

CHAPTER: 9

SUMMARY & CONCLUSION

9.1 Summary of Research Findings

The present chapter will provide a summary of the whole study as elaborated in the previous chapters. Policy recommendations will also be put forth to promote artisanal silk industry in rural West Bengal. The targeted objective of this research was to uncover hidden issues related to income, employment generation as well as to highlight the gender dimension of sericulture artisans of West Bengal, that were partially responsible for the tardy progress of the industry in West Bengal. Historical timeline affirms that West Bengal (the then Bengal) had a rich heritage in silk manufacturing since the fifteenth century. Malda, Murshidabad and Birbhum were the three districts where prosperity of this sector had been visible prominently since early eighteenth century. The present study has been based only on mulberry sericulture as this variety captures the lion's share of the entire silk production in West Bengal as well as India as a whole. In addition, the work remains confined upto the artisanal manufacture of silk fabrics which excludes the production of ready made garments. This artisanal phase includes rearing, reeling, spinning, twisting, throwing, degumming, bleaching, weaving and printing phase up to silk fabric production. Most of the raw silk and silk yarn produced in Malda district is absorbed in Benaras, Bhagalpur or Southern States like Karnataka and Tamil Nadu for weaving purpose and for manufacturing ready made silk garments. The weaving units in West Bengal are not powerful enough to utilize its entire manufactured raw silk and hence higher value-addition is created in the states outside West Bengal. This calls for a restructuring of policy incentives so that high quality silk weaving can be made in the state of West Bengal, too.

Chapter-2 chronologically deals with through different phases of the history illustrating the rise and fall of sericulture and silk industry in unified Bengal. The chapter illustrates the genesis of silk industry in China and its gradual spread over to Asia and Europe. In India history of silk can be traced to 15th century in Bengal, while the discovery of silk was around 2640BC in China. Genesis of artisanal silk industry in several nations across the world had shown its enormous power to connect distant nations of the world with its golden yarn. The countries traded with each other for this high valued silk yarn and smothered cocoon and the civilization progressed with this silk trade. Thus fashion statement of one part of the globe started changing the weaving pattern of silk of another part of the world and a global complementary pattern of production and consumption demand had begun developing. The East Asian countries (which includes China, Japan and India) were the principal suppliers of the raw silk while the same yarn and cocoon were woven in a new style in Italy, France, England for consumption as well as re-exportation to East Asian countries. Again the improved reeling technology and weaving pattern of the West percolated to the artisans and weavers of East, thus substituting rudimentary methods by technologically developed procedures.

Numerous historical legends and anecdotes of several nations were elaborated in the aforesaid chapter, with whosoever this royal yarn was attached to. The chapter also narrates how the mystery which was hidden from the world by China for several millennia through frequent administrative coercive restrictions had led to several fascinating legendary stories and how the secret of 'silk manufacturing' was stolen or transported to different countries in the world. The Silk Road itself became famous not only for transacting silk but for exchanging goods of different categories and the culture between East and West got entangled through Silk. Worldwide demand for this exotic fiber and its excessive value had prompted merchants across the globe to fill their coffer with silk. Later while discussing about the entry and venture of English East Indian Company especially in Bengal, the chapter

analysed how the Company strived hard to exploit the potentials of silk production in Bengal for their own commercial interest. British East India Company left no stone unturned to improvise the quality of silk by introducing filature technology from the West. However, the Bengal economy failed to respond due to several internal problems and natural calamities.

Chapter 3 illustrated how from mid of the seventeenth century (1635-50) silk trade in India started flourishing when the demand for cheaper Bengal Silk began to rise in European market. Dutch merchants were initially collecting silk from the Indian market for exporting it to European market and afterwards English East India Company (EEIC) took over the control of this silk trade spreading their own silk-filatures to different parts of India and within Bengal Presidency. The British traders realised that the cheaper variety silk could not retain their market status; so they had introduced Italian technology of reeling, known as Piedemontese Technology, in Bengal Sericulture in 1769. Bengal sericulture was never ideal for the specific technology and moreover Bengal economy at that period was going through several natural calamities and domestic disturbances. Even in the first half of the nineteenth century, silk trade was prospering at a commanding pace. From 1813, after losing of EEIC's monopoly over trade, the company started selling its filatures. However, the trade was still growing as the filatures were purchased by other British and Indian traders. The economic power of *dadani* merchant, money-lenders started growing from this period and they formed a new middle class while the situation of artisan and farmer class were worsening day by day. The condition of native artisans further deteriorated under the British Monarchy. The orientation of the monarchy was never in favour of promoting this industry which caused further fall of this artisanal industry. Bengal silk was worst hit than Kashmir and Mysore silk, since Mysore silk had undergone a process of revamping under Tipu Sultan. In the following years Karnataka became the largest silk manufacturing state in independent India.

Chapter 4 attempted to throw light on the initial four decades of economic planning in post independent period, when planners strived hard to restore the past glory of Indian silk. The Central Silk Board was established at the time just after independence and separate allocation for this silk sector was introduced from the Second Plan onwards. Multivoltine and cross-breeds were the most popular mulberry silk breeds widely chosen by the silk farmers in India possibly due to its easy technology and guaranteed returns. On the other hand, bivoltine silk is of superior quality and have higher demand in superior category of domestic powerlooms and in foreign markets. Rearing of this superior variety was introduced in traditional states like Karnataka, Tamil Nadu and West Bengal as early as in the 1970s, while Jammu & Kashmir used to cultivate only bivoltine silk due to its temperate climate. However, with the passage of time Tamil Nadu fared well than the rest of the traditional states and became the leading state for bivoltine production in 2011-12. In West Bengal, Nitsari multivoltine is largely popular across the sericulture rich districts and the state has only a negligible percentage of bivoltine silk production. The subsequent sections of this chapter also indicate certain grave issues related to the silk farmers and artisans, which include fluctuating price of silk cocoon and silk yarn, lack of region specific mulberry variety as well as inadequate coordination between technology or laboratory experiments and cultivation field, competitive import price threat from China, infrastructural bottleneck across the states etc. Some of these problems were so acute that they call for immediate intervention by the government. On one hand, the successful performances of non-traditional states are confined within few states of Maharashtra, Madhya Pradesh, Manipur and Uttar Pradesh, while traditional silk producing states progressed ahead. These substantial inequalities across the traditional and non-traditional states need to be reduced through judicious policy decisions. The demand for silk is growing all over the world while India itself is the largest market of this product. Therefore

policy restructuring should be attempted in appropriate manner so that India could be self reliant in silk production.

Chapter 5 attempts to delve into the issues of the fluctuating growth of the artisanal silk sector in response to the opening of the domestic economy as well as of the foreign developed economies with the abolition of quota under MFA. It has been observed during the post globalisation phase that annual growth rate in silk export earning has been diminishing at a faster rate, though domestic production of raw silk followed an irregular growth path. The decade following globalisation exhibited a fall in growth of domestic raw silk production mainly due to huge inflow of Chinese raw silk through the opening of the economy. China utilized that opportunity through dumping its product in order to capture vast Indian market. However, as anti-dumping regulations were imposed in 2003, as result of the unrest in the rearing and reeling sections, the landing fees of Chinese raw silk of Grade 2A or lower, which is considered to be high quality silk, became costlier in domestic market. This helped to protect the domestic production of artisanal raw silk to a greater extent, although there was a rift between silk reelers and weavers. The long standing statistically significant relation between domestic production and export was broken during the last decade, i.e., 2001-2010. This latest decade experienced miserable decline in export growth rate with high production rate. On the other hand, the import of raw silk has continued projecting a steady upward trend implying growing market potentials in India. Imported silk of higher quality is largely demanded by the powerloom sectors of the weaving sections in artisanal silk industry. But the persistent growth in import has led to a fall in the number of rearing and reeling artisans of the silk industry, which is evidenced through reduction in mulberry areas in post globalisation period and shutting down of reeling units, like charka, cottage basin and multi-end reeling machine. Withdrawal of quota regime from the developed country under MFA abolition could not cure Indian economy's balance of trade in silk and silk goods. China through its technological innovations was much ahead, pushing out India from the foreign markets. Silk merchants in India had chosen to adopt an inward looking approach by concentrating their production within the domestic territory under the protection of anti-dumping regulations. The quality bivoltine silk production is still confined within a few regions though an enormous emphasis and ambitious target has been set forth in XII plan. At present, Tamil Nadu is the most prominent state producing bivoltine silk followed by Karnataka and Jammu & Kashmir, while West Bengal fails to add any substantive value in this quality of silk. West Bengal has also been identified as a deprived state while analysing the regional inequality. Unless these regional inequalities are narrowed and trade-policies are streamlined, no major breakthrough in Indian artisanal silk industry is possible.

Chapter 6 focussed its analysis on the state of West Bengal , where sericulture has been identified as an important vocation providing employment and livelihood to more than 1 lakh families in the rural and semi-urban areas. The productivity level of sericulture (land and leaf) is not low compared to that of the major silk producing states in the country, which opens further possibilities of research by analysing its productivity. This chapter in a nutshell leaves an impression about the evolution of sericulture in West Bengal as a whole since from the inception of the planning period. A state level comparative study has confirmed that land based productivity is not hindering the growth of mulberry sericulture in West Bengal while progress of the artisanal silk industry reveals loopholes in several dimensions. Small holding capacity of the rural farmers and poor economic condition of the artisans have been identified as major impediments in the path of development of sericulture in West Bengal. The rural moneylenders as well as traders (*dadani mahajan*) utilize this to their advantage and extract a major part of the pay-off intruding into the supply chain of the industry. It has been found

that in Malda district approximately Rs. 10-12 crores of rupees are getting rolled as capital investment and source of this working capital lies with rural traders who ultimately claim a disproportionate value addition. The Central as well as the State government always concentrate on the extension of sericulture through acreage and production, ignoring this exploitation of the artisanal classes at each level of value addition in the supply chain. In the absence of institutional apathy and well linked credit system in these remote rural areas coupled with financial illiteracy of the rural artisans, the objective of development seems to be far away. The Twelfth Plan (2012-2017) especially focused on certain issues of sericulture as major goals or aspirations for the development of sericulture through rural reconstruction. Evolution of season and climate specific, disease resistant robust silkworm breeds has been given greater emphasis. The technology feasibility study in consultation with Central Silk Board and JICA (Japanese International Co-operation Agency) is already under process. Establishment of a Silk Park at Malda is also about to take place in the near future. Another important endeavour has been undertaken to link sericulture with major agro-based program like RKVY, MGNREGP, which are expected to bring better funds to this sector.

Chapter 7 makes an empirical analysis on income generating potential and employment creating abilities of the artisanal silk industry of West Bengal. The primary survey was accomplished in eight sericulture rich villages of Malda district using a structured questionnaire comprising the aforementioned issues and the information gathered the data provide sufficient insight to the understanding of the situation of the artisanal silk industry in rural West Bengal. The income generation process in rural sericulture has revealed the dynamism of the process of earning within the rural inhabitants. While in the broader national perspective, area of mulberry cultivation and price of reeling cocoons have been deduced as significant explanatory variables for upward rising slope in the 'income generation curve', the econometric study of the primary analysis in this most sericulture rich district of West Bengal exposes that number of man-days generated from different phases of silk-worm rearing activity actually influence the total income generation, which is very much logically justified. On the other hand, loans taken by the household farms (mostly from *dadani* merchants) and cost of machineries and implements have a statistically significant positive effect on income generation of the sericulture farms. This in a way establishes that rich farms that have the capacity to bear higher production cost have greater income generating power from this artisanal silk industry. With majority of the sericulture farmers being small farmers, income generating impact has been lower leading to a decline in the number of sericulture farmers and artisans in West Bengal during 2002-03 to 2010-11 (declined from 110,000 to 92,000 workers). However, the result also shows that loan seeking farms can enhance their income, which is a sign of hope for a large chunk of artisanal farmers in West Bengal.

From the employment perspective, West Bengal has been identified as relatively higher "families involved per village" compared to the other traditional silk producing states. But the recent trend explains a declining tendency in employment generation especially during the Eleventh Five Year Plan. Although higher levels of labour involvement do not necessarily assure higher levels of production all the time, it still reveals the possibilities of positive spillover effect that creates positive externalities in turn. Over the last decade, the growth in artisanal silk sector has also declined in respect of involvement of villages and families in West Bengal, which is presumably due to fierce foreign competition especially from China. The econometric study on the primary data collected from the sericulture rich bolcks of Malda district reveals that areas of mulberry cultivation, educational background of family head and total man-days creation have an inverse impact on the level of average employment generation in rural West Bengal. On the other hand, rise in household size and numbers of

male and female hired labour have positive impact on the average level of employment generation in a sericulture family farm.

The Directorate of Sericulture sets targets every year to stimulate the level of income and employment in this artisanal silk industry. However, difficulties lie in implementation. Increase in area of mulberry cultivation is shrinking in West Bengal, which can be identified as one of the major factors for slow growth of sericulture in West Bengal. Improved mulberry variety is to be planted with greater care using manures and fertilizers. Innovations and technologies need to be directed so that more output can be produced in cost effective ways. Quality yarn needs to be produced by the domestic farms so that Chinese aggressive market policy can be tackled. Irrigated lands have higher productivities and therefore greater stress should be given on expansion of the irrigation network. Cocoon markets are usually public market, though private cocoon-markets also exist on wider scale. Augmenting the number of cocoon markets and power-looms may be done with a little effort from the government. Credit facilities to sericulture artisans need to be made at discounted affordable rate so that poor farmers can easily adapt themselves with the rise in costs arising out of inflation trends.

Chapter 8 explains the issues relating to gender relations in family, child labour and the gender promotional role in Indian artisanal silk industry. In case of West Bengal, an econometric application based on primary survey data shows that higher percentage of female members in the household can raise the gender dominance of the sericulture farms and gender dominance is associated with higher level of female members in the household, wage of female labour and family empowerment of domestic women. But, when the size of household rises and greater number of male workers are being drawn to the sericulture farms, possibly due to higher returns, they push out the female workers from the working members' bracket. The welfare impact of a female dominated farm is always redistributed to different sections of the society and a gross level of up-gradation in nutrition and education level of the household is possible only through the spillover effect of female employment generation. Therefore, holistic level of development is possible via gender promotion only. Thus situational analysis of women workers in this sector provides a scope to review the actual condition of the working women in sericulture though there exists much hyped notions of female dominance and empowerment in women intensive industry like artisanal silk. Family Empowerment in household can be raised through rise in health, education level of female members of the households, which again reinforces their dominance in income generating household activities. Ensuring female education in remote areas and female health care in rural household (including their reproductive health) the government can make this breakthrough.

9.2 Policy Recommendations

There are certain critical areas which require specific interventions as noted and identified in this research study. The policy recommendations to promote the artisanal silk industry of West Bengal are provided below:

- The institutional apathy is the major weakness found in this sector, which needs to be rectified with immediate effect to revamp the artisanal silk industry in West Bengal. Rural affluent middlemen (dadani mahajan) seem to be the major controlling force behind the sericulture business in West Bengal. Presence of this vibrant profit seeking class is actually the reason for the dwindling of a large section of poor artisans. Poor

artisans suffer from lack of capital and due to financial illiteracy they get easily trapped in vicious loan-cycles of the *dadani mahajan*. Unless the credit system in the rural areas is strengthened to provide credit at low rate of interest, no dynamism through sericulture extension is virtually possible. Seasonal cultivation of higher intensity is possible when credit is available to the sericulture farmers at lower rate of interest. Along with the farmers of existing areas, credit should be adequately provided to the farmers of new areas for plantation, purchasing of rearing equipment, reeling equipment, construction of rearing and reeling houses. It would help in raising man-days and thereby would be able to increase the flow of income generation through sericulture practices.

- Directorate of sericulture has routine target program in extending mulberry areas, though with extension of sericulture farms inverse relation was found between sericulture income generations by the household. However, this can be interpreted as extension of sericulture in new areas where minimum gestation period is required to observe the desired return. Instead of putting higher weightage on extension in new areas the Government should put more emphasis on the rise in existing productivity level. Certain advantages in this parameter especially in the traditionally sericulture practicing districts of this State has already been gained. Innovations and extension work should be more streamlined to realize this beneficial impact in case of the state of West Bengal.
- The technical research wing of West Bengal, namely, Central Sericulture Research Institute, Baharampur should lay more emphasis to increase mulberry leaf productivity. With the passage of time land will be scarcer and therefore more emphasis should be given on productivities of silkworm breeds, mulberry leaf as well as of labour. Updated scientific training to the sericulture farmers and artisans can make a sea change. Most of the sericulturists in the rural regions of West Bengal gather their knowledge and skill from previous generations. If this generation based wisdom can be combined with recent technical know-how, then a real break through is possible even in the rural arena.
- Free training program should be made compulsory for artisans in this field. This can improve the impoverished situation of the rural farmers to a great extent.
- By raising levels of education and health status, potential of women-power especially from the disadvantaged and minority communities can be stimulated. Vocational training on sericulture can be introduced in the neighbourhood schools of the sericulture rich village areas. This can raise the potential of women from an early age and proper training can make them more aware of the recent technological upgradation.
- Gender based wage differential in the unorganized sector should be legally banned. Government should take affirmative actions to stop this gender based exploitation.. Spillover impact of women workers always has the potential to boost up the welfare level of entire household. Initiation of development dynamism in rural West Bengal through empowerment of the women in artisanal silk sector can not be undermined by the policy makers.

- Infrastructural stagnation has been identified as one of the major hurdles at the pace of progress in West Bengal sericulture. Number of Chawki Rearing Centers (CRC) should be increased where young silkworms requiring utmost care are brought up in hygienic conditions under strict surveillances of technical staff of the Sericulture Department. This will raise the level of quantity as well as quality in production of raw silk.
- Institutional measures should be taken for sericulturists in new areas by providing high yielding variety of mulberry leaf at free of cost. Replacement of local variety through high yielding variety can raise the level of productivity on one hand and on the other hand it can encourage the rural mass to take up sericulture as a return assuring livelihood opportunity.
- Training should be provided to the young sericulturists both in silkworm rearing and silk reeling including the artisans in the new areas. This is expected to raise artisanal productivity. Like Karnataka, Department of Sericulture, Government of West Bengal should think about providing cash subsidy to sericulture artisans which can upgrade the technical know-how of the young sericulturists especially in the new areas and may raise the income earning opportunities in those areas.
- Since silkworms are vulnerable to several types of diseases, a proper check is to be ensured to control the spread of diseases especially at the stage of supply of layings. As a matter of fact, Central Sericultural Research & Training Institute, Baharampur (located in Murshidabad district) is supposed to take care of this supervisory activity. But in practical sense the impact is hardly feasible which calls for revamping of extension activities by the CSR&TI, Baharampur. Disinfectant supervisory squads should be made more organized to control these diseases which arise periodically depending upon the environmental conditions.
- Greater number of grainages should be established so that capacity to produce improved quality of disease free layings can be raised. This would be translated into greater quantity of quality raw silk generation in return, which can ameliorate the impoverished situation of poor sericulturists.
- Increase in the number of Technical Service Centers (TSCs) can also assure higher transfer of technical know-how from the laboratory to the sericulturists on the field. Activities of TSCs should be monitored in a routine manner so that a gross level quality improvisation can make a real breakthrough in sericulture.
- Mobile units to aid in the extension work especially in the new areas need to be introduced. There should be training schools in every potential block of the districts of West Bengal, which can provide pre-service and in-service training facilities to sericulture farmers and artisans.
- Government should think of setting up more filature in the sericulture rich districts of West Bengal to raise the quality level of the reeled silk. Multi-end reeling machine also produce superior quality of silk though the common artisans can hardly afford to purchase such an expensive reeling machine. The government should provide funds/credit to the co-operatives of the reelers so that the advantage of this reeling machine can be collectively derived.

- Sericulture artisans of West Bengal largely need greater number of cocoon market yards which can protect the reeling cocoons brought to the market from sun and rain. This can stop the volume of damaged cocoons and would be able to realize greater income for the reelers.
- The introduction of ‘research and training of sericulture’ as a vocational course in at least one district college is strongly recommended to support and reveal the potential hidden among masses. Sericulture Development Cell of the concerned State Department should work in perfect synergy with these vocational training centers so that maximum outreach activities can be generated.
- The number of regulated markets for reeling silk is to be increased to restrict the plight of the local reelers, who are always at the mercy of unscrupulous money lenders. Unless these evil effects are restrained, redressal of distress of the cocoon growers and silk reelers would remain as a pipe dream. Through the establishment of more numbers of Silk Exchanges, the government can protect the interest of both silkworm rearers and reelers.
- The silk weaving sector is weak in West Bengal which ultimately leads to flowing out of silk to outside markets like Benaras, Bhagalpur , Mysore, Kanchipuram and so on. The silk weavers are being adversely hit by the anti-dumping regulations imposed by Government of India against Chinese raw silk. Government should provide temporary incentives to the silk farmers so that greater numbers of silk clusters can be operated in the state of West Bengal. Mushidabad silk, Baluchari silk are few branded silk apparel which uphold the status of West Bengal. The government should take serious steps to improve the situations of individual weavers who are subject to exploitation by the local silk merchants.
- Although silk weaving is supposed to be a crucial link in the supply chain, it is one step below the ultimate consumer. Most of the weavers who work under Master Weaver receive abysmally low wage. This miserable situation of the weavers needs to be prevented. Government must intervene in the contractual relation between the Master Weaver and individual weavers to safeguard the interest of the poverty stricken artisanal class.
- The local weaving organizations and co-operatives are all mostly loss making organizations. In order to revamp the silk weaving sectors, the government needs to support this loss making farms.
- Gender discrimination against women workers should be eradicated, which requires good governance. The Women’s Rights Commission may adopt positive roles in this direction. More incentive schemes (like concession in taxation, etc.) can raise the involvement and recognition of women workers in sericulture farms. Women workers dependent sericulture farms require some primary institutional support and initiatives so that sole-women household members can survive and sustain this livelihood. Women workers in West Bengal as a whole should be given proper recognition. Then only their rights can be ensured. Low levels of education and low skills have obstructed their inner potentials to come to that often. Sericulture opens up a vast

scope for them to extend their work abilities and expand their participation domain. Institutional support requires to be extended to these poverty stricken rural women and they should be encouraged to adopt sericulture as the primary source of earning..

However, all these will be mere rhetoric unless the gap between policy suggestion and actual implementation is eliminated. Therefore, restructuring the process of implementation is also urgently required at the same time. Then only the status and existence of the invisible, unrecognized and unremunerated women workers can be promoted. Drastic change in the mind-set is also required while implementing equal remunerations and ensuring female dominance in farms. The Equal remuneration Act of 1976 should be seriously adhered to and ensured by local governance. Presently, monitoring and reviewing of the employment scenario in case of sericulture has become imperative. Socio-economic regional policies have to be remobilized in such a manner that various government policies and schemes to promote women's social and economic welfare may be dovetailed to maximize such gains in welfare of women workers in this sector. This only can address the poverty situation of the workers and empower them to have a voice of their own.

The research work provides the scope for further research of this woman intensive rural activity that can bring-forth greater development dynamism for the state like West Bengal whose location in the development ladder is still not up to the mark. Sociological studies have enormous scope in this field where power distribution in a women working family is being counted in many different ways. A substantial level of child involvement in this domestic work has been observed, which is beyond the scope of analysis of this research study. Though sericulture has not been defined as a hazardous work but engaging family child labour is equivalent to depriving them from their labour free childhood and educational opportunities. This calls for a separate analysis which we can be undertaken as a future research exercise by any aspiring social scientist.