent) and time gap to realise money invested in silk yarn (12 percent).

5.6 The market and marketing channels

Post-globalisation, marketing appears to be a challenging area for an entrepreneur. As compared to the bygone days, the present-day market is more "Buyer-centric" rather than "Seller-centric". Previously, whatever that was produced could be easily sold since there was absence of any steep competition, the needs of the customers were limited and hence, the production process was very much simple and indigenous. Ever since the Industrial Revolution that began in England during the 18th century, the very dimension of marketing has undergone sea changes. Large scale production of cheap goods flooded the markets and hence, it became all the more competitive with the amalgamation of a large number of buyers and sellers. The sellers or the producers plan well in advance to best suit the needs of the profit-minded and quality-oriented customers. Hence, it can be rightfully said that in today's world marketing begins as well as ends with the buyers (Sharma, 2012).

Therefore, marketing is a systematic approach of understanding the customer and his requirements, getting the things delivered to them as per their satisfaction but in a profitable manner. A number of methods are usually employed by the traders to market a product based on its demand and supply. However, there are a few commodities that require special treatment owing to their limited base and clientele. One such is silk. The process of marketing demands intensive research and development and also undertaking varied marketing strategies that suits the varied demand of the clients. Unlike the mulberry sector, there are no established marketing systems for *vanya* silk such as *eri* and *muga* in India. The existing system is such that the cocoon growers sell their produce to the Mahajans who in turn gets the

cocoons spun into raw silk and woven into fabrics with the help of the weavers. Hence, government intervention is of utmost need to control the exploitation of the weavers at the hands of their *Mahajans* (Singh & Saratchandra, 2012) .

Thus, under the New market Economy, efficient market linkages connecting the weavers, the traders and the customers is of utmost concern since it is only through efficient marketing that can bring to light the huge potential of the silk industry of Sualkuchi in particular and the country at large to the outside world.

Plate 5.2: The local market at Sualkuchi

5.6.1 The trader survey:

From an overall market assessment, five distinct categories of market functionaries of handloom silk fabrics are identified in Sualkuchi. These included: i) those who were selling fabrics directly to consumers, ii) to the private silk stores in Sualkuchi and Guwahati, iii) to the private peddlers and vendors, iv) to the sales centre of

cooperative societies and v) to the sales centre of govt. agencies like AGMC, ARTFED, Khadi and Gramodyog Board etc.

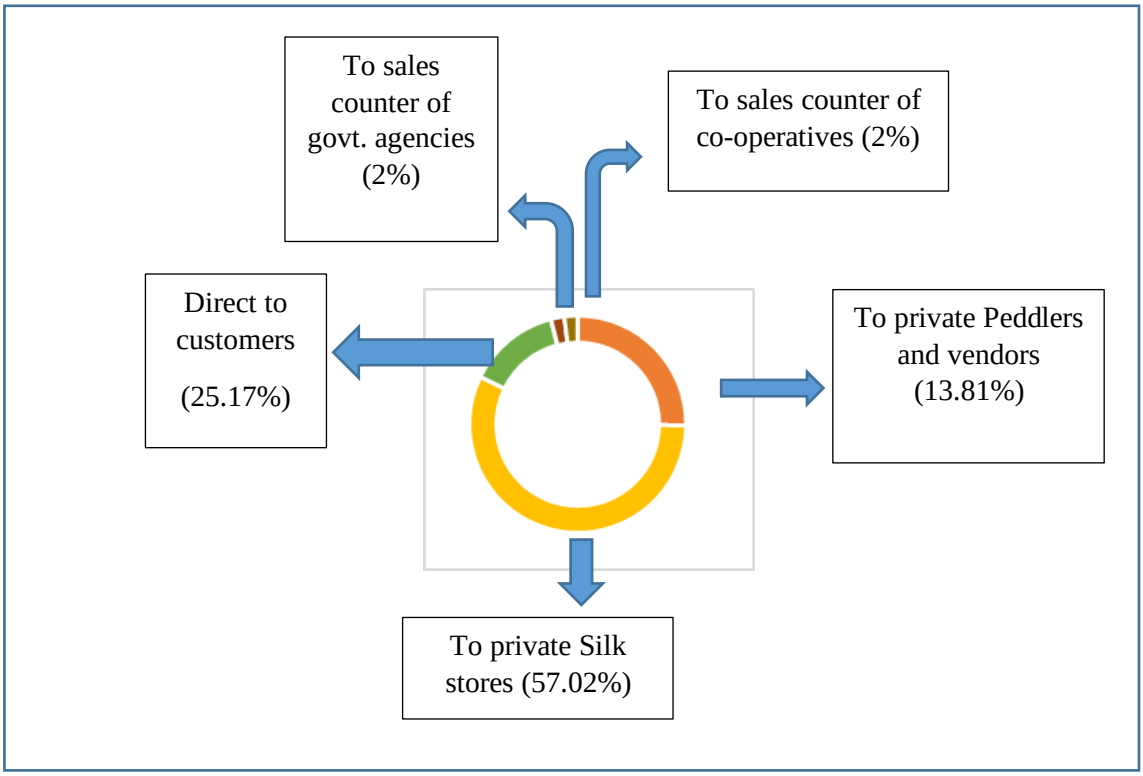


Fig 5.6: Market Functionaries of Silk Fabrics in Sualkuchi

Source: Field Survey, 2015.

For a greater in-depth analysis, a trader survey was conducted by preparing a schedule and collecting information from retailers and wholesalers in this business, private silk stores as well as govt. sales counters, during April, 2016. In this survey, which covered 5 locations at Guwahati (the nearest market outside Sualkuchi), namely, Ambari, Fancy Bazar, Ganeshguri, Zoo road and Hatigaon were surveyed. In addition to these, it also analysed the local market at Sualkuchi and came up with the following results. A total of 75 traders (2 per cent of total no. of private silk stores in Sualkuchi and Guwahati) with establishments dating way back in 1990 and continuing even today to recent ones in 2015, covering both Sualkuchi and Guwahati

have been surveyed with the help of Purposive random sampling technique. Simple statistical techniques such as percentage method and bar graph have been used to analyse and interpret the data collected. This was also supplemented using scaling technique (Rating scale) for the data analysis. The analysis of the survey is presented in the following sections:

- It was found that trading or marketing in this sector is a completely male-oriented activity. About 82 percent of the traders were male and the remaining 18 percent were female.
- About 75 percent of the traders are in the middle age group who are actively engaged in carrying out their business. It is to be mentioned here that a percentage of this group in Sualkuchi are also expert weavers who possess one or two looms in their household but at the same time are also engaged in trading their products to sale outlets to the nearby Guwahati city.
- About 40 percent of the traders were educated up to the senior secondary level while about 35 percent were graduates. This implied that the trading in silk goods did not require any higher training and education levels.
- About 58.3 percent of the traders were the owners of their shops while the remaining 41.7 percent worked as salesman in the private silk stores. Again, the no. of hired salesman engaged in these silk stores was found to vary from 1 to 6 in number.
- Out of the total number of traders, about 58.3 percent engaged in retail trading, 13.3 percent in wholesale while about 28.3 percent engaged in both wholesale and retail trading of silk fabrics from Sualkuchi.

- The traders were either expert ones with 45.3 percent of them having 15-20 years of experience in marketing sector, or new learners with 5-10 years of experience (26.6 percent) or even below 5 years of experience (12 percent).
- The amount invested by the traders in the setting up of their respective business both in Sualkuchi and in Guwahati involved huge sums. It was found from the survey that about 10 percent of them invested Rs.1-2 lakhs, 68.3 percent invested Rs.3-5 lakhs and the remaining 21.7 percent invested above Rs.5 lakhs of money. This money, however, was invested from various sources like self-financed, as loans from banks or from money lenders, from friends and relatives.
- 65 percent of the traders procured their supplies directly from the weavers of Sualkuchi while the remaining 35 percent obtained it from the various registered as well as unregistered dealers that includes the peddlers and middlemen who often charge more from the weavers.

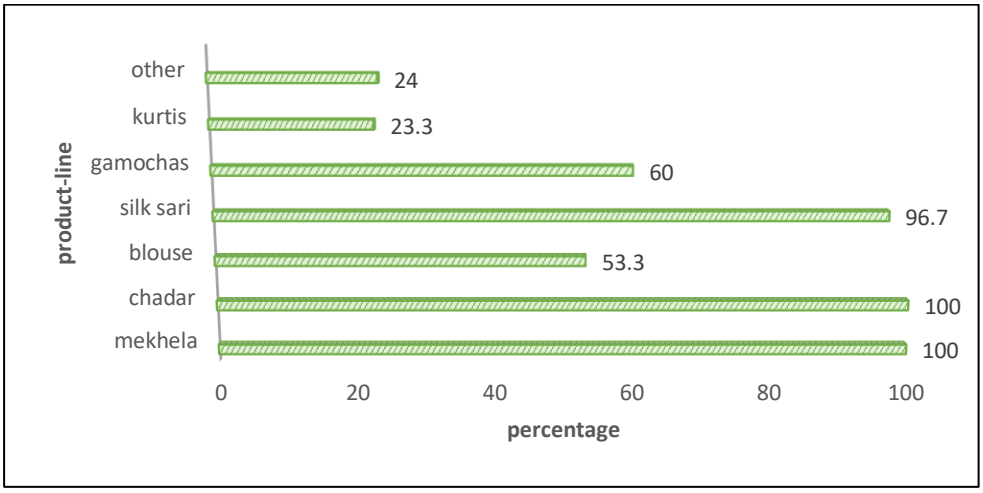


Fig 5.7: Type of fabrics dealt with by the traders

Source: Field survey, 2015-16

- Almost 100 percent of the traders of Sualkuchi and Guwahati deal with *mekhela* and *chadar*. 96.7 percent of them keep stocks of silk sarees too and nearly 60 percent and 53.3 percent of them deal in *gamochas* and blouse respectively. A very little percent of the traders (24 percent to be precise) deal in kurtis and other products such as stoles, scarves, silk ties, cufflinks etc. Product diversification is very less as majority of the customers belonging to the lower and middle-income group demand for only *mekhela, chadar* and saris. Kurtis and other products such as ties, stoles etc. are demanded only by customers of the high-income group (25 percent) which accounts to a very meagre percentage of the total.
- According to the traders, the demand for silk fabrics is quite high particularly during peak season like Bihu, marriages etc. Almost 70 percent of the respondents agreed to it and the remaining 28.3 percent and 1.7 percent of the traders opined that the demand is moderate and low respectively.
- Almost 50 percent of the traders are of the opinion that the trend of sale of silk fabrics has tremendously declined over the past 10 years while 26.7 percent said that it has neither increased nor has gone down.
- About 66.7 percent respondents responded that there is great competition from artificial silk. Powerloom products are cheaper than handmade fabrics and it is very difficult to distinguish them from the original, unfair trade practices are rampant and powerloom products are clandestinely sold in the name of handloom. Hence, almost all the traders are in favour of branding of their products in the form of Silk Mark which is a guarantee to the weaver that the product is handwoven. 81.7 percent of the traders are in favour of registration and certification of their products.

- Regarding responses towards changes in product-line suggest that 77.3 percent of the traders said that there had been no change in the products of silk fabrics that were marketed. Mostly the products comprised of traditional wear like *mekhela chadars*, *saris* and *gamochas.* Demand for varied product-line including high-end fashion like scarves, shirts, dresses and kurtis were low in demand.

Table 5.4 Idea of improving the marketing of handloom silk fabrics

Opinions	**Traders' ranking of their opinions**						**Weighted score**	**Rating (%)**	**Rank**
	1	**2**	**3**	**4**	**5**	**6**			
Quality improvement	54	19	2	-	-	-	427	27.11	**1**
Design development	7	37	31	-	-	-	351	22.28	**2**
Fashion orientation	-	14	-	46	15	-	238	15.11	**4**
Promotion/Advertisement	4	5	42	24	-	-	289	18.34	**3**
Pricing	10	-	-	5	48	12	183	11.61	**5**
Increasing no. of sale outlets	-	-	-	-	12	63	87	5.52	**6**
Total	**75**	**75**	**75**	**75**	**75**	**75**	**1575**	**100**	

Source: Field Survey, 2015-16

As is evident from the table 5.4, on the idea of improving the marketing of silk fabrics, 72 percent of the traders ranked quality improvement of the silk fabrics as their first choice, 25 percent of them ranked it as their second choice and 0.02 percent ranked it as their third. This opinion is ranked first in the overall rating based on the weighted score of 27.11 percent, followed by design development with a score of 22.28 percent and promotion/advertisement as third with a weighted average rating of 18.34 percent. Next in rank according to their view on marketing of the silk fabrics both within and outside the state include fashion orientation (15.11 percent), pricing of fabrics (11.61 percent) and increasing the no. of sales outlets (5.52 percent). It is therefore, pertinent to note that improvement of silk fabrics particularly

diversification of design as well product as per market needs is of utmost importance in the opinion of the traders so as to meet the challenges of the global market in a sustainable manner.

5.6.2 Marketing by other large-scale private sector enterprises and e-commerce initiatives

- **Fabric Plus Pvt. Limited:** Besides the marketing scenario as discussed and analysed above, a personal interview was also conducted by the researcher with the Managing Director of Fabric Plus Pvt. Limited, Mr. Dilip Barooah, one of the pioneers in manufacturing customised fabrics in pure silk. Dr. S. N. Chowdhury of Dibrugarh, popularly known as the 'Father of Muga' claimed that *muga* culture and silk production has remained untouched by modern technology since a very long time in Assam and has suggested various areas for improvement. Based on his suggestions, this modern factory got set up in the year 2009 employing and intensively training more than 300 local women among many others. The Central Silk Board and the Department of Sericulture, Govt. of Assam, under the Catalytic Development Programme has provided both financial as well as technical assistance towards the establishment of this silk unit in Chaygaon, Guwahati. Its total estimated cost is around Rs.5.50 crores. The company already has three working units producing 50,000 liner meters of fabric and is supposed to set up the fourth one after which the production is expected to increase to 1,20,000 liner metres of fabric. Fabric Plus is a brand for expertise in the silk industry of Assam. They also have various combinations of fabrics with natural silk, silk mixed with natural fibres like linen, wool, ramie, cotton etc. Earning recognition from even the Central Silk Board of India for the selfless

promotion of the golden *Muga*, *Eri* and *Paat* Silk from the North-East region, they are bent on popularising the rich silk history of the region. Hand spun silk yarns and hand reeled silk are woven in handloom with combination of excellent craftsmanship. The main objectives kept in mind among the workers in the factory include: i) creating a better feel of the fabric by improving the quality of yarn, ii) increasing its drapeability and removing stiffness and iii) most importantly, adding diversification by bringing traditional design in line with the modern fashion trends.

The company's sericulture network touches more than 5000 people, espousing the emotions of the trade and also facilitating great economic development with natural products. They also specialise in fabrics for fashion and home-fashion, including made-ups like stoles, shawls, sarees, *mekhela chadar* etc. They know the market, changing styles and are always experimenting with a combination of traditional and contemporary fashions.

Eri silk has been traditionally confined to its use as winter shawls for both men and women but Fabric Plus has greatly helped in widening its applicability. By producing spun silk yarn upto 210 nm using 100% *eri* silk and blends. It has now become possible to make sarees, stoles, dresses etc. for both summers and winters using the *eri* fibre. Eri fabrics from the factory are even exported to Como in Italy which is supposed to represent the elite of silk in Europe. Thus, the setting up of Fabric Plus Pvt. Limited in Guwahati has been a major stepping-stone towards the modernisation of traditional textiles and showcasing it in the global arena.

- **Sualkuchi Silk Bazar:** Owing to lack of adequate marketing facilities and infrastructure both in Sualkuchi and Assam, most of the products of

Sualkuchi remain confined to the local market and very few find their way into the national as well as the international arena. As such Sualkuchi weavers are deprived of monetary gains that is assured in the global market. Realising the potential of the applicability of e-commerce in introducing the creative genius of the rural artisans into the internet world, an initiative in the form of an e-commerce solution termed as "Sualkuchi Silk Bazar" has been taken up by AVA- a society registered under S.R. Act of 1860 and is a leading organisation in the fields of providing marketing support as well as providing vocational education particularly in the North-Eastern region. AVA is in fact a council of dedicated social workers, intellectuals, professionals as well as experts in the field of handloom technology. The units of AVA include: i) AVA- an institution of Trends, established at Guwahati and Sualkuchi each, that offers specialised training programmes for all those who are interested in turning their talent into a full-fledged profession. And ii) AVA Creations at Sualkuchi which provides marketing support to a large number of rural artisans, SHGs, co-operative societies, NGOs and entrepreneurs spread over the entire North East.

However, Sualkuchi Silk Bazar is an e-commerce solution that is designed to meet the business requirements of all products made by the weavers of Sualkuchi. A ready-to-use product catalogue, orders by e-mail and payment services (both online and offline) are the key features that it offers to the people of Sualkuchi. Thus, Sualkuchi Silk Bazar is a great initiative to provide online marketing platform and customer acquisition to help the weavers of Sualkuchi to get remunerative prices for their products and scale up their prices.

5.7 The Global Spread of Sualkuchi silk

Traditional handloom industry in India is seen as being out of tune with the demands of a modern economy but in contrast to such a gloomy prognosis it has always managed to survive owing to its innate resilience, flexibility and adaptability. Each region of India has a distinctive and unique weave and each weave speaks of a cultural tradition linking our social and cultural roots. Sualkuchi weavers are also trying hard to survive against all odds to preserve their age- old tradition and heritage and acquire a brand image in the global market.

Connecting the North-Eastern region with the global markets has been a prime aim of the Ministry of Handloom and Textiles, Govt. of India so that the artisans get their due share in the international market, recognition and opportunities in every possible way. USA, Europe, France. Italy, Japan and Australia are the key market destinations of the products of this region. Eri silk also known as '*ahimsa'* or 'non-violent silk' because of its non-violent nature of obtaining silk yarn from the cocoon is considered holy and worn by Buddhists living in countries like Nepal, Bhutan and China.

Sualkuchi is exporting exclusive and exquisite *muga* silk made up in the form of quilt, curtain, shower-curtain, table linen, bed linen, kimonos etc. to the tune of Rs.12 crore to the global markets of USA, Japan, European countries etc. through the initiatives of ARTFED.

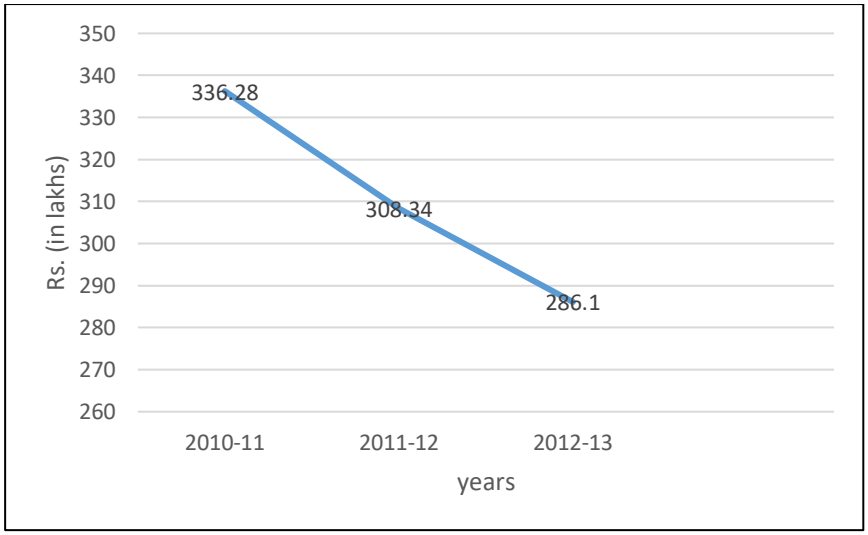


Fig 5.8: Export turn-over of ARTFED (in Lakhs) from 2010-13

Source: Annual Report, ARTFED, Assam.

A matter of utmost concern is that the export turn-over of silk products that go to the international market by way of ARTFED has shown a declining trend over a period of 3 years from 2010-2013. At present, schemes have been submitted by the Federation to the Govt. of India regarding setting up of permanent infrastructure for promoting the marketing of handloom products of this region, for creating facilities for fashion designing, arranging buyer-sellers meet, organising seminars and exhibitions etc. Since 2005, it has participated in 32 International Fairs, Buyer-seller Meet, Product Promotion Programmes across the globe, latest being in 2012-13 in Ambiente, Frankfurt, Germany. On the basis of its performance over the years, it has been enrolled as a member of The Handloom Export Promotion Council, The Indian Silk Promotion Council etc. The Indo-German Chamber of Commerce and The Indian Trade Promotion is also rendering support to ARTFED for getting exposition at the International level of trade and marketing (ARTFED, 2013).

As has been already discussed, Fabric Plus, the only Assam silk integrated textile company in North-East India, duly recognised by the Central Silk Board. Govt. of India and of Assam has been a major promoter of Assam silk, *eri, muga* and *paat* in the international arena. With increasing awareness towards sustainable management, conservation, eco-friendly, low footprint concepts amongst textile consumers the world over, all three types of Assam silk are becoming more and more popular in the developed countries of the world. In fact, *eri* and *muga* silk alone has the huge potential to grow and gain up to 20 percent of Rs.24,000 crore total Indian sarees market alone. With a diversified product profile ranging from *mekhela chadar, riha* (Assamese traditional attire), *gamocha,* silk sarees, gale (traditional attire of Arunachal Pradesh), *jainsem/dhara* (of Meghalaya), silk bags, silk accessories, shirts, jackets, blazers, ties, handkerchiefs, stoles, scarves, mufflers, corporate gifts, cushion and duvet covers, bed sheets, curtains, etc. are being exported to a wide customer-base such as in State Emporiums, Exporters, Retailers, Fashion designers, boutiques, Ministerial, corporate and institutional gifting etc. to 17 destinations across the world. These include France, Germany, Italy, Switzerland, Netherlands, Poland, UK, Japan, Indonesia, Sri Lanka, Thailand. Egypt, USA, Bhutan, China, Israel. Australia etc.

Table 5.5: National and International Clients of Fabric Plus Limited

International	National
Agnis Homme, Alison Pitty, Alta Moda, Aquascutum London, Ba & Sh, Balman, Bayaa, Belstaff, Berenice, Boss Hugo Boss, Brook Brothers, Camerucci, Caroll, Canepa, Channel, Egon von Fuestenberg, Emporia Armani, Fates, Ferre Uoma, Gianfranco Ferre, I Blues, InterModa, Invidiauomo, Jamini, Joop, Jyodhi, Kalaa Inc, Karl Lagerfeild, Kiss N Tell, Lom Bok, Luisa Spagnoli, Marina Rinaldi, Marella, Max Mara, NamaySamay, Occhiali Moschino, Paul Smith, Rene Lezard, Terre Bleue, Ted Bakar, Women on Wings and World Weave.	ARTFED, AGMC, BRPL, Director Kaziranga Tiger Reserve, Fab India, Incredible India, Janambhumi Resort, Niru Garments, NRL, OIL, ONGC and Purbashree.

Source: www.fabricplus.in

Tie-ups with major Fashion houses across the country and showcasing the textiles in fashion festivals held from time to time is another way that has greatly helped the Sualkuchi fabrics to cross international boundaries. Mumbai based Fashion Designer Vaishali Shadangule stole the glamorous red carpet show at Wills Lifestyle Lakme India Fashion Week Autumn/ Winter on March 17, 2013 inspired by the Assamese *mekhela chadar*. Vaishali got introduced to the magic of *muga* and its design during her recent visit to the state. Over 400 female weavers, some even from Sualkuchi helped brought her creations alive with the beautiful drapes and mix of fine constructions to bring out the beauty of the Assamese traditional art by retaining its original elements.

Another major fashion event – The North East India Fashion Week (NEIFW) is a concept created by "Affluent Ray of Light" an NGO dedicated to promote the

weavers and designers of the North East for preserving the vast variety of indigenous textiles that are slowly losing popularity and helping to create business and branding opportunities for handloom, textile, fashion and lifestyle industries. The NEIFW is just a platform for upcoming talents for building global alliance. The fashion week organised from August 19th to 21st, 2016 in association with the Govt. of Arunachal Pradesh witnessed the participation of over 20 designers from all over the North-east; two from Assam and also three weavers from the state who got the opportunity to retail through online boutique connection and showcase the ethnic designs on *paat*, *eri* and *muga* silk in the international platform.

The Lakme fashion week 2016 opened with a "Made in Assam" show titled 'Halodhi' where fashion designer Pranami Kalita created wonders with *eri*, *muga* and *paat* silk by blending them with fabrics from other part of the country. When global brand recognition is the call of the hour, attempts like this and many more like conducting exclusive international silk expos, participation of the Indian exporters in buyer-sellers meet creating more and more fashion oriented exclusive Indian fabrics can go a long way in making the silk industry of the region in particular and India at large a predominantly attractive sector for further expansion.

In addition to all of these, for the exploration of wider markets for indigenous products, the acquisition of Geographical Indication (GI) plays a very prominent role. And in this regard, it is good news for the state of Assam as the *muga* silk was granted the GI status in the year 2007 and was granted its GI logo in 2014. Popularising its use will ensure that the *muga* silk of Assam is secured and no unscrupulous element can ruin the good name of this sparkling golden silk. The logo issued by the GI Registry of the country guarantees the purity of muga silk fabric being sold by the traders. GI is an important intellectual asset which not only

protects the consumers' interest in high quality products but also helps in providing specific benefits like preservation of traditional know-how and higher economic returns for the localised producers of such products. It also helps in gaining better access to markets (Ramswamy & Hmangaihzuali, 2016). Recently, in the second muga camp held at Dhokuakhana in North Lakhimpur district of Assam in May, 2016, a total of 250 stakeholders have registered themselves as authorised users of Muga GI in Assam, thereby setting a new record of being the highest number of authorised users for any GI in India.

There are limited academic institutions dedicated to fashion and research in the entire NE region. Although institutions like NEIFT (North- East Institute of Fashion Technology), GIFT (Global Institute of Fashion Technology) offer courses in textile designing, fashion merchandising and the like, their intake is not very much encouraging and are not enough to compete with the modern trends of the fashion world. While engaging in FGDs with the women weavers of Sualkuchi it was found that although the SIFT (Sualkuchi Institute of Fashion Technology) has been set up here with the aim of creating a skilled labour-force by providing training in various aspects as modern designs and weaving techniques, the womenfolk have not been able to reap the benefits of it fully. This is because while majority of the students undertaking training in the institute comprise of young unmarried girls from Sualkuchi who tend to get married and settle elsewhere. As such, the knowledge and training imparted to them is not of much use to the region. Therefore, from the discussion it came to be known that until and unless the SIFT starts training the married womenfolk (aged between 25 to 50 years), the region in particular will not be able to reap the benefits of this kind of initiative undertaken by the Govt. of Assam.

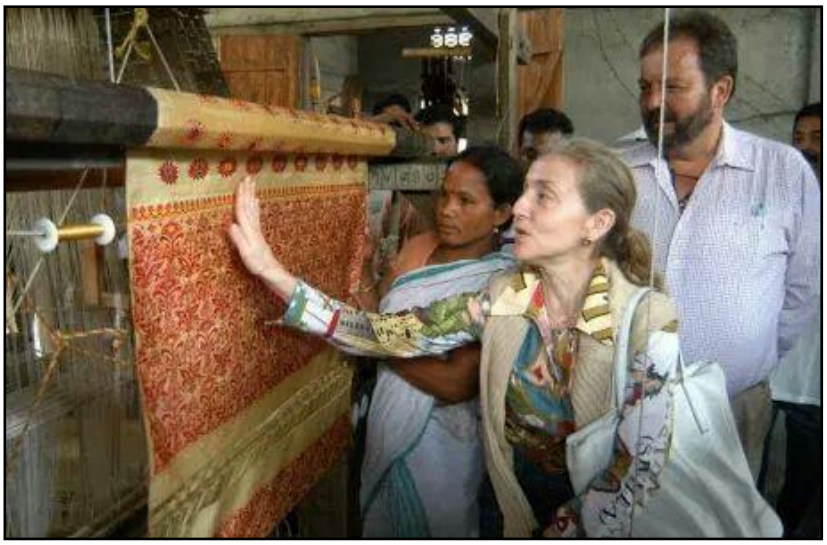


Plate 5.3: A foreigner visiting Sualkuchi

5.8 Major findings of the chapter

i) The traditional livelihood of Sualkuchi weavers present a very gloomy picture in the era of globalisation. Its survival cannot be fully guaranteed in the face of changing economic relations among nations across the globe, cheaper productions, innovative technologies and globalisation of markets, until and unless efforts are being made to continuously improve within to compete with imported items from global manufacturers.

ii) The assessment of the global silk markets reveals the fact that there is a great demand for silk across the globe. But the question lies whether traditional cottage industries like that of Sualkuchi be able to reap the benefits that globalisation has to offer and keep pace with its shooting demand and increasing consumption by augmenting its production.

iii) The Chinese dumping of artificial fibres in the local market of Sualkuchi via Kolkata has impacted all sectors of the silk industry from reeling to marketing. The only beneficiaries comprise of a group of middlemen and

traders who procure synthetic fibres in bulk, engage in hoarding and speculative practices and set high market prices.

iv) The major impediments in the Sualkuchi silk industry such as lack of raw materials, unimproved looms, lack of finance, threat of artificial silk, poor marketing, lack of innovation and designing, proper advertisements and promotions prevent Sualkuchi from carving out a niche of its own in the global market. Being a local production 100 percent registration and certification of the fabrics is not possible here.

v) Strengthening of weaver resource base and its conservation by proper and effective implementation of government schemes at the grass-root level as well as training in design development and product innovation should be the key strategies in evading livelihood insecurity associated with the Sualkuchi silk industry in the present age of globalisation.

CHAPTER VI

LIVELIHOOD STRATEGIES AND SUSTAINABILITY IN SUALKUCHI

6.1 Prelude

The purpose of the present chapter is to report on the various types of livelihood strategies being undertaken by the weavers of Sualkuchi in the event of crises. In other words, the present chapter examines the ways in which the different weaver households in Sualkuchi rely on varying combinations of activities and the factors underlying peoples' choice of that strategy.

In the Sustainable Livelihood Guidance sheets as provided by the DFID, the term 'livelihood strategies' is defined as the range and combination of activities and choices that people undertake in order to achieve their livelihood goals. It is generally understood that different livelihood activities have different requirements, but the general principle is that those who possess ample assets are more likely to make positive livelihood outcomes and vice-versa. Moreover, the more flexible are the people in their choice of strategies, the greater is the ability of the individual, household or community to withstand the shocks, seasonality and trends of the vulnerability context (DFID, 1999). Generally adaptive over a period, livelihood strategies respond to both opportunities as well as constraints.

6.2. Typology of livelihood strategies

Livelihood strategies have been categorised into various types based on different criteria by several scholars as discussed in the following table:

1. **Scoones (1998) and Swift (1998)** have divided livelihood strategies into 3 broad types according to the nature of activities undertaken: a) agricultural

intensification/ extensification (applicable primarily for agrarian households), b) Livelihood diversification (which implies broadening the range of on-farm activities (e.g.- value addition to primary products by processing or semi-processing them) or to diversify the off-farm activities by taking up new jobs. c) Migration- this implies a temporary or permanent change in the place of residence of the people to secure off-farm employment in nearby towns or cities which may be either voluntary or involuntary. It is however, important to note that migration may have serious implications for those who are left behind, particularly the women folk.

2. **Ellis (2000)** has classified household level diversification strategies into 2 types: Natural resource based and non-natural resource based. While, natural resource based strategies include activities like food gathering, food and non-food cultivation, livestock keeping, pastoralism and other non-farm activities like brick making, weaving etc., non-natural resource based activities comprise of rural trade, rural services (like vehicle repairing), rural manufacture, remittances, transfers etc.
3. **Devereaux (1993) and Davis (1996)** while categorising livelihood strategies have tried to make a distinction between Survival (non-reversible asset depleting), Coping (reversible asset depleting), Adaptive (asset protection and vulnerability reducing) and Accumulative (asset enhancing).
4. The Risk management classification by **Seigel and Alwang (1999)** differentiates between ex-ante strategies which seek to reduce or mitigate risks and ex-post strategies that are ad-hoc responses to unforeseen events.

While the classification made by Smith, Scoones and Ellis reflect the characteristics of the activities undertaken, those suggested by Devereaux,

Davis, Seigel and Alwang are based on the perceived rationale or motivation of the individuals or households with reference to potential outcomes. Although they are not mutually exclusive, all these classifications provide an insight into the numerous changing strategies being undertaken by any individual or household over a period of time to achieve sustainable livelihood goals.

Source: (Morris et al., 2002)

Broadly speaking, the different livelihood strategies do not operate in isolation but rather complement each other as rural producers make their way in often risky and resource-poor environments (Hussein & Nelson, 1998). In the context of rural areas, one of the principal concerns for households is stability in income as well as consumption. Therefore, by ensuring a combination of activities, they try to reduce the vulnerabilities which they face. With respect to seasonal variations, however, the issue becomes slightly different. As for e.g. in Sualkuchi, during Bihu and marriage seasons, weaving activity increases and hence, most labours shift their priority to weaving. Several markets become more lucrative and depending on where income is higher, the households diversify their assets.

Although the motivation behind such strategies may vary from household to household, the basic rationale is to accumulate assets, reduce financial risk and secure consistent income flow in response to shocks, trends and seasonality (Tamim, 2010).

(Alemu, 2012) has tried to highlight the fact that households generally try to stabilise their income by diversifying their income sources that are less susceptible to climatic hazards or price variations. While classifying the dominant livelihood strategies in

rural South Africa and associating them with the welfare strata of the households, he found that households that generate income from wage employment in non-farm activities are better-off than other households. Further, socio-economic variables such as age, gender, education and access to basic infrastructure are some of the barriers that poor households in rural areas face to enter into high-return livelihood strategies.

After a detailed appraisal on the overall livelihood scenario in Rajasthan with particular emphasis on the livelihood strategies adopted by the poorest sections of the rural population, the Aajeevika research study concluded that a non-farm sector led strategy is now increasingly more effective for poverty alleviation in most areas as compared to a natural resource management strategy since the distribution of natural capital is highly skewed in the recent times. Besides, this survey also relates to migration emerging as a critical livelihood strategy for the rural poor in the state since migration provides an escape from the local social and economic oppression (ARAVALI, 2004).

(Khatiwada, et al., 2017) assessed the dominant livelihood strategies adopted by the rural households in the central landscape of Nepal and found that livelihood diversification to non-farm activities is the most common and remunerative strategy, among 4 others here. The results further suggested that education, training, land holding, access to credit, proximity to road and market and agro-ecology are the major influencing factors in the adoption of higher returning strategies.

Yet another study by (Xu, et al., 2015) identified maximum years of education of any household member, the age of the household head, household location and

formal and informal social networks as the determining factors affecting the household's choice of a particular livelihood strategy.

Several studies conducted on dominant livelihood strategies undertaken by poor people across the globe highlight the fact that livelihood resources are used in combination to pursue livelihood strategies and overall three main clusters of strategies have been identified which include: agricultural intensification/ extensification, diversification and migration. However, at the current conjuncture, bringing more lands into cultivation or intensifying the land-use like multi-cropping is preferably not possible, hence the importance of the two other clusters of strategy is highly accentuated for ensuring survival and reduced vulnerability.

6.3 Livelihood strategies and coping behaviour in Sualkuchi

This sub-section reviews some of the empirical evidence on coping behaviour in Sualkuchi, mostly at the household level. They either relate to seasonal strategies taken every year or to strategies undertaken in response to unusual shocks or trends in the form of market insecurity owing to rise in the use of artificial silks, low income and production, governmental apathy and such other issues arising out of the process of globalisation.

In the present study, 'occupational status' of the people of Sualkuchi has been used as an important indicator to analyse further the type of livelihood status and strategies used here. Occupational status basically indicates the type of economic activity that a person is engaged in throughout the year. As it is common to find the same person engaged in more than one kind of activity throughout the year, therefore, two kinds of responses, i.e. primary occupation (what the worker does for more than 183 days in a year) and secondary occupation (what the worker does for the other days) has been assessed.

Table 6.1: Occupational Classification of Workers in Sualkuchi Development Block, 2011

Total workers			**Main workers**			**Industrial category of main workers**											
						Cultivators			**Agricultural Labourers**			**Household industry workers**			**Other workers**		
Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
33367	20344	13023	24070	16892	7178	3371	3017	354	699	515	184	8717	4223	4494	11283	9137	2146

Marginal workers			**Industrial category of marginal workers**												
			Cultivators			**Agricultural labourers**			**Household industry workers**			**Other workers**		
Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
9297	3452	5845	588	359	229	960	429	531	4122	1000	3122	3627	1664	1963

Source: District Census Handbook, Kamrup, 2011.

When we glance at the figures of occupational categories in which the people of Sualkuchi are engaged (table 6.1) we find that of the total number of main workers in Sualkuchi, only 16 percent of them are engaged in agriculture (14 percent as cultivators and 2 percent as agricultural labourers) while 36 percent of them are engaged in household industry i.e. in the silk industry. In case of marginal workers too, 16 percent are in agriculture (6 percent as cultivators and 10 percent as agricultural labourers) and 44 percent as household industry workers. Again what we find in the household industry sector is that females have outnumbered the males (main workers: male=48 percent, female=52 percent; marginal workers: male= 24 percent, female=76 percent) making the silk industry a female oriented one as already discussed earlier. From what we understand by an appraisal of the occupational status of the people of Sualkuchi is that the primary occupation here is weaving and other allied activities. A very small proportion of them are engaged in agricultural operations who perform it only on a subsistence basis and not for commercial purpose. Weaving is a hereditary occupation which the people of the region have tried to keep intact even today. Hence, agricultural intensification/ extensification as a livelihood strategy is not an option in Sualkuchi.

On the basis of our understanding of the occupational pattern in Sualkuchi, we find that the HH income is derived from a number of sources such as the household silk industry and its allied activities, from agriculture on a meagre basis, from wage labour both in Sualkuchi as well as from outside, trade, government as well as private sector jobs. This reveals the importance of alternate livelihood strategies across the study area. The study confirms 6 major and minor livelihood strategies adopted by the HHs in various combinations across the sampled villages. These

strategies are reviewed in the context of their access to the platform of certain basic livelihood assets or resources.

Table 6.2. Livelihood Strategies of weavers in Sualkuchi

Livelihood Strategies	Villages	Number of HHs	Percentage
Strategy 1 (Survival)	Sualkuchi	66	41.34
Distress sale	Bathangaon	20	13.40
(34.61%)	Srihati	08	5.20
(n=156)	Bamundi	62	39.9
Strategy 2 (Coping)	Sualkuchi	14	35.84
Borrowing	Bathangaon	03	7.54
(8.82%)	Srihati	21	50.94
(n=40)	Bamundi	02	5.66
Strategy 3 (Adaptive/Accumulative)	Sualkuchi	08	15.87
Occupational change	Bathangaon	05	11.11
(10.48%)	Srihati	0	0
(n=47)	Bamundi	34	73.01
Strategy 4	Sualkuchi	71	39.25
Migration (Adaptive/Accumulative)	Bathangaon	18	9.91
(40.27%)	Srihati	12	6.61
(n=181)	Bamundi	80	44.21
Strategy 5	Sualkuchi	11	44
Reduced consumption (coping)	Bathangaon	06	24
(5.16%)	Srihati	02	08
(n=25)	Bamundi	06	24
Strategy 6	Sualkuchi	0	0
Others (coping)	Bathangaon	0	0
(0.67%)	Srihati	2	100
(n=2)	Bamundi	0	0

Source: Field survey, 2015-16

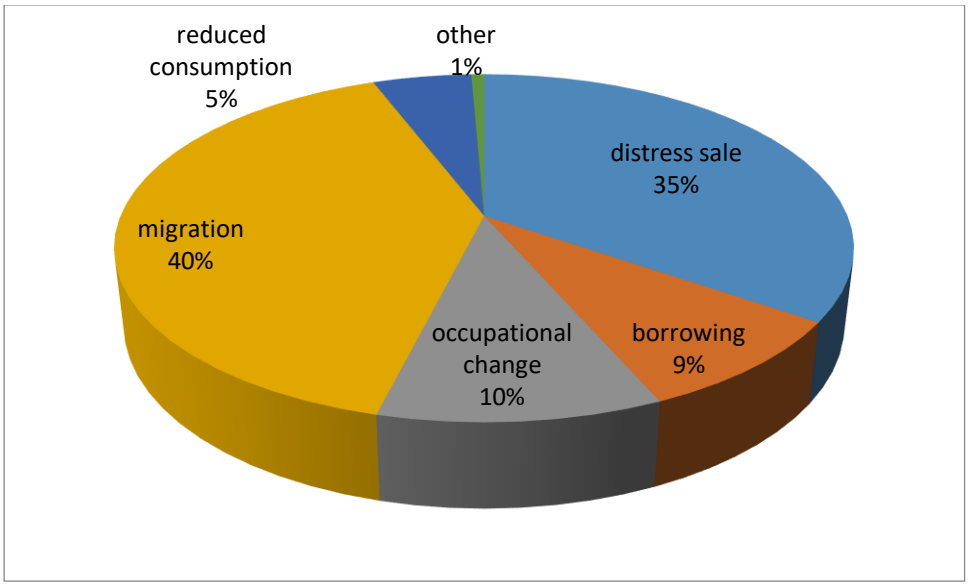


Fig 6.1: Common livelihood strategies undertaken by Sualkuchi weavers

Source: Field survey, 2015-16

As is evident from the above figure, the most common livelihood strategies discerned in Sualkuchi weaver HHs include the following:

1. Migration,
2. Distress sale,
3. Occupational change/ diversification,
4. Borrowing,
5. Reduced consumption and
6. Others (such as reducing luxury lifestyles, withdrawing children from school, reducing social and ceremonial obligations etc.).

   Following Devereaux (1993) and Davis's (1996) classification of livelihood strategies as cited in (Morris, et al., 2002) undertaken by rural poor, the present study has tried to categorise them further into adaptive, accumulative, survival and coping strategies.

1. Migration: Migration out of Sualkuchi is found to be the most common livelihood strategy in Sualkuchi. 40.27 percent of the HHs here have been applying this strategy to evade livelihood insecurity associated with the silk industry in the present times. The dominant source of income of the weaver HHs in Sualkuchi is through remittance sent by young men who have migrated to nearby towns and cities in search of better job opportunities. Push factors in the place of origin have compelled them more to move out. Disillusioned with poor returns from silk weaving, the youth have taken up migration as an adaptive/ accumulative strategy with a view to augment their household income. Men find petty trade, wage labour jobs, jobs as construction workers in nearby cities more lucrative than spending their time idly in the village. Moreover, as communication networks have become better and the villages of Sualkuchi have become more accessible connected by road networks to Guwahati, migration has become a common phenomenon here.

   One important feature of migration in Sualkuchi is that such movements include that of individual family members rather than of entire HHs. Another important feature is that it is extensively a male phenomenon. Evidence from the villages suggest that mostly men in the age-group between 20 to 40 years move out as migrant labour. Generally, when adult males migrate alone, they leave responsibilities at home and this in turn adds more burden of looking after the family on the womenfolk in addition to their daily household chores.

   The household's choice of a livelihood strategy is conditioned by its status of asset holding. Since migration requires a certain amount of human capital (education, skills etc.), social capital (networks and connectedness that allows

people to access jobs elsewhere), financial capital (travel expenditure) and physical capital (road and market access), there remains a section of the rural households that are not able to migrate.

Although the nature and motive of migration varies across the sampled villages and across different segments of the population, a high degree of migration is observed in the region (Bamundi – 44.21 percent, Sualkuchi – 39.25 percent, Bathangaon –9.91 percent and Srihati –6.61 percent). In fact, migration has become a pre-dominant livelihood strategy for Sualkuchi as a whole.

2. Distress sale: Distress sale basically implies the sale of assets or stocks in an urgent manner, most often at a loss, to repay debts, medical expenses or such other kinds of emergencies. The weavers of Sualkuchi are forced to make distress sale of their genuine products at throw-away prices when they are in great need of money to run their family. This happens if there is any kind of seasonal fall in demand for fabrics. Under such circumstances the weavers are compelled to make distress sale to the traders, and this forms an essential survival strategy for the weaver households in Sualkuchi. Almost 34.6 percent of them have reported to have resorted to distress sale in times of crises. Across the 4 sampled villages, distress sale is remarkably noticed in Sualkuchi village (41.34 percent), where the weavers could not think of any other means of survival, in Bamundi village (39.9 percent) and 13.4 percent and 5.2 percent of the total in each of the villages of Bathangaon and Srihati respectively.

   Apparently, the major problem in Sualkuchi seems to be more market-oriented in nature. The demand for Assam silk is found to be declining as

compared to other types of silk but when analysed further it is found that there is not much of a difference in the prices of the original silk fabrics that are produced in the silk centres across our country. A significant difference in the cost of the fabrics arises only when natural silk is blended with cheap artificial synthetic fibres imported from China. Taking undue advantage of this situation, some unscrupulous traders are earning huge profits by passing off blended products as pure silk fabrics. Following this, the weavers of Sualkuchi are not able to attract customers and are forced to make distress sale to the *Mahajans* or to the bulk buyers.

3. Occupational change or diversification: By definition, rural livelihood diversification is the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and improve their standard of living (Ellis, 2000). Diversification explicitly draws attention to a variety of dissimilar income sources as its chief characteristics. (Neihof, 2004). It is generally observed that not all individuals or households collect all their income from one source, hold their wealth in one asset or utilise these assets or wealth in one kind of economic activity. In fact, several multiple motives identified as 'push' and 'pull' factors prompt individuals and households for livelihood diversification. Push factors include incomplete or weak financial systems, constraints in land and labour markets or climatic uncertainties such as in agriculture while pull factors include local engines of growth such as commercial agriculture, etc. or proximity to an urban area (Barrett, et al., 2001).

   In the case of Sualkuchi, Community based tourism has proved to be a potential engine of rural growth and development and has been benefitting

the people of the region to a considerable extent. It needs to be mentioned here that recently in the year 2004, an Endogenous Tourism Project (ETP) was started in Sualkuchi under the leadership of the Centre for Environment Education (CEE) in partnership with the Union Ministry of Tourism (MoT) India and UNDP India, out of a total number of 36 ETP sites across the country. Under this project, an operational community managed rural site has been established along with a 17 member registered body under the name of Tourism Development Society, 12 member trained Hospitality group is engaged in receiving the tourists, two dance groups, one Bihu and the other Bodo, is receiving laurels by their dance performances abroad, a 12 member cuisine group is engaged in preparing food for the tourists, 7 youths are engaged as tourist guides and 30 SHGs have become operational since then. Overall, a total of 80 families are making a living directly or indirectly in Sualkuchi through this ETP. (Kalita, 2010).

Weaving is a full-time commercial activity in Sualkuchi and it is mostly during the lean season that some of the weavers diversify to other locally available, low value options. There has been not much significant diversification in the region. Overall, only 10.48 percent of the HHs here have taken up this as an adaptive or accumulative strategy. Of all the 4 villages under study, it is seen that Bamundi village has a higher incidence of engagement (around 73 percent) in service sector activities like that of an electrician, catering, repairing etc. and formal employment in government or private sector jobs. This can be correlated with a highest incidence of literacy in this particular village (80 percent literate population), among others. As already mentioned earlier socio-economic variable like education and skill is

a very important factor governing the households' choice of a particular livelihood strategy. Hence, the case in Bamundi village. Srihati village on the other hand has seen no occupational change of its inhabitants.

4. Borrowing: Borrowing as a seasonal coping strategy has been undertaken by only 8.82 percent of the total number of weaver HHs in Sualkuchi. Srihati village reflected a higher incidence of borrowing money and other necessary items from their kith and kin as an immediate coping strategy when incomes turned low during seasonal fall in demand.

   Livelihood approaches generally suggest that the poorer HHs have lesser access to livelihood assets (e.g. land, animals, implements, education, skills, social and financial capital etc.). As such they have limited options available to them than others and are more vulnerable to risks (Morris et.al., 2002). In the present case, the 8.8 percent of the households have limited access to other capitals, so they cannot resort to migration and occupational change but to borrowing in events of transitory income insecurity.
5. Reduced consumption: Reducing the frequency and quantity of meal consumption is another minor strategy of coping with seasonality among 5 percent of the weaver HHs here. The varying proportions of HHs resorting to this strategy across the 4 villages under study include: Sualkuchi - 44 percent, Bathangaon and Bamundi - 24 percent, and Srihati- 8 percent).
6. Others: Besides, migration, distress sale and occupational change as major adaptive strategies identified in Sualkuchi Development Block, a few other minor ones such as reducing luxury lifestyles, withdrawing children from schools and reducing social and ceremonial obligations are recognised and undertaken by 0.67 percent HHs in Sualkuchi.

Understanding livelihood strategies is pivotal towards understanding of the weaving livelihoods in Sualkuchi. Migration is found to be the most dominant strategy here, followed by distress sale and diversification to non-weaving sectors. About 38.7 percent of the total respondents in Sualkuchi being dissatisfied with their present jobs were reluctant to let their children continue this occupation which they had been carrying on since generations. They made sure to educate them and seek employment elsewhere. 48.9 percent of the youths in the study area were unwilling to carry forward this age-old weaving activity of their fore-fathers and were looking for better and alternative sources to augment their household income.

6.4 Determinants of livelihood choices in Sualkuchi

A number of scholars (Khatun & Roy, 2012, Xu, et al., 2015, Khatiwada, et al., 2017 etc.) have elaborated on the factors that influence on the choice of a particular household livelihood strategy. As have already been discussed, these choices are the influence of differential access to and control over the 5 types of livelihood capitals. In addition, the location of the place and its distance to key facilities like roads, markets etc. also have a considerable influence on the choice of a livelihood strategy. Hence, exploring the determinants of livelihood strategies may have greater policy implications towards the formulation as well as effective implementation of policies aimed at reducing poverty and improving rural livelihood.

In the present study, a multinomial regression analysis has been used to identify the main drivers of the household livelihood choices. Six different types of strategies discerned in the Sualkuchi weaver livelihoods have been used as the dependent variables. The following table summarizes the total number of asset based

explanatory variables used for the analysis and their expected relationships to the livelihood choices.

Table 6.3: Livelihood platform variables used, their definitions and expected relationships with the livelihood strategies.

Explanatory variables	Definition	Expected relationship
Household size	Total members in the family	Higher the HH size, more involved in migration
Hired labourers	Number of hired labourers	HHs with more no. of hired labourers, less likely to adopt migration
Skill training	If household member has obtained any skill training? (Dummy; yes=1, no=0	HHs with skill training, more likely to adopt migration as a strategy

Multinomial Logistic Regression (MNL) was applied with the other category (i.e. reducing luxury lifestyles, withdrawing children from schools and reducing social and ceremonial obligations) as the reference category in order to assess the effect of 3 predictor variables, namely household size, no. of hired workers and literacy level of the weavers on the likelihood of a specific livelihood strategy relative to the other category. The results of the MNL are presented in the following Table 6.4.

Table 6.4: Determinants of livelihood strategy choice using Multinomial Logistic Regression (other as the reference category)

Explanatory Variables	Migration	Distress sale	Occupational change	Borrowing	Reduced consumption
	B	B	B	B	B
Household Size	0.985**	-0.818	-0.832	-0.995*	0.252**
Hired Workers	-0.269***	-0.357	-0.579**	-0.586***	0.649
Skill training*	2.856*	-2.772	-1.541	-1.383	0.143

Log likelihood=321.995, LR Chi-square=393.783; Probability>chi2=0.000, Goodness of fit: Pearson chi-square=1781.07, p value=0.000; Deviance chi-square=253.782, p value=0.000; Pseudo R-square: Cox and Snell=0.582, Nagelkerke =0.622, McFadden= 0.317,*Dummy variable, excluded category: no skill training, significant at ***99%, ** 95%, *90%.

The above data therefore, reveals how distinct factors ranging from the household size to the no. of hired labourers and the skill training affect the household's choice

of a number of livelihood strategies in Sualkuchi. It is found that household size and skill training have a significant and a positive influence in taking up migration as a livelihood strategy other than the reference category. And hired workers has a significant negative influence in undertaking migration. While in the case of reduced consumption as a livelihood strategy in relation to the reference category, only HH size has significant positive influence. In the rest of the strategies, the predictor variables have a negative influence (significant impact only of hired workers in taking up occupational change as a strategy, and of both HH size and hired workers in choosing borrowing as a strategy) The above analysis therefore shows the relationship among variables in the adoption of certain livelihood strategies by the weavers of Sualkuchi or in other words, the factors underlying the choice of a particular strategy relative to the other.

6.5 Livelihood Outcomes

The DFID Guidance sheets of April, 1999 suggest livelihood outcomes as the achievements or outputs of livelihood strategies. In other words, livelihood strategies with the utilisation of the capitals (physical, natural, financial, social and human) achieve an output which is termed as Livelihood Outcome (Bhattacharjee, 2016).

One of the key dimensions of livelihood outcome is sustainability. Sustainability is in fact, a systemic concept which relates to the continuity of economic, social and environmental aspects of the human society intending to meet the needs of all its members and economies in the present times; without compromising the ability of future generations to meet their own needs at the same time.

Muthu (2017) discusses in his study on evaluation of sustainability in the textile industry that sustainability and its assessment are highly crucial for industries,

government as well as customers and it should focus primarily on 3 major elements, which are environmental, economic and social, and any kind of assessment tool or technique should focus on this triple-line-thinking. Similarly, Kramer et al. (2009) in their study on the potentials of silk production as a sustainable livelihood activity in Cambodia highlighted that even in case of estimating the development potential of silk production, it is essential to look at it in the context of environmental, economic and social sustainability. By economic sustainability is meant whether silk production is a viable option for increasing income and reducing poverty. Environmental sustainability is determined by whether silk producers use natural resource as raw material in a judicious manner and by ecological impacts such as assessment of the level of pollution etc., social sustainability deals with issues of social norms, relationships, cooperation, membership etc. In the present work, livelihood outcomes for sustainability are assessed on the basis of the following broad achievements: increased income, food security, good living condition, reduced vulnerability, less ecological damage and connectedness.

6.5.1 Environmental Sustainability

While discussing about the environmental sustainability of silk industry in particular, it can be said that silk is a highly renewable resource with less impact on the environment than many other fabrics. Studies like that of (Giacomin et al, 2017) and (Srikantaswamy & Bindroo, 2014) have shown that mulberry trees on which silkworms feed have a high capacity of carbon mitigation. In fact, there exists an environmentally positive correlation between the carbon footprint of silk production and mitigation provided by mulberry trees needed for sericulture. The residues from silk industry are also employed in fashion and other decorative products by re-using and re-cycling the products.

Fashion today, is turning to the rich heritage of natural fibres which are renewable, biodegradable, are friendly to the human body and may have beneficial medicinal properties too. With increasing awareness about sustainability, organic, natural, eco-friendly concepts among textile consumers the world over and with increasing emphasis on reducing green-house gas emissions, the case for protecting the silk industry of Sualkuchi becomes all the more important. But there are certain issues arising out of globalisation that are greatly affecting the sustainability of the silk industry here.

6.5.1.1 Environmental impact: The *muga* worm is susceptible to environmental influences. Being a cold-blooded organism, any change in environmental temperature, humidity, light etc. regulates the biochemical activity of the insect in all stages. The ideal temperature for rearing silkworms ranges between 24 and 32 degrees Celsius, with a humidity level of 80 to 85 percent, but in the last few years, temperatures have risen, and this is affecting production. According to the Assam State Action Plan for Climate Change 2012-2017, the state of Assam is most vulnerable to climate change than its sister-states. The region has experienced increase in the annual mean maximum temperatures, with increase at the rate of +0.11°C per decade and annual mean temperatures at a rate of 0.04°C per decade in the region. The region is characterised by high rainfall but analysis of long-term trends in the annual rainfall also indicates a slight decline in the total rainfall received in the region. Thus, the production of *muga* silk in Assam is only 11 MT in 2011-12. Since the *muga* silkworm is semi-domesticated and rearing is conducted in outdoor conditions, the differential seasonal conditions greatly affects almost every aspect of the life cycle of the silkworm and utilisation of food in muga worms (Saikia et al, 2016).

6.5.1.2 Reduced area under host plants for silkworm rearing: Encroachments on government *som* plantations is also becoming one of the prime causes of decreasing food availability of *muga* silkworms. As of now about 265.84 hectares of government sericulture farm areas have been encroached upon.

Sediments carried by annual flooding waters add to the woes of *muga* by covering *som* and *soalo* bushes as high as up to three and four feet. Muga worms feed on leaves of these trees that perish within months following stagnancy of flood waters. This has been happening for years and most of the *muga* rearing areas are now almost free from silk rearing practices. In the Dhemaji district of Assam about 1500 farmers lost an average of 100 *som* trees to stagnant water. The area under *muga* plantations is even worse as it shows a tremendous decline from 9081 MT in 2009-10 to 4723 MT in 2011-12.

6.5.1.3 Air Pollution and increasing use of pesticides etc.: *Muga* worms are very sensitive to odours of toxic chemicals. Most of the *muga* rearing plantations are located in Upper Assam, very near to the tea gardens. Subtropical climatic conditions in the state require the use of toxic chemicals to rid pests but this adversely threatens the culture of golden weaves unique to Assam. Silkworms cannot resist the smell of toxic pesticides etc. which are regularly used in the Tea Estates, thus leading to their premature death (Saikia et al, 2016).

Muga worms are very sensitive to air pollution from brick kilns, coke manufacturing units, cement factories and oil refineries. Studies have shown that feed plants within 500 metres of contain several chemicals which are detrimental to silkworms. For e.g.: The flaring of natural gas in the oil exploration sites of the ONGCL in Sibsagar district of Assam (which is also a primary muga growing region of the state) emits certain fine particles like carbon, metallic dust, aerosols, solid oxide, nitrates and

sulphates and certain coarser particles like heavy dust, sulphur and nitrogen compounds and halogen. When silkworms come in contact with such gases, their central nervous system paralyses, lose control over spinning and hence, cocooning does not take place. Gas flaring also results in biochemical changes of the *muga* feed plants which directly influences the health, growth and survival of muga worms (Kalita 2012). Explosions are common in the Tinsukia, Dibrugarh, Sibsagar, Jorhat and Golaghat districts of Upper Assam where Oil and Natural Gas Commission Limited (ONGC) and Oil India Limited (OIL) have been carrying out oil productions for decades. Of late silk cultivation in these areas has dwindled. All these factors are leading to a decline in the availability of raw material for Sualkuchi.

6.5.2 Economic sustainability

The economic viability of an industry has a profound influence on its sustainability, as an industry which cannot contribute to the welfare of the people working in it will be unsustainable over time. Hence, economic sustainability should incorporate both the basic capacity to generate sufficient profits to balance the cost of production and at the same time, extend social welfare to its workers. In the present context, economic status of the weavers evaluated on the basis of related livelihood variables like occupational diversification, income and expenditure structure of the households as well as the nature of employment of the weavers have been considered in constructing indices for economic sustainability of the households of the study area using the ranking method.

Table 6.5: Index of Economic Sustainability

Village	PC of HHs with occupational diversification	Rank	Pc of HHs with poor income	Rank	Pc of HHs with permanent employment	Rank	Composite Index	Rank on Composite Index
Sualkuchi	6	3	52	4	34	2	9	3
Bathangaon	13	2	38	2	28	3	7	2
Srihati	3	4	39	3	25	4	11	4
Bamundi	23	1	32	1	47	1	3	1

Source:Field survey, 2015-16.

The trend of livelihood activities in Sualkuchi suggested there is a considerable economic diversification of the present generation. Although weaving is a full time commercial activity in Sualkuchi, it is mostly during the lean season that some of them diversify to other locally available, low-value options as an adaptive or accumulative strategy. Since Bamundi has a high degree of education (80 percent), almost 23 percent of the weavers here have resorted to occupational diversification. The income and expenditure pattern of the households have been already elaborately discussed in chapter IV. The percentage of HHs with permanent employment is found to be highest in Bamundi which no doubt implies that they are able to reap better income, hence the no. of HHs with poor income is lowest in this particular village. Overall, Bamundi village reveals a status of better economic sustainability as compared to the remaining 3 villages under study.

6.5.3 Social Sustainability

In consultation with the local resource persons as well as weavers of the study area, a no. of indicators such as the percentage of households with proper electrification and toilet facilities as well as the literacy status of the households have been treated as important social indicators reflecting social sustainability in Sualkuchi. The

percentage of literacy also highlights the level of awareness and competitiveness of the weavers with the pace of time.

Education is an important pre-requisite for coping with vulnerabilities and for reducing poverty. In other words, the more the no. of school goers in an area, the higher is the social sustainability level. Bathangaon village has the highest no. of school goers in the study area while Srihati village records a low figure in this category. Other villages record a moderate level in this regard.

The status of electrification in Bathangaon is quite satisfactory. Nearly 96 percent of the HHs reveal electric connections in the area. However, the provision of toilet facilities in the area is limited to certain households only. All 4 villages are equipped with only 35-45 percent of such facility. Most of the women weavers of Sualkuchi are unorganised. A mere 9 percent of them are members of co-operative societies. Moreover, formal organisations and networks are not quite common here. The ranking method has been adopted in order to evaluate the social sustainability of the communities living in Sualkuchi. The composite index shows that Bathangaon and Bamundi villages have better performances in social sustainability. On the other hand, Srihati and Sualkuchi are in a lower position.

Table 6.6: Index of Social Sustainability

Village	Pc of illiteracy	Rank	Pc of HHs electrified	Rank	with toilet facilities	Rank	Pc of HHs with community membershi	Rank	Composite Index	Rank on Composite Index
Sualkuchi	41	3	90	3	39	3	10	2	14	3
Bathangaon	6	1	96	1	44	1	14	1	5	1
Srihati	45	4	89	4	37	4	8	3	17	4
Bamundi	25	2	94	2	43	2	6	4	13	2

Source: Field Survey, 2015-16.

6.5.4 The Coping Strategies Index

Food insecurity is also one dimension of sustainability that is important to DFID. Hence, the Coping Strategies Index (CSI) has been used as an effective tool to assess the weaver household's food insecurity level.

Table 6.7 Average severity weight for various coping strategies among the 4 selected villages in Sualkuchi

List of coping strategies	Sualkuchi (FGD*=2)	Bathangaon (FGD=2)	Srihati (FGD=2)	Bamundi (FGD=2)
Distress sale	5	5	5	5
Borrowing	3	3	2	3
Occupational change	3	4	2	2
Migration	6	6	6	6
Reduced consumption	3	3	4	4
Other	0	0	2	0

*FGD= no. of Focus Group Discussion
Source: Field Survey, 2015

Table 6.8 Computation of Village-level Coping Strategies Index Scores

Villages	Sualkuchi			Bathangaon			Srihati			Bamundi		
List of coping strategies	Raw score	Severity	weighted score=frequency x weight	Raw score	Severity	weighted score=frequency x weight	Raw score	Severity	weighted score=frequency x weight	Raw score	Severity	weighted score=frequency x weight
Distress Sale	2	5	10	2	5	10	3	5	15	2	5	10
Borrowing	4	3	12	2	3	6	3	2	6	3	3	9
Occupational Change	1	3	4	1	4	4	1	2	2	1	2	2
Migration	1	6	6	1	6	6	1	6	6	1	6	6
Reduced Consumption	7	3	21	7	3	21	7	4	28	5	4	28
Other	0	0	0	0	0	0	1	2	2	0	0	0
CSI			**52**			**47**			**59**			**51**

Source: Field Survey, 2015

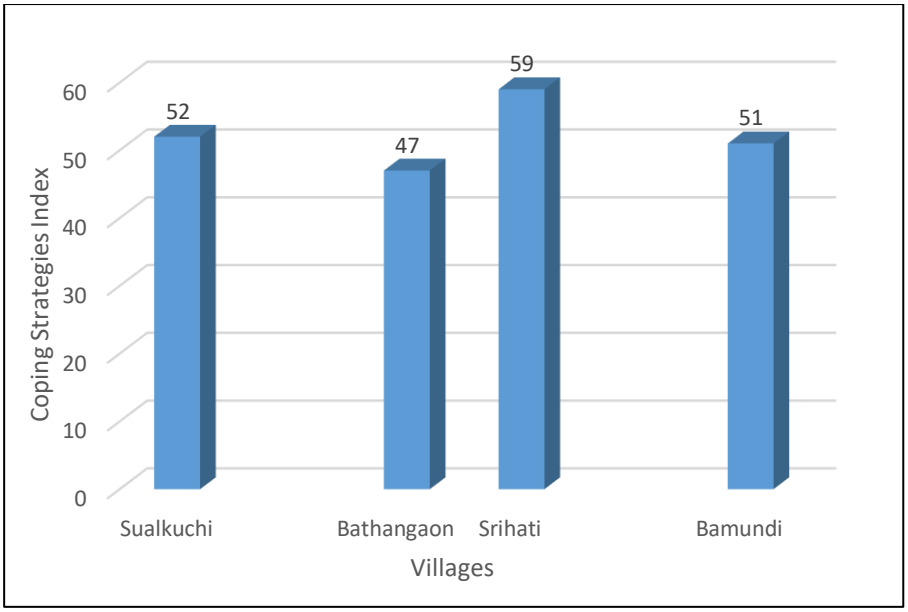


Fig 6.2: Level of CSI scores among the selected villages
Source: Field survey, 2015-16.

Food insecurity is a core dimension of vulnerability and is also significant in assessing the status of social sustainability. The percentage of households with food sufficiency is a positive indicator which is indirectly the result of the economic variables. So far as food security in Sualkuchi is concerned, 43.9 percent of the HHs of the study area enjoy food sufficiency throughout the year. The level of CSI scores as illustrated in the above table reveal the fact that Sualkuchi and Srihati villages are more food insecure than the other two villages.

The primary goal of sustainability is to enhance people's well-being while living within the capacity of the eco-system. People turn unsatisfied if they are unable to meet their own needs while striking a balance between economic prosperity, social responsibility and environmental stewardship. In the case of Sualkuchi, 63 percent of the weaver HHs expressed complete dissatisfaction with their present job. Moreover, 45 percent to 65 percent of the youths in Sualkuchi were also unwilling to continue their profession as it did not provide them with the much-needed financial support.

Instead they thought they could benefit much by working in other low paid jobs within and outside Sualkuchi and send back remittances to support their families. Migration has therefore, become a common phenomenon here. The true achievement of sustainability is a difficult task until and unless a major thrust is initiated by the state as well as the central govt.

6.6 Swot analysis of the weaving industry in Sualkuchi

SWOT Analysis or SWOT matrix is a strategy analysis tool which combines the study of the strengths and weaknesses of an organisation, a geographical area or a sector with the study of the opportunities and threats to their environment. SWOT is an acronym for strengths, weaknesses, opportunities and threats. While the first two components are internal in nature, the last two exist externally in the environment. The main aim of the analysis is to take into account both positive and negative aspects simultaneously, maximising the potential of strengths and opportunities, while minimising the impact of weaknesses and threats. As such, it is instrumental in development strategy formulation.

In the present study on the silk industry of Sualkuchi in the age of industrialisation and globalisation, SWOT analysis can be an effective tool to answer the question: where are we? It enables the holistic understanding of the situation of Sualkuchi silk industry in the overall context of the national as well as international silk handloom industry. The most appropriate technique to develop a SWOT analysis is through group brainstorming. Hence, the present task has been undertaken on the basis of inferences drawn from a focus group discussion comprising of weavers, traders, silk dept. officials from the Block Development Office at Sualkuchi in the year 2017 and has been presented in a tabular form as follows:

SWOT MATRIX

STRENGTHS	OPPORTUNITIES
1. The historical lineage or tradition of weaving silk products **2.** Wide and rich resource base of weaving and design skills; Large production base. **3.** Rich and unique designs make Sualkuchi products stand apart. **4.** Young and skilled labour force. More than 25,000 people directly or indirectly involved. **5.** Use of 3 commercial varieties of silk namely, muga, paat and tassar. **6.** Presence of around 17,000 to 18,000 looms is a big strength which can be exploited with a good strategy. **7.** Women by far outnumber men in this sector lending a significant gender dimension. **8.** Higher degree of commercialisation achieved.	1. Silk being a natural and organic fibre, has a consistent domestic demand as well as a high demand in the global arena. 2. The unique designs and motifs of Assam silk makes it stand apart from the other silk cloth of the world. 3. A proper marketing strategy will help boost the sale of Sualkuchi products as well as help significantly in generation of rural employment as well as in poverty alleviation. 4. The keenness of the new generation for product diversification according to fashion dynamics will lead to market expansion and innovation. 5. Growing demand for blended and high-end fashion products like scarves, stoles, neck-ties, bedsheets, bedcovers, cushion and duvet covers etc. 6. Schematic interventons for technological upgradation for both central and state govts.
WEAKNESSES	**THREATS**
1. Traditional looms in use. No attempt on modernisation of equipments and production processes. **2.** Outdated looms and technology leading to limited product range and inability to comply with new requirements **3.** Gaps in technology transfer and extension support **4.** Wide demand-supply gap. Quality yarns need to be imported from outside the state since a lot of improvement is necessary at the yarn stage to standardise our own muga yarn. **5.** Acute shortage of electricity;	**1.** Competition from cheap artificial silks like those from China and tassar silk flooding the local markets, competition from power looms. **2.** Erosion in the supply base of weavers **3.** Absence of laboratories to test the raw materials or finished products for authenticity. **4.** Increasing price of raw material because of dominance of middlemen **5.** Changing trends are leading people to switch to modern lifestyle and clothing. **6.** Gradual govt. apathy towards

poor work sheds resulting in poor production. **6.** Dearth of capital investment in the industry, poor planning, implementation and corruption in the govt. schemes for the welfare of the weavers. **7.** No effective mechanism to standardise quality and price. Frequent price fluctuations and large-scale imports from China at low prices. **8.** The weaver is socially, financially backward and marketwise unaware and marginalised since the marketing channel is dominated by middlemen. **9.** Absence of social security measures encourages captive buying by the Mahajans and big traders resulting in distress sale by the weavers. **10.** Catering only to local demands; the industry is inaccessible with the global market and fashion dynamics. Poor linkage among different stakeholders **11.** Poor family earnings and insecurities. Paid less than an equally skilled worker. **12.** Limited academic insitutions dedicated to fashion and research in North-East.	development of handloom sector **7.** Swift progress and development in handloom production in nearby clusters like Kokrajhar, Udalguri, Palashbari etc.

From a thorough assessment of the sustainability dimension in Sualkuchi, it can be said that there are several issues which need to be developed to promote the sustainability of silk production in the villages. Economic sustainability should be prioritised to enable the industry to survive and create jobs for the weavers. Market and product development are the main problems to be looked after. Since Assam silk has demands in both national and international markets, adequate infrastructure needs to be developed at all stages from rearing to reeling to

weaving, for employment to be sustainable and for more production at a lesser time. With economic sustainability, there will be improvement in income and savings and in debt condition of the weavers. This will no doubt directly or indirectly ensure better social sustainability and an improved level of food security in the area.

6.7 Major findings of the chapter

i) The weavers of Sualkuchi have resorted to 6 major and minor livelihood strategies in response to unusual shocks and trends in the form of market insecurity owing to rise in the use of artificial silks, low production and income, governmental apathy and such other issues arising out of the processes of globalisation.

ii) Migration is found to be the most common adaptive/accumulative livelihood strategy in Sualkuchi to augment the HH income. Such movements include that of individuals rather than that of family members. It is extensively a male phenomenon in the age group between 20 years to 40 years thus, resulting in adding more pressure on the womenfolk of the house.

iii) Other strategies include distress sale of the silk fabrics at throw-away prices to the traders during emergencies, occupational diversification during the lean season, borrowing money and other necessary items from kith and kin, reducing the frequency and quantity of meal consumption and a few minor ones like reducing luxury lifestyles, withdrawing children from schools and reducing social and ceremonial obligations.

iv) Asset based variables like household size, no. of hired members and skill training have significant influences in the adoption of the above mentioned livelihood strategies by the weaver HHs.

v) A sustainable community balances its social, economic and environmental components while maintaining the quality of life for both existing and future generations. In the case of Sualkuchi, the analysis of the various aspects and indicators of sustainability in relation to the weavers shows varying patterns; while one or more villages are maintaining good status, some others are having marginal and unsustainable status. The analysis reveals that problems in the study area like outdated mechanisation, unimproved looms, time gap to realise money invested in silk yarn, lack of raw materials, threat from artificial silk, insufficient financial assistance, poor marketing etc has kept the livelihood trapped within the vicious circle as these are the base on which a livelihood in rural area is built.

CHAPTER VII

SUMMARY AND CONCLUSION

7.1 Findings and Summary

Famous all over the globe for its endemic golden silk and recognized by the United Nations Development Programme (UNDP) as the "Manchester of the East", Sualkuchi is Asia's largest silk weaving cluster, famous for its traditional handloom sarees and *mekhela chadars* woven from mulberry, *tassar* and *muga* silk threads. However, weaver community in Sualkuchi, particularly women, have been experiencing vulnerability owing to changing environmental conditions, rising industrialisation, urbanisation, economic liberalisation and globalisation that are taking place all over the globe. The present study is an investigation of the outcome of such macro-level processes on the micro-level unit of weaver households by taking Sualkuchi as a pertinent example to verify how they are coping with this changing world.

The entire work has been broadly divided into 7 main chapters. Chapter I begins with the introduction followed by statement of the problem, significance of the study, broad review of relevant literature, choice of study area and the sources of data and methodology. Chapter II deals with the environmental setting of the study area which has been further sub-divided into: i) physical and ii) socio-economic setting. Physical elements like those of location, physiography, drainage and climatic conditions of the region have been found to be instrumental in the development of silk culture and weaving in the state. Weaving has paved the way for generating employment and providing livelihood opportunities for people, particularly womenfolk in the beginning of this small handloom industry.

Based on both primary and secondary sources of information, Chapter III has been dedicated to look into the insight of the silk handloom industry of India in general and of Assam in particular with special reference to Sualkuchi silk. Furthermore, this chapter discussed about the growth and survival of the silk handloom cluster and its continuity till date. The weaving set-up in the silk town, the core-cluster actors, raw materials used, loom details, accessories used and product line have also been elaborated upon. Apart from all these, an analysis is also done on the geographical location association of the significant design phenomenon that is being found in Sualkuchi. Governmental initiatives post-Independence and institutions involved for the promotion and development of the silk sector in Assam is also elaborated upon.

Chapter IV presents the theoretical foundations on which this thesis is built (Sustainable Livelihood Framework being central to this discussion) as well as presents an assessment of the empirical data drawn from the field revealing the status of livelihood assets or resources available to the Sualkuchi weavers. Assets basically included human capital, social, natural, physical and financial capital. This chapter is entirely based on primary data.

Chapter V examines the livelihood dynamics of the weaving community of Sualkuchi. Apart from the Sustainable Livelihood Framework, a market analysis was also conducted simultaneously in order to understand the weaknesses and possible opportunities for improving livelihood of the weavers. Building a background understanding of the global market trends, the chapter deals with an in-depth analysis of Sualkuchi silk and its global spread, the nature of markets and marketing channels, the responses of weavers and traders to the changing environment in post globalisation and the role of govt. and

cooperative societies in support and survival of the industry. In addition, the global spread of Sualkuchi silk and its way forward has also been dealt with.

Chapter VI deals with the various types of livelihood strategies that are being undertaken by the weavers in the event of crises. In addition, it also highlights the concept of sustainability (social, economic and environmental) in the study area by analysing the livelihood outcomes with the help of a SWOT analysis.

Chapter VII is the conclusion of the study where findings and summary are given. In this chapter measures towards sustainability of the industry and survival of the weavers' livelihoods are recommended.

Based on both primary as well as secondary data analysis, the following findings have been drawn and summarised as under:

1. The environmental settings of a region play a significant role in determining the growth and development of various livelihoods that people have been undertaking to earn a living. Thus, the development of the silk sector in Assam is attributed to various physical as well as socio-cultural factors which have been providing a congenial atmosphere for the sustenance of silk weaving as an important livelihood of the people of Assam and in particular Sualkuchi.
2. Assam in general and Sualkuchi in particular, has carved out a niche of its own in the arena of silk production in the world since time immemorial owing to geographical factors such as specialisation in weaving, availability of skilled labour and easy availability of raw materials. However, the condition of this industry post globalisation is not the same what used to be.

3. With respect to the sericulture activities in Assam as a whole, over a period of a decade (2001-11), it has been found that although *eri* silk production is showing improvement but the case of *muga* silk is not, both in terms of growth in the villages and families engaged, the acreage under *som* and *soalu* plantations or in the production of *muga* yarn is in declining trend.
4. Over a period of three consecutive years (2009 to 2011), it has been reported that the area under *eri* plantation has increased with fewer margins. In case of *muga* plantation it shows a tremendous decline including production of *muga* silk yarn. Ultimately all these conditions are affecting the silk production at Sualkuchi either directly or indirectly. The total number of looms in Sualkuchi has reported to have gone down from 27,000 (1995-96) {First All India Handloom Census} to 15,000 (2009-10) {Second All India Handloom Census}and thus number of weaving units have also reduced from 700 (1995-96) to 550 (2009-10).
5. In Sualkuchi, the women outnumber the men in all aspects of work involved in the silk industry be it reeling, spinning, twisting and weaving except marketing which is purely male dominated. The core-cluster actors consist of master weavers locally known as *Mahajans* who are also the weavers and guide the entire line of production, the weavers (both dependent and independent), reelers, yarn winders, ancillary workers, yarn suppliers and traders. Middlemen in Sualkuchi engage in hoarding of the products which they buy from the weavers when price drops and during the peak season when the price rises substantially, and then they sell them by making huge profits. The women weavers suffer most, since they are paid low wages and the hired migrant young women from nearby regions employed as wage

earner also face exploitation at the hands of the *Mahajans* and the male weavers besides their low wages.

6. The study reveals that the weavers are greatly influenced by the elements of the physical environment as well as myths, legends, rituals, ceremonies, festivals and cultural norms etc. to create a specific design on the textile, which are depicted. Thus, designs and motifs that adorn Sualkuchi silk fabrics are depicting phenomena of nature. The organic vegetable dyeing of silk yarn is also a unique in Sualkuchi. However, of late due to commercialisation of products and the entry of Thailand threads has gradually changed the market in terms of demand and supply. Thailand-made threads are pre-coloured and weavers find them easy to use since it can be used directly into the loom which cuts down the cost of production and thus become cheap and affordable compared to Assam silk products. The weavers from Sualkuchi may not like to use such quality threads but they have no other alternatives to compete in the emerging market.
7. There are number of schemes and policies adopted both by the Centre and the State Government for promotion and development of silk sector in Sualkuchi, but in reality these are not helping the indigeneous weavers community either for production or income generation.
8. With this objective in mind, the Livelihood analysis conducted within the SLF of human, natural, physical, financial and social capitals helped in reaching the following conclusions:
    a. Considering the access to various types of human capital, it is found from the study that there is a low diversification in economic activity since the

nature of their employment is seasonal. There is a short supply of skilled weavers in Sualkuchi. The reasons for lack of skilled silk labour-force is due to inadequate wages, lack of training facilities, occupational shift and migration to cities in search of better living. Even health and sanitation conditions are not satisfactory in their place of work.

b. The natural capital, *muga* yarn comprises of only 26 percent share of total raw material that is required in Sualkuchi. The rest 74 percent is artificial silk such as *tassar,* rayon and cotton which occupies major share. Due to such conditions the original products are losing the market share.

c. In terms of physical capital, it was found that most of the weaver HHs in Sualkuchi had access to basic amenities like shelter, drinking water and electricity provision in their houses but with respect to producer goods like the type of tools and machinery used for weaving, there has been no significant improvement towards installation of improved mechanisms for weaving which has put a detrimental effect on the quantity as well as quality of goods produced from Sualkuchi and as such are facing tough competition from power looms and artificial silk fabrics in the market.

d. If we look at the financial assets, the monthly income of the weavers is hardly enough to sustain for the month. Moreover, insufficient credit facility to them also hampers the livelihood security of the women weavers of Sualkuchi. The most common way to finance their looms and raw material is borrowing from friends and relatives. Although these small borrowings are not sufficient but it helps the weavers during crisis period.

e. The social bonding and networks that the weaver household normally depends on include kinships, friends and neighbours during crisis in Sualkuchi. Majority of women weavers of Sualkuchi are not working with any organised group. Due to lack of such formal organisations and networks they are deprived of any form of support from government.

Summarising the status of livelihood assets in the study area it can be said that there is a disproportionate distribution of assets (human, natural, physical, financial and social) in Sualkuchi as shown with the help of the asset pentagon (Chapter III, Fig 4.19).

9. Weaving is a strenuous task that is performed by the weavers but in return their remuneration is very insignificant. Thus, many workers involved in this industry is moving out of Sualkuchi to other places in search of better wages and in turn back home many units are on the verge of closing down or are already closed. On the other hand, the younger generation is no longer interested to continue their age-old traditional weaving culture that has been continuing since their great grandfathers because of lesser profits from this trade. This has been the great obstacle for the growth of the silk industry in Assam as whole.
10. Women workers are the major workforce in Sualkuchi. Despite that weaving has not provided the women weavers in Sualkuchi the much-needed livelihood and sustainable income to live a dignified life. Their activity includes pre-loom activities and weaving as part of their daily job along with household chores, but their work is not acknowledged and paid for. They get very little support from the

male members of their family and their presence in the economic as well as political activity is not significant.

11. Discerning the vulnerability context is an essential aspect of the SL Framework. The study has explored how assets are constrained in institutions, structures and processes and where Sualkuchi silk has undergone drastic transformation during post globalisation period.

    a. The global vulnerability context illustrates a huge gap between demand and supply of silk in the world. Particularly, in India there exists wide demand-supply gap of almost around 1500 MT every year in case of silk production. About 99 per cent of India's raw silk are imported from China.

    b. India has the potential in silk production in domestic as well international market, but it lacks the international standards. There are restrictions on product-line by the domestic manufacturers to shift to those standards due to the reluctance of the weavers to switch to other standard productions beside the traditional ones.

    c. The Chinese aggression to the Indian market on silk industry has created far-reaching impacts on various sub-sectors such as reelers, twisters, traders, exporters etc. The reelers are mainly left to the vagaries of price fluctuations of imported Chinese raw silk prices. The small weavers too find it difficult to market their products because of the poor quality of home production which is unable to meet the international standards and demand. The only beneficiaries in this extreme changing price levels are

middlemen who engaged in hoarding and determine the market prices. Thus the weavers, reelers and twisters are under the control of the traders.

d. Due to low production of *muga* silk, high cost *tassar* silk is dominating the market, which is much cheaper. The price of *muga* yarn varies from Rs.3200.00 to Rs.5000.00 per kg while *tassar* yarn ranges from Rs.1500.00 to Rs.2000.00 per kg. Although *muga* is in great demand and its value has increased over the years, the technology used is still traditional due to which is not able to compete with *tassar* silk products. *Tassar* silk is a variety reared and harvested in the states of Jharkhand, Chhattisgarh, Bhagalpur and Madhya Pradesh, which is essentially mixed with *muga* silk while weaving and sold as pure *muga* in the market to earn the profit. Cheaper variety of Chinese *tassar* silk is also available in the market, which is much cheaper than the natural *tassar* silk. This has also disrupted the indigenous industry. If we compare the Sualkuchi *mekhala chadar* that is priced at Rs.3500.00 to Rs.15,000.00 with Banarasi silk products that are sold at Rs.3000.00 to Rs.4000.00. Banarasi silk items are produced using power looms and the design is more attractive than the handloom products of Sualkuchi and therefore it is cheaper. Therefore, most people could afford them. The percentage share of *muga* used by the weavers amounts to a mere 25 percent while 75 percent of raw materials used are *tassar*. The factors identified for such a decline is due to the impact of global warming coupled with climate change, rapid proliferation of small tea growers in Upper Assam, indiscriminate application of

inorganic pesticides as well as bio-pesticides in nearby tea gardens that affects *muga* silkworm rearing and has also led to shrinkage of traditional *muga* plantations and thereby, its commercial production. Therefore, climate change is indirectly contributing to higher levels of uncertainty and exacerbate the vulnerability of weavers.

e. The other impediments in the Sualkuchi silk industry is lack of availability of raw materials, old fashioned looms, finance, artificial silk, poor marketing, innovation and designing, lack of advertisements and promotions prevent Sualkuchi from carving out a niche of its own in the global market. Being a local produce 100 percent registration and certification of the fabrics is another hurdle in its growth and production.

12. The weavers of Sualkuchi have resorted to 6 major and minor livelihood strategies in response to unusual shocks and trends in the form of market insecurity owing to rise in the use of artificial silks, low production and income, governmental apathy and such other issues arising out of the processes of globalisation.
13. Migration out of Sualkuchi is becoming the most common adaptive/accumulative livelihood strategy to augment the household income. Such movements are of individuals rather than that of family. It is mostly the male members of the family between the age group of 20 years to 40 years who migrate, thus resulting in adding more pressure on the womenfolk of the house.
14. Other problem is distress sale of the silk fabrics at throw-away prices to the traders during emergencies, occupational diversification during the lean season, borrowing money and other necessary items from kith and kin. During crisis to

cope with the situation they reduce meal and luxury items, withdraw children from schools and reduce social and ceremonial obligations.

15. Asset based variables like household size, number of hired workers and skill training have significant influence in adoption of the above mentioned livelihood strategies by the weaver households.
16. A sustainable community balances its social, economic and environmental components while maintaining the quality of life for both existing and future generations. In the case of Sualkuchi, the analysis of the various aspects and indicators of sustainability, the weavers show varying patterns; while some villages are maintaining better status, the marginal ones are struggling to sustain. The analysis reveals that due to lack of modern tools, out dated looms, time gap to realize money invested in silk yarn, lack of raw material, threat from artificial silk, insufficient financial assistance, poor marketing etc. have kept the livelihood trapped within the vicious circles.

7.2 Conclusion

The process of globalisation across different corners of the world is a combined effect of opportunities and constraints; while in some sectors it has shown remarkable growth while for some others it has shown a negative trend. In case of Sualkuchi silk industry, it can be assessed that there has been a mixed trend of growth both positive as well as negative. Although there is a declining trend in production and income but the demand for silk seems to be rising in the global market therefore it has the scope for further development. The use of a strong theoretical base in the form of Sustainable Livelihood Framework is the strength of this research work and has proven to be a useful and successful tool to

understand the complexities and forces that shape the livelihood assets of the weavers and strategies undertaken by them. The current economic climate of liberalisation and globalisation, stiff market competition and changing environmental conditions have made the traditional handloom weavers of Sualkuchi are extremely vulnerable. The weavers have adopted coping mechanisms over the time to evade livelihood insecurity associated with it. However, governmental interventions are necessary to sustain the poor people at the marginal level. Above all, schemes and policies are required to be employed synergistically towards building true adaptive capacity for the weaver communities of Sualkuchi.

7.3 RECOMMENDATIONS

Lack of a strong asset base (human, social, physical, natural and financial capitals as discussed elaborately) is overwhelmingly acknowledged as the important constraints inhibiting sustainable livelihood in Sualkuchi. The need of the hour, therefore, is to set up of professional institutes to train quality weavers (particularly married women weavers aged 25 to 50 years) to cater to the quality control. Proper orientation programmes and facilities for entrepreneurship should be undertaken for the younger generations so that they acquire interest in their age-old livelihood. A bottom to top approach in policy formulations by the govt. ensuring inclusion of all categories of weavers and elimination of the middlemen is of utmost importance. Rural financial systems need to be revamped for timely supply of raw materials, tools and techniques, machineries etc. necessary for production on a large scale. There should be strengthening of the rural infrastructure facilities like roads, telecommunications, markets, electrification, storage facilities etc. for faster accessibility. R&D initiatives with emphasis on product diversification and

technological up gradation can help Sualkuchi achieve a distinct identity on the global sphere. Govt. departments like those of Sericulture, Handloom and Textile need to be revitalised and re-organised and effectively collaborated with private enterprises like those of Fabric Plus Pvt. Limited for further growth and development of the sector.

Handlooms provide a competitive edge and unique identity to India in the global market-place. However, lack of consumer awareness about their importance as well as lack of proper advertisements to the outside world about this uniqueness of the handloom industry is the biggest challenge in the New Market Economy. Therefore, under such circumstances, Community based tourism can be a very suitable alternative to reposition the image of handloom industry of Sualkuchi and build consumer appreciation of the history and cultural identity associated with handloom products in the following manner: a) Provide market linkages: Tourism helps to bridge the gap between customers and weavers both in terms of distance as well as perceptions. b) Export opportunities: Tourism based initiatives can help in bringing together global stakeholders through marketing and advertisements, thereby helping the weavers to connect to multiple markets and export their products. c) Financial stability: Tourist arrivals will definitely bring in more money providing financial independence and help in raising the living standard of the weavers. d) Self-reliance: tourism can empower the weaving community in Sualkuchi towards self-reliance once they become financially sound. Sale of their products to both domestic and international tourists will strengthen their economy. e) Removal of middlemen: Sualkuchi weavers are unorganized and totally dependent on the dealers in Sualkuchi township. Therefore, taking tourists directly to the households will increase their sale and they will get the customers directly. Apart from direct sale, they could orders their choices. This

will help them in getting a better price directly from the buyer because the middle-man broker charge will not be involved. Integrating sustainability into the handloom industry through tourism can improve long-term viability for businesses of small and large and provide a model for other large industries to make similar positive changes.

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