

FINANCIAL MANAGEMENT OF MUGA SILK INDUSTRY: A STUDY OF LAKHIMPUR DISTRICT OF UPPER ASSAM

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ABSTRACT

Finance is the lifeblood of any type of business. Whether Small, medium or micro-enterprises. Finance is indispensable for any kind of business. The efficient management of finance allows the business to prosper or on the contrary inefficient management of finance leads to doom. The Paper deals with how small and rural cottage industry such as Muga which is a traditional rural and cottage industry, Manages financial activities of the business such as procurement of their seed capital, management of fixed and current assets, utilization of profit and so forth.

KEYWORDS: *Cottage industry, Muga, Finance, Business, Small & Rural Cottage Industry, Seed Capital.*

Introduction

The garment which is manufactured out of muga silk is closely associated with the socio-economic and cultural life of Assamese people. The Muga silk is considered as the queen of all fabric because of its intense strength and sophisticated shiny natural colour (Phukan 2012)¹. There is an immense prospect of muga silk industry in the North Eastern part of India as the weather conditions of the region suits its growth & development. The industry can restructure the rural economy of Assam to a great level and make the industrially backward region self-sufficient and a big earner of foreign exchange. The Muga silk industry is well-known for a high employability as it requires a low amount of capital investment and a high degree of labour. There is an immense scope for part-time and full-time employment of labour in the industry as the cultivation of muga silk finished product necessitates the splitting up of labour in discrete activities (Watt, G., 1907)². The muga silk industry of Assam has been present for many centuries (Bhuyan, S.K., 1964)³. Muga silk is an ancient craft in Assam, however, there is no strong evidence which suggests the time and place of origin of muga. It is one of the most important cottage industries that have grown from time immemorial. The cultivation and creation of muga silk have been confined to Assam alone, which is famous all over the world for the production of varieties or different types of silk cloth and has a lucrative foreign trade. Francis Hamilton⁴ comments that women of Assam in spite of any castes from the women of Assam those who are below the rank of queen wove four kinds of silk that are formed in the country, and with which three-fourths of the people were dressed. Kautilya⁵ mentioned the making of 'Dukula', a type of Silk fabric, created from Cocoons of some kinds of insects, in the ancient Assam. This 'Dukula' had three variations. The first variation, which was white in

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¹ Phukan .R (2012), "Muga silk and its historical perspectives" Global Journal of Human social science History & Anthropology, Volume 12, Issue 9. pp 5-8.

² Watt, G., (1907), "Economic products in India", Calcutta.

³ Bhuyan, S.K., (ed). (1964), "Satsari Assam Buranj" , Guwahati.

⁴ Hamilton.F. (1963), "An Account of Assam", Guwahati, Dept. of Historical and Antiquarian Studies.

⁵ Rangarajan L.N. (E.d). (1992). "The Arthashastra", New Delhi, Penguin Publications.

colour and very soft to touch, was popular in 'Vangaka' (lower Bengal), the second variant which was bright blue in colour and also soft in texture was popular in 'Paundraka' (North Bengal) and the third variation which was of golden colour and also soft was predominant in 'Suvarnakudya' (Present Assam). There are numerous types of insect originate in Northern Myanmar to South of Tripura and from Eastern India to Kumaon Hills (both pet & wild), which produce different types of silk. But, the multiplicity of worm found in Assam only produce golden colored yarn, from which the pure muga fabric is created (Choudhuri, S. N., 1981)¹. The silk industry of Assam has prospered and developed during the Ahom administration (1228-1828) because of the attention and keen concern taken by the ruling kings. The Tai-Ahom's had invaded Assam in 1228 A.D. and sericulture was an essential part of their culture (Gogoi, L 1994)². From the era of rule of Ahom Empire, the silk Industry was significantly fortified and this is predominantly true in case of muga silk industry. Ahom kings Supported muga-culture by favoring muga silk for imperial royal clothes. The garments made out of muga is the official dress of all the high officers of the Govt. The garments made out of 'muga' and other clothes embroidered with 'muga' were the status symbol for the aristocrats. The difference in wearing dresses and clothes had been preserved between the high and the lower classes. Headgear or turban, named 'Phachau' or 'Pag', 'Chapkon', 'Kinkhwab', wrapper called 'Cheleng' (mugagutidiacheleng) & 'Khania' (mugaphularkhania), 'Churia' or 'Dhoti', female garments 'Mekhela', 'Riha' etc. made of muga were used by the Royal noble or high ranking families. The muga in the earlier times were used only by the imperial family. Garments created out of muga were not meant for every one they used to wear garments made out of cotton and rough variety of silk.

Statement of the Problem

Silk production significant abode in the culture and commerce of Assam right from the Pre Vedic times according to historian's raw silk was exported to Rome right from the reign of Kanishka in 58 B.C. probably through Silk Route. Artisans involved in silk production and weaving were engaged in silk production and weaving was supported by emperors, kings, jagirdars, and other rich people throughout the Indian history. The Muga silk is a golden yellow lustrous silk produced by the weaving communities of Assam. It is a unique monopoly in India, especially in the northeast region. This species is endemic to India and occurs in Brahmaputra valley and adjoining hills in Assam. Rearing the silkworm is traditionally done by the tribal people who are an age-old tradition of this region. It is customary that the bridal dress is made of Muga silk woven by the bride herself. The Muga silk is a commercial fabric and can be used in making a variety of fabric materials like dupions, plain silk, deluxe, satins, chiffon, chincons, crepe, and brocades. Comfortable furnishing materials are made from handspun mulberry silk and mainly woven from Muga silk. Some of the waste silk is hand spun into *matka, feshua*, and noilyarns. Furnishings made from these yarns also have a good export market. The production of muga can be treated as one of the main sources of livelihood of indigenous people of the Upper Assam regions. This dependency can be reflected from the following figures which show an upward trend in the production of silk in these regions. (Table 1)

Table 1: Year wise production of silk in Assam (in metric ton)

Year	Eri	Muga	Mulberry	Total	Change in Total %	Change in Muga %
2001-02	434.28	91.73	11.72	537.73	-	-
2002-03	462.50	91.50	14.60	568.6	5.74	-0.25
2003-04	942.50	186.00	8.035	1136.535	99.88	103.25
2004-05	553.00	98.00	10.00	661	-41.84	-47.31
2005-06	1243.00	196.50	10.00	1449.5	119.29	100.51
2006-07	1237.00	194.45	10.00	1441.45	-0.56	-1.04
2007-08	1468.00	182.50	9.86	1660.36	15.19	-6.51
2008-09	812.00	101.00	10.00	923	-44.41	-44.66
2009-10	820.00	89.00	8.35	917.35	-0.61	-11.88
2010-11	810.96	113.28	11.40	935.64	1.99	27.28
2011-12	1976.00	114.56	14.00	2104.56	124.93	1.13
2012-13	1934.00	109.00	25.00	2068	-1.74	-4.85
2013-14	2012.70	118.04	23.40	2154.14	4.17	8.29
2014-15	2079.43	145.08	28.30	2252.81	4.58	22.91

(Source: Directorate of Sericulture, Government of Assam, Guwahati)

¹ Choudhuri, S. N., (1981), "*Muga Silk Industry*", Dibrugarh, Assam

² Gogoi, L., (1994), "*Tai Sanskritir Ruprekha*", Dibrugarh

Traditionally, sericulture is a major cottage industry in the State. Nonmulberry silk in general and Mugasilk, in particular, has been closely associated with the rituals and traditions of Assam and. Thus, silk production and its usage have been an important household activity in the State over the years. Rearing of Eri, Muga, and Mulberry silkworm are playing an important role in the economic development of a large section of the rural population of the State. It is practiced in more than 10532 villages and provides employment to the 2.6lakh family. Assam accounts for the highest production of non-mulberry silk, muga, and eri in the country -for which it is well known and famed. Further, Assam has the monopoly in the world in the production of Muga; the "Golden Silk" as about 99 percent of Muga Silk is produced in Assam. Assam also has achieved the right of 'Geographical Indication' for Muga thread. It is reported that the State has produced 88.73 MT Muga Raw Silk, 819.09 MT Eri Raw Silk, and 8.35 MT Mulberry Silk during the year 2009-10 as against 101 MT Muga Raw Silk, 810.00 MT Eri Raw Silk and 10.00 MT Mulberry Silk in 2008-09. During the year 2006-07, the production of Muga Raw Silk, Eri Raw Silk, and Mulberry Raw Silk was 99 MT, 665 MT, and 9 MT respectively. The Tasar Silkworm rearing has been developed in the State, and it is practiced mainly in the two hill districts.

The total area under Silkworm Food Plants has been recorded significant increase to 21229 hectares [+14percent] during 2009-10 from 18556 hectares in 2008-09. During the year 2006-07, the area under silkworm food plant was 18392.045 hectare. The total production of Silk Yarn, however, recorded marginal fall from 921 MT in 2008-09 to 916.17 MT in 2009-10. The decrease of production of silk yarn during the year 200910 was effected due to falling in the production of Muga raw silk and Mulberry raw silk by 12.15 percent and 16.5 respectively over 2008-09. Table 2 shows some statistics of Sericulture activities and its production in Assam during the last five years.

Table 2: Sericulture Activities in Assam

Items	2005 – 06	2006 – 07	2007 – 08	2008 – 09	2009 – 10	2010- 11	2011- 12	2012- 13	2013- 14	2014- 15
Sericulture Village (in No.)	9683	9373	9373	9537	10532	10532	10740	10746	11411	11281
No of Families Engaged	196152	191434	239281	238578	260707	254134	254516	291592	282073	652406
Areas under Silk work food Plantation (in Hector)	18556	18392	18548	18556	21229	21301	24268	26827	33790	15417
1. Eri	7293	7382	7531	7538	7623	7670	8044	9172.5	15796	6601
2. Muga	7255	7299	7305	7305	8902	8908	9400	10230	10371	5995
3. Mulberry	4007	3711	3712	3713	4704	4723	6824	7424	7623	2821
Yield of Cocoons										
Eri (in MT)	700	887	1046	1080	1089	1108	1622.51	2514.16	3182	3050
Muga (in lakh no.)	4905	4933	4302	5040	4436	6368	5812	5450	6361	6528
Mulberry (in MT)	119	92	110	100	84	110	129.28	225.00	340.50	268
Production of Silk yarn (in MT)	634	773	884.81	921	916.17	935.66	1187.42	2068.0	2700.04	2497.40
Eri Raw Silk	525	665	784.26	810	819.09	810.98	1061.61	1934.0	2545.6	2345.00
MugaRaw Silk	98	99	91.07	101	88.73	113.28	114.56	109.0	127.2	126.00
Mulberry Raw Silk	12	9	9.4867	10	8.35	11.40	11.25	25.0	27.24	26.400

(Source: Directorate of Sericulture, Assam)

Like any other industry, there is always an exotic threat to the sericulture industry. In this age of global trade, sericulture in India to survive against the onslaught from China and to sustain the export market, quality improvement, and competitive price setting are the prime requirement. Cost and return structure of an industry determine the efficiency level of the industry. An industry like the Muga industry of Lakhimpur District of Upper Assam which has been running on fascination and tradition needs to determine the cost and return structure in order to understand the efficiency level of the industry as well as for policy prescription for the improvement of the industry. In addition, no research activity has so far been carried out in this area of study.

Literature Review

Phukan(2012)¹in this study highlighted the importance of Muga silk industry on the socio-economic and cultural aspects of the people of Assam and how it can be utilized for generating employment for unemployed youths. Phukan(2012)²in his study highlighted the Problems and prospects of handloom industry he opined that from the reigns of kings the handloom industry proved to be a good source of employment generation. Paul and Jena (2017)³ in their study highlighted the prospects of muga silk industry as a small and rural cottage industry and how it can be pursued as a full time or a part-time activity such as it can be practiced along with Animal husbandry, Small tea cultivation, fishery and so forth. Chakraborty and et.al.(2015)⁴ in their study highlighted the *muga* being indigenous to Assam, and it is an age-old tradition to practice *muga*. The author further emphasized the use of traditional rearing techniques and practices, which are still prevalent till present day many homemade articles and equipment are still being used in this modern day of tech-savvy society. Chakraborty, R. and et.al. (2010)⁵ in this study highlighted the importance of *muga* as a traditional craft in Assamese culture and also Assamese in rituals it is customary to offer *muga* garment to the newly wedded bride. Mahan. B (2012)⁶ in this study highlighted the importance of silk in the Tai-Ahom community of Assam in the socio-economic culture and tradition of Assam and how it is interlinked with every aspect of the life of Tai-Ahom people of Assam. Jena (2016)⁷.In this study has emphasized the importance of agriculture and how most of the populations are dependent on agriculture for the development of their livelihood through agro-entrepreneurship. Highlighted on making agro-entrepreneurship a long-term revenue generating venture for the farmers and entrepreneurs.

Jena. And Parida, (2010)⁸ in their study highlighted the importance of supply chain management By the Small and medium enterprises in running the business efficiently and generate hefty returns. Jena and Mohapatra, (2009)⁹in their study how development of the informal sector can generate sustainable livelihood to the most of the informal workers, informal sector such as traditional handicraft which is a vital sector of Orissa and does not require huge investment in this sector and development of this sector can be a good source of sustainable livelihood generation.

Paul and Jena (2017)¹⁰ in their study highlighted that Importance of Muga silk cultivation and its association with the socio-cultural and economic aspect of people of Assam, Muga industry, which is a traditional small and rural cottage industry. Paul and Jena (2017)¹¹ in their study highlighted how

¹ Ibid

² Phukan. R (2012), "Handloom weaving in Assam: Problems and Prospects", Global Journal of Human Science, Volume 12, Issue 8, pp 17-21.

³ Paul. A and Jena. S.k (2017), "Viability and Prospects of *muga* silk cultivation In the lakhimpur district of Assam" International Journal of Business and General Management (IJBGM), Vol. 6, Issue 4, pp 33-44.

⁴ ChakravortyJharna, GogoiMallika and V. Benno Meyer-Rochow, (2015). "Cultural Attributes and Traditional Knowledge in Connection with the Rearing of *Muga(Antheraeaassama = assamensis)* in the Dhemaji District of Assam, North-East India." Journal of Insect Biotechnology and Salicology vol. 84, No.1, pp. 17-18.

⁵ Chakraborty. R, Dutta. P and Ghosh. J. (2010). "Sericulture and Traditional Craft of Silk weaving in Assam." Indian journal of traditional Knowledge, Vol. 9, Issue No. 2, pp-378-385.

⁶ Mahan B., (2012). "Silk Industry among the Tai-Ahom of Assam, India as an attraction of tourist." International Journal of Scientific and Research Publications, Volume 2, Issue 12, pp.-1-3.

⁷ Jena., S.K (2011)., "Sustainable Agro-entrepreneurship – A suggestive Model for Tribal Farmers of KBK Regions", Orissa journal of commerce,vol-XXXII,issue -1,pp-54-72.

⁸ Jena. S.K and Parida, K.P., (2010). " A system approach to develop a sustainable Marketing strategy through SCM in micro enterprises of Orissa – An Analysis", Utkal Business Review, vol-XXIII,pp-1-24

⁹ Jena. S.K and Mohapatra, H (2009). " Sustainable Livelihood for Informal Workers – A Case Study of Applique workers of Orissa" Orissa Review,vol-vii,pp-26-35.

¹⁰ Paul. A and Jena S.K (2017). " Commercialization of traditional knowledge and its impact on employment generation- A case study of muga silk cultivation in upper Assam" International Journal of business quantitative economics and applied Management research, Volume 4, Issue 1, pp-122-134

¹¹ Paul. A and Jena S.K (2017). "Sustainable livelihood through muga silk cultivation by muga farmers of upper Assam - A study of problems or constraints", Journal of Advance Management Research, Vol.05, Issue-03,pp-46-62.

sustainable livelihood can be generated through muga cultivation and what are the problems or constraints faced by them related to muga cultivation such as problems related to human resource, problems related to finance, problems related to marketing and whether the problems faced by the weavers and cultivators can be overcome or it can be managed or adjusted.

Satyanath.C (2005)¹ in his study highlighted how muga cultivation is linked with the socio-cultural life of Ahom's. He further mentioned that the Tai Ahom community is unparalleled for their ability of silk cultivation and weaving on the loom. Baruah. H.K (2002)² in his study "A study of muga culture with reference to income and employment generation in Kamrup district" explains how muga silk industry can be an employment generating capacity and how the cultivation of muga can be performed both full time and part time activity. Goswami.B (2012)³ in her study "Traditional Crafts of Assam and their role in employment generation- A study in lower Assam with a special focus on selected crafts" explains how by encouraging the indigenous industries can act as a good employment generating the potential for the unemployed youth in the rural areas of Assam. And she further highlighted the various steps taken by the government in this industries. Borah (2011)⁴ explains how the microcredit programs can be helpful in providing access to the institutional finance to the rural masses and helping to eradicate poverty and generation of employment opportunities and give them a sustainable livelihood to the rural poor.

Research Gap and Research Questions

The research made so far in the field of the employment generation capacity of handloom industry, and how historically Muga silk industry is linked with the socio-economic life of Assam. And also rural entrepreneurship through Muga silk cultivation can generate a sustainable livelihood for the Muga farmers. In addition, no research activity has so far been carried out in this topography too. An effort was made for a comprehensive study of them. So the present study tries to assess the Financial Management Practices adopted by Muga Silk Industry genuinely to bridge this research gap and to find answers to these pertinent questions raised during the research endeavor.

Research Questions: The present study was based on the following research questions and the researcher tried to find answers to those pertinent questions during the research endeavor. What are the financial management practices adopted by the muga cultivators in the study area?

Objectives of the Study

This paper makes a humble attempt to achieve the following objectives:

- To study the Demographic and socio-economic characteristics of the *Muga* silk farmers
- To analyze the functional Parameters of the *Muga* Farmers
- To assess the financial Management practices adopted by *Muga* Cultivators

Research Methodology

The endeavor is Descriptive and Analytical in nature. It is simple but pragmatic; the data has been mainly collected from primary sources using structured schedule, in nature devoted to tracing out the present state of affairs of Financial Management practices adopted by the Muga cultivators.

Area of Study: For the study, the Lakhimpur District of Upper Assam is selected as the areas of study for the main reason is Until recent times, *Muga*(Assam silk) production was a quite traditional rural cottage industry in the North Lakhimpur district. The majority of the muga silk activities are carried by the Tai-Ahom communities which are mostly found in the North Lakhimpur district.

Sample, Universe, and Sample Design: For the present study the data would be mainly collected through a primary survey by interviewing the respondents and also through observation and questionnaire schedule method. At present nearly 11,000 HHs are engaged in *muga* activities which consist of people from traditional communities, basically *Tai-Ahom*, and other nontraditional communities.

¹ Chetia Satyanath (2005), *Tai Ahom Marriage*, Guwahati, ed 1, pp 377

² Baruah. H.K (2002) A study of muga culture with reference to income and employment generation in Kamrup district; Ph.D. Thesis, Guwahati University, Guwahati.

³ Goswami.B (2012) Traditional Crafts of Assam and their role in employment generation- A study in lower Assam with special focus on selected crafts; Ph.D. Thesis, Guwahati University, Guwahati.

⁴ Borah M (2011) Impact of micro credit in the alleviation of poverty and generation of employment – A study of kamrup district of Assam; Ph.D. Thesis, Guwahati University, Guwahati.

As the study only based on the indigenous populations only, the communities like *Tai-Ahom, Kachari, Chutia, Koch, Kalita, Jogi etc.* were taken into consideration for the study. Out of a universe of 9,875, a sample of 200 HH respondents was selected and randomly drawn from Lakhimpur district. A sample of 200 *muga* silk Farmers was chosen from two community development blocks namely Ghilamara and Dhakuwakhana.

Statistical Tools and Methods to be used: For analysis of data, table, line chart, frequency distributions, mean, chi-square test, and has been used to draw inferences on the universe various appropriate advanced statistical tools and techniques are to be applied depending on the nature of the data. The dependence on advanced statistical packages like SPSS and MS-Excel is a must.

Period of Study: The study shall be carried out from 2011 to 2016 which extend for 6(Six) financial years of time duration. Facts and figures pertaining to the production of silk, crafts, Handloom itemshave been studied.

Analysis of Functional Parameters of Muga Silk Farmers in the Study Area

A Parameter Generally, is any characteristic that can help in defining or classifying particular system (meaning an event, project, object, situation, etc.) Analysis of functional Parameter is important because it is useful, or critical, when identifying the system, or when evaluating its performance, status, condition, and so forth of the business enterprise.

Year of Entry in Business

The following Table 3 has shown that during 1990-2000 only 18 (9.00%) respondents out of 200 has entered the *muga* cultivation. Out of 200 respondents, 141 of the respondents have entered the Business during 2000-2010 (70.50%) 115 respondents hailing from Caste O.B.C and 26 Respondents belongs to S.T community which depicts that more and more people are getting attracted towards the *Muga* cultivation. During this period. And only 41(20.50%) respondents have entered *muga* cultivation after 2010.

Table 3: Distribution of Respondents as per year of Entry in Business

Entry in Business	Caste of the Respondent		Total	Percentage %
	S.T	O.B.C		
1990-2000	5	13	18	9.00
2000-2010	26	115	141	70.50
After 2010	13	28	41	20.50
Total	44	156	200	100.00

Source: Primary data Collected in 2016 and Analysis Thereafter

Financial Management

The field survey also studied different financial activities and functions of the sample rural entrepreneurs (the *Muga* silk Farmers) in the study areas which includes initial capital and its source, working capital, and its source, sales, and profit made, use of profit and, etc.

- **Initial Capital and Its Source:**

Table 4: Distribution of Respondents as per Initial Capital Invested

Amount of Initial Capital Invested	Response	Percent	Chi-Square Test
10000-20000	95	47.5	X ² = .000a Assumed Sig.: 1.000 Diff. is significant
20000-25000	77	38.5	
Above 25000	28	14.0	
Total	200	100.0	

Source: Primary data Collected in 2016 and Analysis Thereafter

a. 4 cells (100.0%) have expected frequencies less than 5. The maximum expected cell frequency is 1.0

The above (Table 4) depicts the amount of initial capital invested from the study it is found that most of the respondents have invested the initial capital in the range of 10000-20000 which is 95 of the interviewees and 75 of the respondents have invested initial capital of 20000-25000, and 28 respondents have invested capital above 25000. *Muga* cultivation does not require much capital to be invested it requires a meager amount of capital. When we put the responses in one sample chi-square test, we find that there is a significant difference in the amount of initial capital invested. Hence we reject the null hypothesis at 1% level of significance *H0: There is no significant difference in the amount of initial capital invested.*

Table 5: Sources of Initial Capital (Absolute & Percentage (%))

From One Source	No. of Respondents	From More Than One Source	No. of Respondents
Institutional Loan	00	From Money Lender & Own Money Invested	09 (4.5%)
Own Money Invested	74 (37%)	From Relatives, Own Money Invested & From House Hold	05 (2.5%)
From Relatives	200 (100%)	From Relatives & Own Money Invested	54 (27%)
From Money Lender	09 (4.5%)		
From House Hold	05 (2.5%)		

Source: Primary data Collected in 2016 and Analysis thereafter

The above (Table 5) depicts the source of initial capital invested when the field survey was undertaken it was found that the respondents did not have access to formal financial sources which stands NIL totally. The responses were then analyzed and categorized into respondents procuring their initial capital from one source and respondents procuring their initial capital from more than one source. Out of 200 respondents, 74 (37.00%) respondents have invested their own capital, and 200(100%) respondents have procured finance from relatives, and 9 (4.5%) respondents have procured finance from a money lender and 5(2.5%) respondents have procured finance from the household. From the field survey it is revealed that the respondents have invested their seed money partially from more than one source From Money Lender & Own Money Invested 09 (4.5%) From Relatives, Own Money Invested & From Household 05 (2.5%) From Relatives & Own Money Invested 54 (27%) from the above table it is found that most of the respondents have used informal sources in procuring their finance.

Table 6: Descriptive Statistics of Sources of Initial Capital (IC) Invested

Source	Average	Maximum	Minimum	Count	Sum	Chi-Square Test
Loan from bank	-	-	-	-	-	X2 = .000a
Loan from relatives	7139	18000	2000	74	528300	Assumed Sig.: 1.000 Diff. is significant.
Own money invested	17605	29000	5000	200	3520900	
Loan taken from money lender	8944	11500	5000	9	80500	
Loan took from household	7600	10000	4000	5	38000	

b. 4 cells (100.0%) have expected frequencies less than 5. The maximum expected cell frequency is 1.0

Source: Primary data collected and analysis thereafter

The above (Table 6) depicts that 200 respondents have obtained initial capital from their own source or invested their own money in business and the next highest category is a loan from relatives which stands at 74 respondents out 200 and loan taken from money lender and loan from household are 9 and 5 respectively. When the responses were put in one sample chi-square test, it is found that difference is significant and hence we reject the null hypothesis H_0 : There is no significant difference in the source of Initial capital invested. And conclude that there is a significant difference in the source of initial Capital invested.

• **Working Capital and Its Source:** Working capital is the lifeblood of any business operation. Different sources of working capital have been identified as own profit, household source, friends and relatives, moneylender, bank loans, government loan, and other source but interestingly only three sources of working capital have been used i.e. Business profit, household source, and Friends & Relatives.

Table 7: Descriptive Statistics of Amount Invested in Working Capital in Last Six Financial Years

WC invested in FYs	N	Minimum	Maximum	Average	SD	Changes%
2010-11	200	3000	65000	19968.50	16704	-
2011-12	200	6000	65000	22732.50	19129	13.84
2012-13	200	5500	63000	21961.50	17278	(-)3.39
2013-14	200	4500	65000	22303.00	20050	1.56
2014-15	200	5000	65000	23427.50	21825	5.03
2015-16	200	4000	65000	20828.50	18439	(-)11.09

Source: Primary data Collected in 2016 and Analysis Thereafter

Table 8: Sources of Working Capital (Absolute & Percentage %)

Source of Working Capital	No. of Respondents	Source of Working Capital	No. of Respondents
Business Profit	191(95.50%)	Indigenous moneylender	00
Household	200(100.00%)	Government Loan	00
Friends & Relatives	07(03.50%)		

Source: Primary data Collected in 2016 and Analysis Thereafter

The above (Table 8) depicts that amount invested in working capital in last six financial years and source of working capital we see that there has been steady rate of investment in working capital and average amount invested around Rupees 20000 and from the table it is pertinent that there has been a negative change in the financial year 2012-13 and in the year 2015-16 this may be because occurrence of natural calamities, shortage of supply of raw materials, lack of funds to procure raw materials, etc. For (Table 8) fulfilling the requirement of working capital most of the respondents have utilized there for financing the working capital needs, Household 200 (100.00%), business profit 191(95.50%) and Friends & Relatives 07(03.50%) from the survey it is found that respondents use their own source and don't use formal source to fund their working capital needs.

Table 9: Average Amount of Working Capital Invested from each Source During Past Six Financial Years

Years	Business Profit	Household	Friends & Relatives	Total
2010-11	12084.03	20747.25	15321.43	48152.71
% of Total WC	(25.10%)	(43.86%)	(31.82%)	
2011-12	13667.54	23631.25	17464.29	54763.08
% of Total WC	(24.95%)	(43.15%)	(31.89%)	
Change	-	72.91	(-26.11)	
2012-13	13486.54	22769.00	14785.71	51041.25
% of Total WC	(26.42%)	(44.61%)	(28.97%)	
Change	-	68.83	(-35.07)	
2013-14	13117.28	23060.00	19642.86	55820.14
% of Total WC	(23.50%)	(41.31%)	(35.19%)	
Change	-	75.80	(-15%)	
2014-15	13772.25	24250.00	26214.29	64236.54
% of Total WC	(21.44%)	(37.75%)	(40.80%)	
Change	-	76.08	8.21	
2015-16	12532.20	21342.25	18857.14	52731.59
% of Total WC	(23.77%)	(40.47%)	(35.79%)	
Change	-	70.30	-11.64	

Source: Primary data Collected in 2016 and Analysis Thereafter

Above table 9 depicts the changes in the working capital in each source from business profit which is reinvested in the firm, Household, friends, and relatives. It is observed that it is the business profit which has been reinvested again in business. And the next highest source of working capital is the household funds which are invested in business as a working Capital.

Table 10: Descriptive Statistics of Average Amount Invested in Fixed Assets During Last six financial years

Financial Years	N	Minimum	Maximum	Average	SD	Changes%
2010-11	200	12000	56000	18819.50	20151	-
2011-12	200	12000	62000	20991.00	22448	11.54
2012-13	200	15000	60000	21842.50	67144	4.05
2013-14	200	15000	65000	23819.00	27541	9.05
2014-15	200	16500	75000	25389.00	30121	6.59
2015-16	200	19000	80000	25980.50	76277	2.32

Source: Primary data Collected in 2016 and Analysis Thereafter

From the above table (table 10) depicts that average amount of investment required in fixed assets is around 22807 which is very meager compared to other cottage industries and *muga* silk business is highly labor intensive and less capital intensive the investment required is very less compared to other cottage industries.

Table 11: Descriptive Statistics of Average Amount Invested in Current Assets During Last six financial years

Financial Years	N	Minimum	Maximum	Average	SD	Changes%
2010-11	200	19000	199000	60986.07	38570	-
2011-12	200	2000	199000	55206.95	33715	(-)9.47
2012-13	200	20000	398000	91038.86	54470	(+)64.91
2013-14	200	22000	199000	68054.84	24914	(-)25.24
2014-15	200	30000	199000	70632.75	26589	3.79
2015-16	200	30000	550000	74808.26	42561	5.58

Source: Primary data Collected in 2016 and Analysis Thereafter

From the above table (table 11) depicts the changes in Amount Invested in Current Assets during Last six financial years there has been a negative shift in the fiscal year 2011-12 and 2013-14 this is due to in business current assets is represented by cash in hand and cash at Bank, Debtors, Bills receivable, the negative change indicates that debtors and bills receivable have become nil and the solvency of the business is excellent.

Table 12: Sources of Funds for Fixed Asset (In Average Percentage) During Past six Financial Years

Source of Fixed Asset	Average Percentage (%)	Source of Fixed Asset	Average Percentage (%)
Own	50.00	Government Assistance	12.50
Household	25.00	Bank loan	00.00
Friends & relatives	12.50	Total	100

Source: Primary data Collected in 2016 and Analysis Thereafter

From the above table (Table 12) depicts that the sources of funds to finance the fixed asset it is found from the survey that most of the respondents have used their own source (50.00%) to fund the fixed assets, and 25.00% of the respondents have used household sources to finance their fixed asset, and 12.50% of the interviewees have procured funds from Friends & relatives and from Government Assistance to fund their fixed asset. *Muga* cultivation does not require sophisticated machinery so fixed assets can be financed by own and internal sources and do not require formal financial sources to fund their fixed asset, the government also fulfills the fixed asset needs by giving away capital free of cost.

Area of Land Holding & Ownership pattern

Table 13: Distribution Showing Pattern of Land Ownership & Total Area of Land

Type of Ownership	Respondents	% of the Total No. of Respondents	Area of Land	Respondents	% of the Total
Acquired	73	36.5	0-0.2	92	46.0
			0.2-0.5	58	29.0
Inherited	127	63.5	0.5-1.00	31	15.5
			Above 1 Acre	19	9.5
Total	200	100.0	Total	200	100.0

Source: Primary data Collected in 2016 and Analysis Thereafter

From the above of table (Table 13) portrays the land ownership pattern, it is found from the survey 73 (36.50%) of the respondents have acquired land for *Muga* silk cultivation, and 127(63.50%) of the interviewees have procured land by virtue of inheritance. *Muga* cultivation does not require huge area of land for plantation of *Som* trees on which the *muga* silkworm feeds on the leaves and it is also found from the survey that most of the respondents have land in between 0-0.2 92 respondents (46.00%) and the next highest category is 0.2-0.5 58 respondents (29.00%), 0.5-1.00 31 respondents (15.50%), above 1 acre 19 (9.50%) respondents. Only a few respondents are in this category Because only commercial *muga* Farmers have *som* plantation or *somoni* up to the size of 1 acre.

Table 14: Descriptive Statistics of Finished Product (in Rs.) for the Past Six Financial Years

Financial Years	Minimum	Maximum	Average	S.D	Changes%
2010-11	15000	150000	58896.60	20151	-
2011-12	16500	200000	64298.25	22488	9.17
2012-13	18500	950000	72151.00	67144	12.21
2013-14	19500	230000	70912.50	27541	(-1.71)
2014-15	20500	250000	74270.75	30121	4.73
2015-16	21500	522000	89423.50	76277	20.40

Source: Primary data Collected in 2016 and Analysis Thereafter

From the above table (Table 14) it depicts that there has been a rise in the production of finished goods except in the financial year 2013-14 which may due to a shortage in the supply of raw materials which hampered the production. But in the next two fiscal years, we see an increasing trend in the next biennium. A finished muga garment costs 14000 rupees and at the most 45000 thousand depending on the quality of the garment and its design.

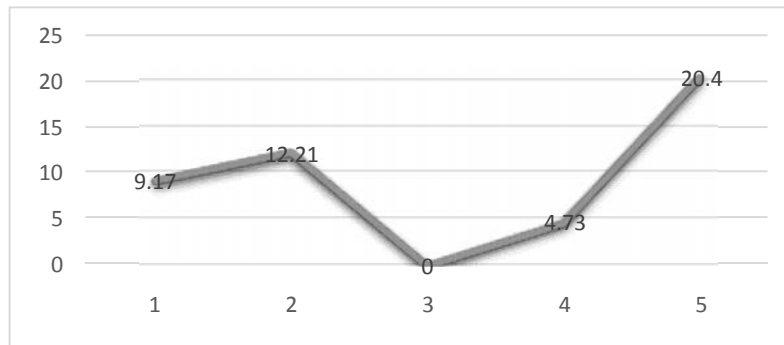
Table 15: Descriptive statistics showing the sale of Finished Products During last six financial years (in Rs.)

Financial year	Minimum	Maximum	Average	SD	Changes in %
2010-11	15000	150000	58896.60	20151.09	-
2011-12	16500	200000	64298.25	22488.10	9.17
2012-13	18500	950000	72151.00	67144.48	12.21
2013-14	19500	230000	70912.50	27541.55	(-)1.74
2014-15	20500	250000	74270.75	30121.280	4.73
2015-16	21500	522000	89423.50	76277.46	20.40

Source: Primary data Collected in 2016 and Analysis Thereafter

From table 15 and figure 1 it portrays that the sale of finished Product is steady and going on at a constant rate except in the year 2013-14 where it has been witnessed that there is a negative change (i.e. -1.74) over the previous year one reason is inflow of cheaper goods from neighboring states like West Bengal, Odisha, etc. absence of stringent legislation to tackle dumping of inferior goods is also affecting the sale of finished product. There has been a gradual increase in sales during the financial year 2014-15 and 2015-16.

Figure 1: Average Changes in the Sale Proceeds of Finished Product



Source: Primary data Collected in 2016 and Analysis Thereafter

Utilization of Profit

Table 17: Descriptive Statistics Showing use of Profit

Use of Profit	No. of Respondents	Maximum	Minimum	Mean	S.D	Chi-Square Test
Reinvested In Business	30	34000	180000	84533.33	37269	$\chi^2 = .000a$ Assumed Sig.: 1.000 Diff. is significant
Consumed By Self	99	20000	493000	76894.95	50741	
Used In Purchase Of Movable Asset	43	35000	158000	81976.74	30425	
Invested In Other Venture	22	47800	198000	106309.09	36906	
Others	6	80000	150000	118166.67	35045	
Total	200					

Source: Primary data Collected in 2016 and Analysis Thereafter

5 cells have (100.00%) have expected frequency less than 5% the minimum expected cell frequency is 1.0%.

From the above table (Table 17 and 18) is found that most of the respondents utilize the profit for reinvestment in business 30 (15.00%) respondents for self-consumption 99(49.00%) respondents out of 200 sampled respondents use profit for self-consumption and 43(22.00%) respondents use profit for the purchase of movable asset and 22 (11.00%) respondents and 6 (2.50%) respondents.

Table 18 : Distribution as per Utilization of Profit (In Average Percentage)

Use of Profit	Average Percentage (%)	Use of Profit	Average Percentage (%)
Reinvested In Business	15.00	Invested In Other Venture	11.00
Consumed By Self	49.50	Other	2.50
Purchase of Movable Asset	22.00	Total	100.00

Source: Primary data Collected in 2016 and Analysis Thereafter

Conclusion

The present research endeavor to assess the Financial Management of *Muga* silk industry has left with some thought-provoking inferences, which are listed below. Assam is not an affluent state but it is rich in terms of Traditional skill, Natural resources, Traditional knowledge of Handloom. *Muga* is an age-old industry of Assam and Assam has the unique monopoly of producing *muga* silk. The beauty of this traditional rural cottage industry is that it requires aver meager amount of capital and highly labour intensive and very rewarding business. The cultivation of *muga* can be a good source of livelihood for the rural people and can be pursued as a full-time and a part-time occupation.

Limitations of the Study

The assumption that similar type of situation must be prevailing in all the areas of Assam and India is a major handicap of the present study. The time and cost constraint coupled with locational disadvantages is also another hindrance for the purpose. Although all attempts have been made to overcome such, the findings cannot be universally applied and further detailed study may be undertaken before implementing the findings. As it is a social science research, the views of the researchers may not be taken for granted as cent percent free from biases. Furthermore, the study was based on the samples and sampling methods. Thus the intrinsic limitations of sampling were carried forward to the study.

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