An Appraisal of the Handloom Industry in Assam

*Dr. Krishna Jyoti Handique

Abstract

The handloom products are rich in diversity and spread all over the state both in rural and urban areas. Handloom production is a supplementary activity for most of households in Assam. Handloom industry is the largest single item in cottage industry and form the second largest economic activity in Assam after agriculture. The handloom sector has been able to provide employment and income for poor rural communities in the state. The handloom industry is largely environment friendly in the time of globalized economy. Here, an attempt has been made to discuss about the handloom industry in the economy of Assam.

Key words: Handloom industry, Weavers, Handloom clusters, Traditional weaving activity, Economy of Assam, Rural people

Introduction:

Assam is one of the most important states of India known as peculiar physical, economic, social and cultural characteristics. It has a geographical area of 78,523 sq. km and a population of 3,11,69,272 as per 2011 census. Its population is about 2.4 percent of the total population of the country and around 86 percent of population lives in the rural areas. The state is well reputed as the land of tribal groups with distinct culture, varied customs and colourful traditions. The state is well known due to its various natural resources. In spite of being so rich in natural resources, Assam has been still treated as industrially backward state of the county. The condition of economy of the state is labour abundant, land-poor, capital scare, high incidence of poverty and lack

^{*}Associate Professor of Economics, Gargaon College, Simaluguri.

of basic infrastructure. The traditional craft is almost common household industries among the rural people of the state. Among the difference crafts, handloom weaving is playing a key role in the society and economy of Assam. The state is the home of aesthetic handloom products since time immemorial. Assam is a proud for its aesthetic handloom products which are inexorably linked with culture, tradition and heritage. There is no denying the fact that the handloom weaving is a way of life Assamese people in both rural and urban area. The term handloom refers to a loom, which is operated manually to weave a fabric by interlacement of warp and weft in an economy (Singh, 2007). The natural fibers such as cotton, silk and jute are primarily uses for handloom (Jain, 2007). There is no denying the fact that our handloom products are rich in diversity and spread all over the state both in rural and urban areas. Handloom industry is the largest single item in cottage industry and form the second largest economic activity in Assam after agriculture. In the planning periods the handloom sector has been able to provide employment and income for poor rural communities in the state. Though it is consider a cottage industry, it has evolved as one of foreign revenue generation the last decade. The handloom industry is largely environment friendly and there is market potential for handloom items in the economy. Handlooms are an important craft products and occupies a place of eminence in preserving the heritage and culture of the state. Most of the manufacturing units are located in rural and semi-rural areas and the units provides livelihood lakh of weavers and artisans who are also belong Scheduled Caste and Scheduled Tribe communities. Development of handloom industry today play an important role for income generation and livelihood related issues in Assam. It should be noted that there is a great potential for the empowerment of weavers and artisans in the economy of Assam. Hem Barua mentioned that the handloom industry is so common in South-East Asia and in the hills and plains in Assam were originally practiced in the Tibeto-Burman people. The Tibeto-Burman people got these ideas from ancient China and from here it spread to Assam and the countries of South-East Asia (Barua, 1991). The handloom industry is basically silk-oriented since time immemorial in the state. Through the ages the state of Assam became the world famous home of silk and the art of weaving. This traditional weaving activity is not only economic importance but also cultural significance. Weaving is being intensely related with the culture, tradition and

heritage of Assam. As we know that the term development implies more output and changes in the technical and institutional arrangements. It is related to qualitative changes in economic wants, goods, incentives and institutions in an economy (Jhingan, 1990). In this background, development of handloom industry is very essential for the socio-economic life of people in Assam.

The present study seeks to modest attempt to study the development of handloom industry through the ages in the state of Assam, using secondary level data. The paper is divided into five sections. Section I presents status of handloom sector in the North East scenario including India. Section II provides a historical review of handloom industry in Assam. Section III is devoted to an analysis of handloom industry in the independence period in the state. Section IV describes the government effort for the handloom industry in Assam and Section V draws the conclusion of the paper.

I. North East Scenario Including India:

The eight North-Eastern states of India are well reputed by their unique handloom items. The Region is very much rich for its traditional handloom products which are used for different purposes in day to day life. Local artisans have been producing a variety of handloom items, out of which some of items have attracted many people from both within as well outside the country. It is seen among the hill tribes that women produce their own requirements of fabrics in their spare time between preparing meals, after returning from the fields or after the harvest season in the region (Shirali, The total number domestic and commercial handlooms in the North Eastern Region were 1711582 and 518433 respectively in 1997-98 (Basic Statistics of North Eastern Region, 2000). It is worth mentioning that there were 21.6 lakh handloom workers in the North Eastern States as per Handloom Census 2009-10. According to Handloom Census 2009-10, 52 percent of the households produced less than one meter per day in the North Eastern States which is higher in compared to 31.3 percent for the rest of India. It is to be noted that handloom production is mainly for domestic use in North Eastern States except in the state of Assam. The handloom Industry employs a massive number of rural people in the North Eastern States. The region has vast potentialities for development of handloom industry based on its local natural resources. The handloom industry has an important role to play in the industrial development of the North Eastern Region.

The handloom had entered the roots of Indian civilization in the very ancient period. It had come down from very ancient times. Different communities produced their own clothes which were hand woven and handspun in India. The handloom products were made using simple tools and natural resources available in the local areas. Handloom products were unique and each piece was various from others in the medieval period of India. Two-and-a-half million handloom weavers were in business at the end of First World War in India (Roy, 2006). There is no denying the fact that colonial rulers had destroyed the traditional handloom industry in India. M. K. Gandhi greatly emphasized for traditional handloom activity during freedom struggle. Handloom sector is playing a very important role in the economy of India. The Handloom Censuses were conducted in 1987-88, 1995-96 and 2009-10 in India. Handloom sector contributes about 13 percent of the total cloth production in 2004-05. The total value of exports of cotton handloom products were 2007.91 core, 2127.45 core and 2633.7 core 1998-99, 2000-01 and 2002-03 respectively. There were 27.83 handloom households and 43.31 lakh handloom workers in India as per Handloom Census 2009-10. It is evident from the handloom census that handloom was predominantly a rural activity with 36.33 lakh (83.88%) workers living in rural areas and 6.98 lakh (16.12%) in urban areas in India(George, 2011). It is to be noted that almost the entire handloom sector is situated in geographic concentrations which is called clusters. There are around 491 handlooms clusters in India in 2011 (Sarkar, 2011). The entire handloom sector is situated in geographic concentrations which are known as clusters. Every such cluster is located within a contiguous geographical area spanning over a few villages or a town and its surrounding areas in India. It is to be noted that under the 'Handloom Reservation Act, 1985' 22(later reduced to 11) textile items have been reserved for the exclusive production by Handlooms in India (Sundari, 2011). The central government, through the Ministry of Textiles, Office of the Development Commissioner (Handlooms) is also implementing various schemes such as supplying hank yarn at mill gate prices, marketing support, design support and health and life insurance schemes for the benefit of the handloom workers. The plan allocation of the Ministry of Textile for handloom schemes was Rs. 460 cores for 2011-12 in India. The data regarding handloom sector in India are shown in Table-1.

Table-1
Changes of Indicators of Handloom Sector in India, During 1995-2010

Sl	Indicator	1995-96	2009-10	Changes
No.				%
1.	Man days worked per	197	234	+18.27
	weaver per annum(Days			
2.	Share of fulltime weavers to	44%	64%	+45.45
	total weavers			
	Share of weaver households	68%	46%	-32.35
3.	reporting less than a metre			
	production			
		100/	10/	(0.00
4.	Share of Idle loom	10%	4%	-60.00

Source: Handloom Census 1995-96 and 2009-10

It is observed that the share of fulltime weavers to total weavers has increased significantly (45.25%) and share of idle loom declined from 10 to 4 percent. Infect all the indicators shows development of handloom sector in India over the years.

II. A Historical Review:

The origin of silk production in Assam is as old as the land itself. Assam is one of the most important states of India known for its hand-woven fabrics since time immemorial. Handloom based weaving is a centuries old activity in Assam. Historically, it is clear that the requirement of all fabrics for different end uses, starting from day to day use to exclusive occasion were met by the handloom fabric in ancient days in Assam. The *Arthasastra* mentioned about the varieties of textile commodities in Ancient Assam (Barua, 1996). The *Harsa Charita* and *Kalika Purana* mentioned also that fine cotton garments were used in ancient days in Assam (Assam State Gazetteer, Vol, I, 1999). The handloom items were use to festivals also in the state thousands of years ago. The village weavers and spinners were an important element in the society and economy. The art of making cotton cloths were very excellent in ancient Assam. The Tantis, a separate professional caste in the Hindu society was associated with weaving prior to the advent

of the Ahoms. A golden history of handloom was begun in the medieval Assam from the coming of the Ahoms into Assam in 1228 A. D. and ended in 1826 A. D. with the terms of the treaty of Yandabo. During this long period of about six hundred years many cottage industries flourished in Assam and among these handloom industry had its reputation even outside the state. The village economy in Ahom days was one of self-sufficiency. The handloom weaving played an important role for the development of self-sufficiency economy. The Ahom kings greatly encouraged, supported and promoted the handloom in Assam. Therefore, the handloom had reached a very high point of perfection under the Ahom kings in medieval period. The Ahoms had been taking keen interest in the production of silk from the very beginning. One thousand families were assigned for the silk production during the time of Su-Tu-Pha (1369-76) in Assam (Barpujari, 2007). Weaving was a common craft and the state had a high tradition and reputation in weaving craft in those days. The climate was favourable for the culture of silk production. Silk activities in medieval period were primarily dependent on environment created by nature. Three varieties of silk namely *muga*, endi and pat were produced for day to day use of life. Every Assamese family practiced weaving cloth. The women wove in their handlooms all the cloths required for their family day to day life. Momai Tamuli Barbarua made it obligatory that before sunset every woman must spin certain number of hands of yarn (Handique, 2010). The cloth production was the primary qualification of a Assamese young girl for her eligibility for marriage in medieval period. The Ahom queens tried to develop the art of weaving of different cloths in medieval days. Sarbeswari, the queen of Siva Singha established a weaving school in the capital city of Rongpur where training in the art of weaving and designing cloths was provided to local girls. There were few professional weavers and they engaged themselves in weaving finger fabrics required by the royal family members. Some royal weavers got a grant of rent free land and some weavers also exchanged their products in markets in those days. The professional silk spinners and weavers were known as Katanis in the Koch Kingdom. As one of the oldest industry it was also mentioned in the medieval Assamese literature. In 14th century the Assamese writers beginning from Madhava Kandali have occasionally mentioned the weaver in their writings. The weavers mentioned by them in most cases meant the silk weavers. Ananta Kandali a profile writer of the 16th century mentioned

about Madhukara Atai and Kesava Doloi which were the main inspirators of his works. Madhukara Atai and Kesava were silk weavers in that time (Sarma, 2001). The great social reformer Sri Sankardeva is said to have produced a large piece of cloth for the Koch king Naranarayana which was called *Brindavani Kapur* depicted scenes from the early life of Lord Krishna. The handloom industry was very famous for its quality and originality in the medieval period of Assam.

At last on February 24, 1826, the treaty of Yandabo confirmed the British occupation of Assam. This treaty of Yandabo brought the about six hundred year Ahom periods to an end. After 1826, when there was British rule in Assam, a number of changes were affected in the administrative line like the formation of new economic policy. The early colonial period was one of administrative and economic consolidation in Assam (Guha, 1991). The establishment of new economic activities by the colonial rulers destroyed the tradition opportunities of the weaving industry in Assam. Every family was manufactured least a part of its requirement of weaving items. Formerly yarn was produced at home. Gradually, homemade yarn was replaced by foreign made yarn. Traditional cotton was not enough to meet the requirement of the people in British days. There was an increasing demand for foreign made articles. Gradually, import of foreign textiles was on the increase in both Brahmaputra and Surma valley. The close of the 19th century saw the increase in import of Assam. A considerable amount of indigenous items were export from Assam. The data regarding export items from Assam are shown in the Table- 2.

Table-2
Export Items of Assam in British Days

Sl.No	Articles	Denomination	1880-81	Denomination	1899-1900
1.	Cotton (raw)	Maunds	15311	Maunds	38840
2.	Silk (raw)	Maunds	648	Maunds	385
3.	Silk(manufactured)	Rupees	1660		

Source: H.K.Barpujari(ed., 2007): The Comprehensive History of Assam, Vol., V, Publication Board Assam, Guwahati, p, 129.

It is unfortunate to noted that traditional handloom had reserved less attention from the British government. In spite of less attention from the British government, the cultivation of all the three varieties of worms, namely, the eri, muga and pat, eri was the cheapest and the most common thing of daily use in winter in the colonial period in Assam (Saikia, 2001). Kamrup was the largest producer of eri where the *eri* cloth could be used by the poor people without any difficulty at that time. Upper Assam earned a good name in the quality production of muga and pat which were mostly used by women. It is to be noted that the East Indian Company realized and recognized the immense commercial value of Assam silk and found it is as an exportable products to Europe for earning wealth. The establishment of new industries by the British rulers destroyed the tradition opportunities handloom workers in Assam. The Swadeshi movement encouraged for development of different crafts including handloom items Assam. In his article 'Lovely Assam' in Young India, 1946, M. K. Gandhi rightly observed that every woman of Assam is a born weaver and she weaves fairy tales in cloth. There was a time once when each Assamese woman of a household used to be a weaver and would weave the clothes for her family in Assam (Bhushan, 2005). In the British period the handloom industry accommodated many social and economic changes in its fold in Assam.

III. After Independence:

After independence, government launched planned economic development programmes for all sector including handloom of the economy. New process has been started for the development of handloom industry with the launching of the first five year plan in 1951 in the state. There is great scope for handloom industry development in the state. The last six decades have seen a lot of positive activity in the handloom industry in Assam. The handloom is the single largest industrial sector in Assam in terms of employment potential next to agriculture. Handloom Production is supplementary activity to provide alternative avenues of employment for most the handloom households. The handloom sector not only employment intensive but also have huge cultural importance for rural people. The state is famous

for its manufacturing of marvelous handloom products for which they extract raw materials from mainly agricultural sector. Now a days the state is having huge potential of growing wide variety of handloom products for subsidiary occupations of weavers for gainful employment. Handloom weaving forms a cultural identity of the Assamese woman. Assam is a land of colourful traditional craft product particularly variety of handloom items. Since the state is endowed with rich natural resources, there is having a tremendous potentiality for the development of handloom industry in the state through which state could generate employment and income for economically as well as socially weaker sections. The handloom work force is predominantly female in Assam. Sualkuchi is an important centre for commercial production of handloom cloth in the state. There are about fifteen villages of the Sualkuchi handloom cluster. Sualkuchi is well known in handloom weaving in both national and international levels.

The handloom industry of the state is well known for her quality particularly for her variety of products such as *eri, muga and silk* fabrics with intricate designs(Dhar, It is to be noted that there were 102 handloom training centre, 98 weavers extension service unit and 20 handloom production centre in the state in 2007-08. The total 11570 villages of the state were covered by the Directorate of Handloom and Textiles for its handloom activities in 2007-08. The handloom is an important provider of rural non-farm employment. The total weavers engaged in handloom were 1319754 in the state in 2007-08. The Handloom and Textiles Department has spent nearly Rs. 394.15 lakh to train 1730 artisans in 2007-08. The total production of handloom fabrics was 132.6 million metre in the year 2007-08 in Assam. There were 1166025 part time and whole time weavers engaged in the state. The total handloom production was 9120.85 meter in 2010-11(Statistical Hand Book Assam, 2011). It is encouraging to note that out of the total 28 lakh looms in India, more than 13 lakh looms owner (46.43%) is Assam. The position of handloom industry is slightly better in comparison to other states in North East India. The data regarding handloom industry in Assam are presented in Table-3.

Table-3
Status of Handloom Industry in Assam over the years

Sl.	Category	2000-01	2003-04	2010-11	2013-14
No					
1.	No. of Handloom Demonstration	263	300	209	209
	Circle-				
2.	No. of Village Covered Under	7819	11570	13078	13576
	Handloom Demonstration Circle-				
3.	No. of Weavers Engaged in	13862	1259878	1166025	1316163
	Handloom -				
4.	No. of Handloom Training Centre-	102	102	102	102
5.	Weavers Extension Units-	98	98	98	98
6.	Handloom Production Centre-	20	20	21	20

Source: Statistical Hand Book Assam, Directorate of Economics and Statistics, Govt. of Assam, Guwahati, 2001, 2005, 2011 and 2014.

The Table-3 gives the status of handloom industry in Assam over the years. It is observed from the table that although number of handloom demonstration circle declined in the state from 263 in 2000-01 to 204 in 2013-14, but number of villages covered under the circle increased almost double during this period. There is a significant increased the number of weavers engaged in handloom from 13862 to 1316163 during the period 2000-01 to 2013-14.

IV.Government Efforts:

It has been increasingly realized that weavers have vast entrepreneurial talents which could be harnessed to create employment opportunities in the state. The government of Assam has given priority to handloom industry as it has potential to create job opportunities for young persons and women. It is felt that the future development of handloom sector will be governed by the appropriate policy of the both central and state government in Assam. Government must be taken a clear roadmap to change the handloom industry. The government of Assam has introduced different measures to sort out difficulties of the industry during the planning periods. With a view to generate employment, income generation, up gradation of technology and skills development weavers, the government also implemented different

development programmes in the rural and urban areas. The Handloom and Textiles Department of Assam has taken different incentives so as to attract investments, promote the establishment of new units, providing avenues for the production of quality fabrics, modernization of looms, motivating of weavers for taking up the industry on commercial lines, extension of training facilities to the weavers, development of textiles designs and extension of marketing facility for the industry in different parts of the state. The department have been implementing Chief Minister's Assam Vikash Yojana from 2007-8. The Yojana has completed implementation successfully with distribution of 32s Cotton Hank Yarn to the poor handloom weavers and poly yarn blankets to elderly women and poor people living below the poverty line in the years 2007-08, 2008-09 and 2009-10 in Assam(Economic Survey, Assam, 2011-12). The department has organized 55 district level fairs, 17 special handloom expos and 6 national handloom expo to create awareness about the handloom products in the state in 2010-11. The department has also given priorities to the empowerments and for creation of selfemployment potentialities among the women weavers which are important elements of the society and economy. The government organizations the Assam Government Marketing Corporation and the North Eastern Handloom and Handloom Development Corporation are playing an important role for growth and development in the state of Assam. Apart from the above, some centrally sponsored schemes such as Project Package Scheme, Deen Dayal Hathkargha Yojana, Health Insurance, Integrated Handloom Development Scheme and Export of Handloom Products are under implementation for the handloom weavers in the state. The women weavers cover under the Mahatma Gandhi Bunkar Bima Yojana were 34619 of 2010-11 in the state. The government programs need to be more creatively designed to accommodate the various stages of development of handloom industry in the state. The total 11 different levels of handloom expo were organized in the state in 2013-14.

Although the government has taken different measures, the handloom industry has not developed in professional and commercial sphere due to some problems. There are number of reasons for slow growth rate of handloom industry in Assam. The problems faced by the handloom industry in the last few decades more or less remained the same in Assam. It is obvious that the very nature of the handloom industry inherent problems on its growth and development for several decades in Assam. It is to be borne in mind that though the handloom industry has been playing a

very important role in the economy of Assam, it is still cannot considered a sunrise industry in Assam. Handloom clusters face a variety of problems in the state. The rapidly changing economic scenario threatens the livelihoods of handloom workers in Assam. It is to be noted that unorganized production system, low productivity, lack of capital, traditional product design, weak marketing link, inadequate raw materials, obsolete technologies and stiff competition from power looms and mill sector are widely perceived to be the key problems affecting the growth and development of the handloom industry in Assam. Through the severity of a particular problems may vary from handloom cluster to cluster, there are certain problems which are common to all types of handloom clusters. The weavers are facing livelihood problems due to liberalization, privatelisaion and globalization. It is seen that every handloom cluster is facing inadequate infrastructural problems in the state. The problems faces by the handloom industry in the recent times have not changed in Assam. In spite of some traditional problems, it is clear that the household based handloom industry has great economic potential even in the age of globalization in the state. The handloom products have a huge domestic and foreign market. It is a labour intensive with high potential to provide livelihoods to a large number of people for poor section of the society in small towns and rural areas. It is encouraging to note that both the central and state government are presently active in the handloom industry. The state government is also implementing different schemes for the benefit of the weavers. A suitable policy framework is urgently needed today for the handloom sector in the state. Central government has set up a mega handloom cluster at Sivasagar. It is very essential to set up more handloom clusters in many parts of the state. Moreover, it is necessary to expand and develop existing technology for development of handloom sector environment friendly. There is a greater need to incentivize the industry for sustaining overall economic growth along with creation of jobs opportunity.

V. Conclusion:

It is accepted fact that the age old handloom industry may play an important role in the social, cultural and economic changes of Assam without creating environmental degradation in the age of globalization. Handloom industry in both rural and urban areas is highly labour intensive and a valuable source of employment, resulting there is a scope of generating income especially in rural Assam. It is equally true that the rapidly changing socio-economic scenario threatens the livelihoods of reefers, spinners and weavers in the state. We must be ensured the livelihood security to the poor people who are associated with the handloom industry. In the context of the liberalised economy, there is an urgent need to take targeted efforts not only the state government but also the central government to the welfare of poor handloom workers in the state. The climatic condition of Assam is very suitable for handloom industry which make the industry an economically viable preposition for the weavers of the state. The handloom industry has not only survived but also grown during the planning periods due to the inherent strengths in the state. In the present context it is clear that the development of handloom industry will be able to help reducing poverty and unemployment problems at the same time it will be an income generating entrepreneurship for the people. Handloom can offer a hope to our people, if it can be established as a viable livelihood for the next generation in the state of Assam. Handloom is a casteless and classless craft; therefore, it is the responsibility of development of handloom industry not only the government but also the corporate sector and NGOs in the economically backward state of Assam. The young generation should also change their mind set and must come forward with full determination to work hard develop the age old handloom industry in the state.

References:

- Assam State Gazetteer, Vol. 1, (1999): Government of Assam, Guwahati.
- Barpujari, H.K.(ed., 2007): The Comprehensive History of Assam, Vol., V, Publication Board Assam, Guwahati.
- Barua, B.K.(1996): A Cultural History of Assam, Vol. I, Lawyer's Books Stall, Guwahati.
- Barua, H.(1991): The Red River & The Blue Hill, Lawyer's Book Stall, Guwahati1.
- Basic Statistics of North Eastern Region, (2000): North Eastern Council, Shillong.
- Bhushan, C. (2005): Assam: Its Heritage and Culture, Kalpaz Publications, Delhi.
- Dhar, P.K.(1998): The Economy of Assam, Kalyani Publishers, New Delhi.
- Economic Survey, Assam, (2011-12): Directorate of Economics and Statistics, Govt. of

Assam.

- George, N. D (2011): "Socio-Economic Condition of Handloom Workers in India", Yojana, Vol, 55, Ministry of Information and Broadcasting, New Delhi.
- Guha, A.(1991): Medieval and Early Colonial Assam-Society, Polity, Economy, K P Bagchi and Company, Calcutta.
- Handique, K.J.(2010): Handicrafts in Assam, Kalpaz Publications, Delhi.
- Jain, L. C.(2007): "The Issue is Employment," Yojana, Vol., 51, Ministry of Information and Broadcasting, New Delhi.
- Jhingan, M. L. (1990): *The Economics of Development & Planning*, Konark Publishers Pvt Ltd., Delhi.
- Konwar, P.(2012): "Handloom in Assam", in Handique, K,J,(ed.), Crafts and Culture in North-East India, UGC Sponsored Gandhian Studies Centre, Gargaon College, Simaluguri.
- Roy, T.(2006): The Economic History of India 1857-1947, Oxford University Press, New Delhi.
- Saikia, R.(2001): Social and Economic History of Assam (1853-1921), Manohar, New Delhi.
- Saikia, S. K. (2012): "Development of MSME in Assam and North East", in Handique, K,J.(ed.), Small Scale Industries in Assam, UGC Sponsored Gandhian Studies Centre, Gargaon College, Simaluguri.
- Sarkar, T.(2011): "Artisanal Clusters: Towards A Brighter Future", Yojana, Vol,
 55, Ministry of Information and Broadcasting, New Delhi.
- Sarma, S.N.(2001): A Social- Economic and Cultural History of Medieval Assam -1200 A.
 D.-1800 A. D., Bina Library, Guwahati.
- Shirali, A.(1993): Textile and Bamboo Crafts of the North Eastern Region, National Institute of Design, Ahmedabad.
- Singh, B.K.(2007): "A Tradition of Skills" Yojana, Vol., 51, Ministry of Information and Broadcasting, New Delhi.
- Sundari, S.(2011): "Stopping Migration from Villages: Challenges for the Handloom Sector", Yojana, Vol., 55, Ministry of Information and Broadcasting, New Delhi.
- Statistical Hand Book Assam, (2001, 2005, 2011 and 2014): Directorate of Economics and Statistics, Government of Assam, Guwahati.

