

# Growth and prospect of Carpet Industry: A study

Dr. Chittaranjan Das

Associate Professor in Commerce, Vivekananda Satavarshiki Mahavidyalaya,  
Manikpara, Jhargram, West Bengal, India,  
Email - chitta1966@gmail.com

**Abstract:** *In a labour surplus economy, where agriculture sector unable to provide sufficient employment to rural inhabitants, carpet industry like cottage industry plays an important role for generation of employment and income for survival of rural people. The carpet weaving industry in India is highly labour intensive and it forms a considerable part of the handicraft industry. It is an almost 100 per cent export oriented industry. The industry provides livelihood to approximately 2.5 million artisans and earns significant foreign exchange for the country. The present paper tries to examine the growth of carpet industry in India, the labour process used in this industry and nature of earnings generated from this industry. Compound annual growth rate (CAGR) of export of carpet and other floor coverings from India during the period from 1991-82 to 2015-16 is estimated at 34.10 percent. The putting-out system is used as the labour process in this industry. The share of income from carpet weaving to total income is more than 50 percent for 72.5 percent households.*

**Key Words:** *Cottage industry, employment, export, income, labours process.*

## 1. INTRODUCTION:

Carpet Industry is one of the oldest industries in India. Carpets and floor coverings are categorised as a handicraft product. A handicraft is a hand-made product that is made using simple tools. Carpet Weaving was brought to India by Moguls. Some of the majestic carpets were woven during this Mogul era. Over the period, the weaver has become an artist imbibing the magical exotic colours to the Indian carpets. Based on individualistic skill of the weaver, there is an aesthetic touch of the colouring and beauty in the carpets. Carpet manufacturing is a long process right from the stage the carpet's design is conceived till the time the carpet finds its place at the buyer's. Lots of thought, patience, labour, money, and infrastructure are involved in the entire process. The carpet weaving industry in India is highly labour intensive and it forms a considerable part of the handicraft industry. It is an almost 100 per cent export oriented industry. The industry provides livelihood to approximately 2.5 million artisans and earns significant foreign exchange for the country. Export earnings from carpet industry have been increasing over the years especially from 1996 onwards and over U.S \$1448.24 Million were earned by the industry during 2015-16. India ranks number one in terms of value as well as in volume of exports of handmade carpets. The major competition to the export of Indian handmade carpets is coming from China, Iran, Nepal and Pakistan. The industry has a huge potential for growth. India has around 29% share of the world market for handmade carpets and floor coverings. USA is the largest importer accounting for about 41% of the total exports.

A large number of young youth migrated from two adjoining blocks Moyna (a block of Purba Medinipur district) and Pingla (a block of Paschim Medinipur) of West Bengal to other states of India for seeking better employment and earnings. A good number of them are engaged in carpet weaving industry in UP and other centres of this industry. Some of them return back and trained up their friends, relatives and family members by engaging in this industry for better earnings and livelihoods.

The questions that have thus arisen are: what are the patterns of employment in this industry in sample area? Are the households distressed diversified to this industry for their livelihood or attracted for higher income? Which factors are significantly affects the household's participation in industry? Does employment in this industry have any impact on rural poverty alleviation? The projected study seeks to find answers to these questions and examines some related issues.

### *Interdisciplinary Relevance*

The proposed study is interdisciplinary in nature covering economics, commerce, sociology and geography. The study is helpful to know the trend and pattern of employment and households' survival strategy in rural area. The issue of this type of rural non-farm employment (RNFE) in the era of globalization, liberalization is social and economic significance and is to be addressed is the social perspective.

## 2. REVIEW OF LITERATURE:

Shishir Tyagi, pointed out that at present carpet industry is passing through its tough time, especially the hand knotted carpet sector. Nothing is going in its way, on the one side, carpet industry is still reviving from the recession

blow and on the other side industry is facing a huge depreciation in skilled weavers in order to complete the export order in time. Cost of production has increased, but buyers want the carpet at old prices. Indian rupee is getting stronger vis a vis US dollar, the countries like Iran is getting tougher and tougher in competition. In this crisis government agencies and financial institution should take forward steps to revive and boost the carpet industry

Sandeep Srivastava and K.K. Goswami, (2007), highlights that the handmade carpet industry is a labour intensive one involving millions of artisans/crafts persons. Indian handmade carpet industry occupies a significant position in the world handmade carpet industry in particular and the international floor covering trade in general. The country with a population backed by skill and inclination towards such craft activity has a strong potential for growth. Engaging in such activity produces gainful employment resulting socio-economic growth. The handmade carpet industry is thus a potential socio-economic growth for any such country and the world at a large. (The Innovation Journal: The Public Sector Innovation Journal, Volume 12(2), 2007, Article 5.)

Purnima Purohit and Prashmita Ghosh (2008), pointed out that the carpet industry is one of the best examples of utilising India's comparative advantage, i.e. its vast labour force. It is an industry that has transcended from private homes to a separate manufacturing unit; from being a piece of art to being one of the important export industries in India. With a concerted effort by the CEPC and government officials, the issues of the manufacturers/exporters in this industry can be addressed and the rural employment status be improved. The industry provides alternative employment opportunities for rural uneducated people. Given the employment potential, the carpet industry can serve as an important occupation avenue for these people. Therefore, to take the full benefits of an export-led growth strategy, carpet industry should receive. (Trade-Development –Poverty Linkages, Volum II – Sector Case Studies 2008) edited by Selim Raihan & Mohammad A. Razzaque. Published by CUTS international.

In Indian literature there are relatively few studies available that analyse micro level data at the household or individual level, statistically or econometrically, to understand the rational and processes of participation in this industry. We have hardly any such study on carpet weaving at household level in West Bengal. Moreover, in the existing micro level studies the relationship between employment and the factors influencing this type of rural non-farm employment (RNFE) has not been analysed in depth. The relation between this type of RNFE and rural poverty at the household levels has hardly been explored and established.

From the brief review of the existing literature it appears that labour processes, growth of carpet industry have not been adequately discussed. The present study aims at removing some of the gaps in the existing literature.

### ***Significance of the Study***

The study is helpful to know the trend and pattern of employment in this industry and households survival strategy in rural area. The study is relevant for policy making for rural development in general and employment generation in particular in not only West Bengal but also the whole India. It is relevant for bypass the problems which are emerged due to large-scale industrialisation-led displacement. Findings of the study will also helps in designing plans for reduce unemployment and poverty.

### **3. OBJECTIVES:**

The proposed study on carpet industry set the following objectives for itself:

- To examine the pattern of growth of carpet industry in India,
- To examine the labour process of the industry,
- To analyse the earnings from carpet industry at the household level.

### **4. METHODOLOGY:**

**Coverage:** Moyna block of Purba Medinipur district and Pingla block of Paschim Medinipur district in West Bengal are purposely chosen for the proposed study. Multistage stratified random sampling will be used to find ultimate sample frame. These 2 blocks will constitute the 1<sup>st</sup> stage unit. Within a block all villages do not produce carpet and many villages do not have sufficient number of carpet weavers/artisans. So, for the proposed study of carpet industry, four (04) sample villages will select randomly from the list of carpet weaving activity dominated villages for each sample blocks and these eight (08) villages will constitute the 2<sup>nd</sup> stage unit. In last stage, twenty (20) sample households will select randomly from each village from the households involved in carpet weaving activity. Thus our sample will comprises 2(two) districts, 2(two) blocks, 8 (eight) villages and 160 households for our in-depth study on carpet weaving industry.

**Data Collection:** Both primary and secondary sources are used for this study. Data relating export scenario is obtained from secondary sources. The information regarding the weavers households of the sample villages are obtained from primary sources. Questionnaire and survey methods have been used to collect primary data from sample households. Simple statistical tools have been used to analyse the data.

## 5. DISCUSSION AND FINDINGS OF THE STUDY:

### 5.1 Growth of the Industry

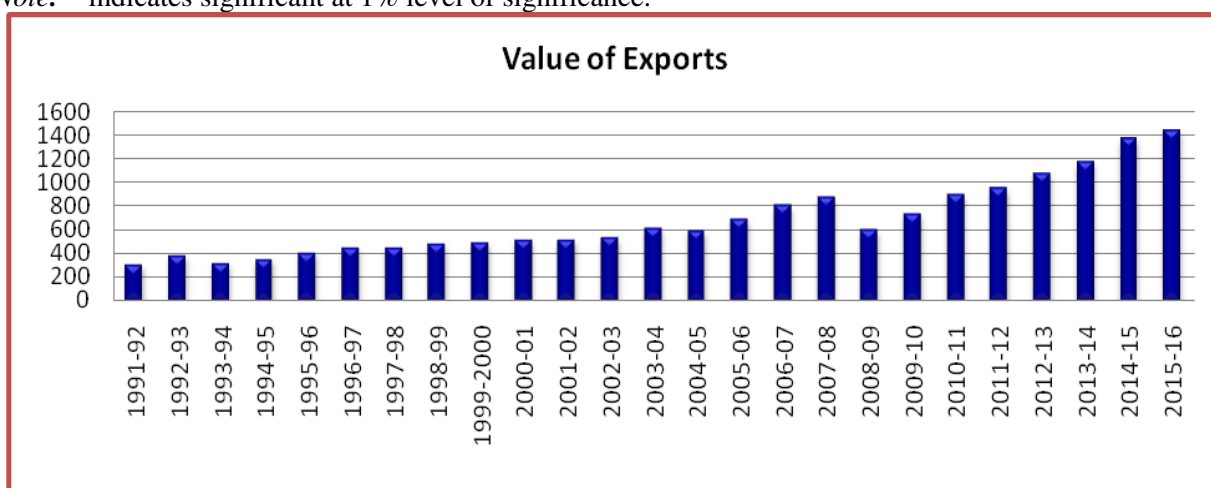
Table 1 exhibits the value of exports of carpets and other floor coverings from India during the period from 1991-92 to 2015-16 in million US\$ .Compound annual growth rate (CAGR) of export of carpet and other floor coverings from India at during the period from 1991-82 to 2015-16 is estimated at 34.10 percent which is significant at 1 percent level of significance. Value of export of carpet and other floor coverings from India and its annual growth trend of are shown in figure 1 and 2 respectively. Due to global melt down, the export value carpet and other floor coverings has been decreased in the year 2008-09. After that the export value shows positive increasing trend up to 2015-16.

**Table 1:** Exports of Carpets and other Floor Coverings from India during the period from 1991-92 to 2015 - 16 (US\$ Million)

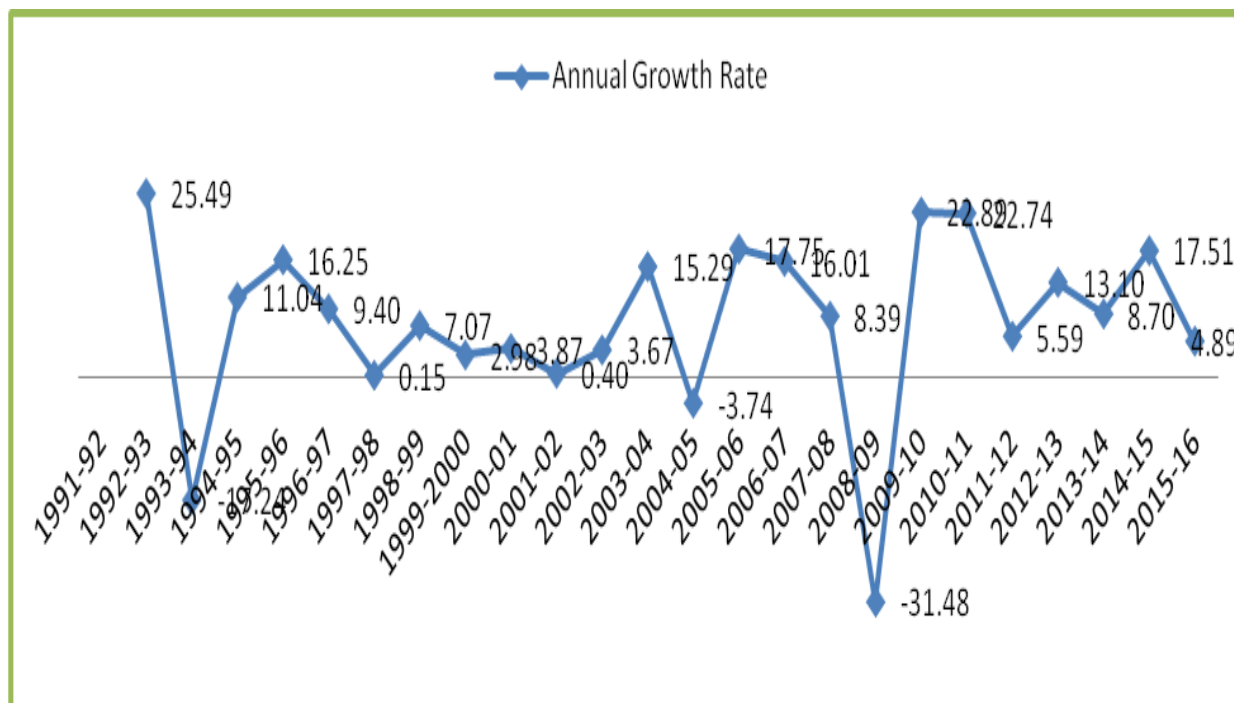
Year	Value of Exports (US\$ Million)	Annual Growth Rate (%)
1991-92	304.41	----
1992-93	381.99	25.49
1993-94	316.13	-17.24
1994-95	351.02	11.04
1995-96	408.07	16.25
1996-97	446.41	9.40
1997-98	447.07	0.15
1998-99	478.68	7.07
1999-2000	492.93	2.98
2000-01	512.03	3.87
2001-02	514.07	0.40
2002-03	532.96	3.67
2003-04	614.44	15.29
2004-05	591.44	-3.74
2005-06	696.44	17.75
2006-07	807.94	16.01
2007-08	875.71	8.39
2008-09	600.06	-31.48
2009-10	737.41	22.89
2010-11	905.07	22.74
2011-12	955.68	5.59
2012-13	1080.90	13.10
2013-14	1174.89	8.70
2014-15	1380.67	17.51
2015-16	1448.24	4.89
CAGAR (%)	34.10*	

Source: Carpet Export Promotion Council

Note: \* indicates significant at 1% level of significance.



**Figure 1** Exports of Carpets and other Floor Coverings from India during the period from 1991-92 to 2015 - 16 (US\$ Million)



**Figure: 2 Annual Growth Trend of Export of Carpet and other Floor Coverings**

Table 2 shows the top ten buyers of carpet and other floor coverings from India in the year 2015-16 and the total value of export of carpet and other floor coverings was 1448.24 million US\$. U.S.A registered the highest value of carpet and other floor coverings importer from India amounted to 586.50 million US\$ followed by U.K (197.00 million US\$), Germany (144.18 million US\$), U.A.E. (74.95 million US\$), Turkey (62.61 million US\$), Australia (47.60 million US\$), Netherlands (26.51 million US\$), France (21.85 million US\$), Canada (21.44 million US\$) and Italy (19.27 million US\$). **Figure 3** shows the percentage share of exports carpet and other floor coverings from India to the different countries in the year 2015-16.

**Table 2 Exports of Carpet to Top Ten Countries from India in the Year 2015-16**

(US\$ in Millions)

Countries	Exports of Carpet	% of total Carpet Export from India
U.S.A.	586.50	40.50
U.K.	197.00	13.60
Germany	144.18	9.96
U.A.E.	74.95	5.18
Turkey	62.61	4.32
Australia	47.60	3.29
Netherlands	26.51	1.83
France	21.85	1.51
Canada	21.44	1.48
Italy	19.27	1.33
Rest of the Country	246.33	17.01
Total	1448.24	100.00

Source: Carpet Export Promotion Council

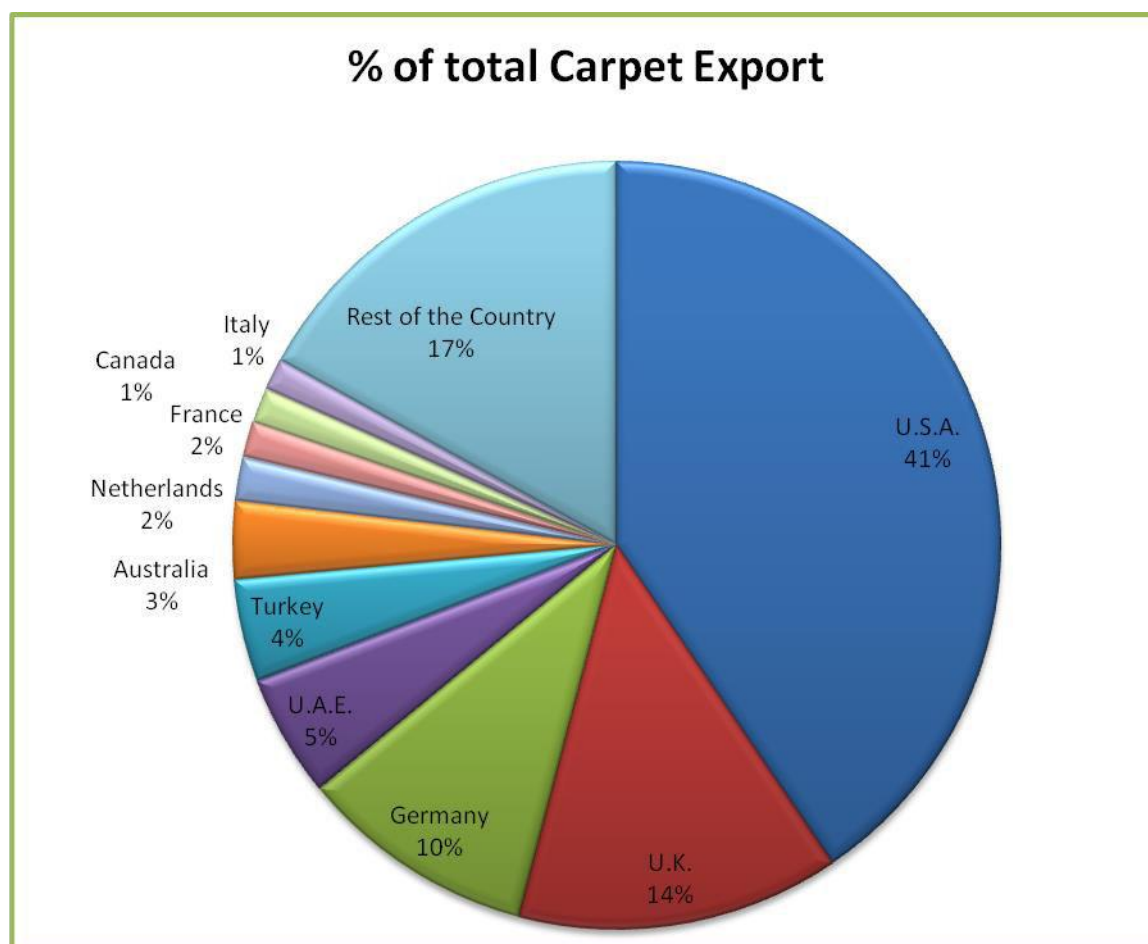


Figure 3 Showing Exports of Carpet to Top 10 Countries from India in the Year 2015-16

### 5.2 Labour Process in Sample Carpet Weaving Units

Several distinct stages in production process are adopted for creation of use value as well as aesthetic value. Such stages in a unit are observed to vary with types of products being produced. We analyse the most common stages of production process in carpet industry in sample districts of West Bengal.

We examine that, manufacturer or exporter employs his agents in the sample area and then the agents organized local level manufacturers/ investors or master weaver. The local level manufacturers/ investors or master weaver invest fixed capital for installation of looms and infrastructure for the loom and also working capital for maintains the day to day expenses for smooth running of the production process. The manufacturer supplies the raw materials through the agent to the local level manufacturers/ investors or master weaver by the use of these raw materials the weavers produce the carpet, and weavers are paid wage or bani against their products. Bani or wage may differ among different organizations, where instruments of production are owned/ possessed by the craft person and local level manufacturers / master advances the circulating capital (wage fund etc.). Along with those above modes in organization of the labour process there is the putting-out system. It is seen that in most of the units, the division of labour is established. Different types of labours are employed in different stages of production. The labourers organized by the local level manufacturer/ agents are paid wages according to their finished work, i.e., they are employed on contract basis. In other words, while labourers are hired they work on piece rate basis. The piece rate system of payment saves the supervisory cost. Marx, while analyzing the piece-rate system of payment, wrote, 'as much the quantity and intensity of the labourers are here controlled in which the wages of labourer are paid, supervision is to a considerable extent rendered superfluous.' With this piece rate system of payment in operation, the work is done with much faster speed. According to Marx, the objective of the capitalist has been two-fold: to increase productivity and to control the labour process. Thus, as in those above stated two cases, a specific set of workers are found engaged in each partial operation, those two modes of organization of the labour process can be called 'Manufacturer'. We see when the artisans work through their instruments, different stages of work are done by different types of labourers and they wish to maximize their earnings level through increasing productivity. Consequently, the objectives of the capitalist merchant (Mahajan / Master) or the cooperative society can be considered to be fulfilled which is dual in nature: to increase productivity and to control the labour process. Thus the modes of organization of the labour process are found to be what Marx called 'Manufacturer' also. Therefore, we can



say that these two types of production organization are the mixture of two processes or systems -- putting-out system and manufacturing system. Against this theoretical backdrop we may now examine the labour process in carpet industry.

### ***Production Process and Raw Materials used***

The majority of carpets exported from India currently are woollen carpets. The fine qualities of wool for weaving carpets are imported from New Zealand, Australia, Morocco and various other countries. Wool is imported because India does not produce the required quality of wool for carpet weaving. Also the quantity of wool produced in India is sufficient only to cater to 8-9 percent of the carpet industry's demand. Most of the wool finds its way to Bikaner (Rajasthan) where the wool manufacturers are based. From Bikaner, wool is transported to the respective carpet manufacturing destinations. Bikaner has grown up as an important wool-processing place because of the sheep population available there. The presence of shepherds and the wool importers in Bikaner with the support of efficient transport system ensures timely delivery of wool required in the carpet manufacturing zones. The wool industry and the efficient transport system give the initial support to the carpet manufacturer.

Dyes form another important ingredient in the carpet weaving process and are also one of the prime support industries for carpet weaving. Once the wool is imported it is sent to the dyeing plants for dyeing. In carpet industry, the wool providers supply different colours of wool as per requirement of the manufacturer. Wool can be dyed in various colours of green, blue, maroon or the natural colour of wool is maintained. There are various dyeing processes but primarily two main dyeing processes are in use – power driven dyeing mills and the traditional way of dyeing where the wool is soaked in colour and steamed for long hours.

Once the wool is procured from the supplier, the manufacturer either gives the contract for dyeing to someone else or gets it dyed from his own plant. The employment is on a contractual basis and varies from season to season depending on the export demand. Both the dyeing and wool industry are backward linkages industry that provides employment to rural, unskilled people. The dyed wool now in the form of yarn, is to be rolled into balls to be used for weaving. The wool is rolled into balls by women folk. The weaving takes place on a loom, which is an iron frame. The looms can be found at both the weaver's home and the industry that manufactures the carpets. The loom supports the warp on which the carpet is weaved. Warp threads are vertically wound around the loom parallel to each other, on the basis of type and size of the carpets. Simple tools like a knife for cutting the yarn as the knots are tied, a comb like instrument for packing down the wefts, and a pair of shears for trimming the yarn are required for carpet weaving. Nowadays, a tufting machine, which resembles a pair of large scissors, is used for weaving the carpets. The weaver sits on a tool throughout the day about 10 to 12 hours and weaves the carpet from bottom upwards.

**Table 3 Production Stages of Carpet Industry and Labour use**

Stages	Number of Labours (Range)	Types of labour use	Mode of payment to the labour
Dyeing	Depends on plant size	Skilled	Contractual basis
Rolling into balls	---	Unskilled women	Piece rate basis
Designing of carpet	2	Skilled	Piece rate basis
Weaving of Carpets (5 inch by 8 inch) Weaver/ labourer	2	Skilled	Piece rate basis
Washing	2	Unskilled	Piece rate basis
Latexing	2-4	Skilled	Piece rate basis
Clipping/Trimming	2	Skilled	Piece rate basis
Binding	3	Unskilled	Piece rate basis
Clothing at the back	2	Unskilled	Piece rate basis
Finishing	2	Skilled	Piece rate basis
Role Packing etc.	2	Unskilled	Piece rate basis

Source: Field Survey 2017

Table 4 shows the distribution of number of carpet weaving looms and the number of weavers engaged for carpet weaving in the sample villages. In our study, total number of worker employed in carpet industry in sample households are 253 and total number of looms are 53. Largest number of workers is employed in sample carpet weaving units in the village Brindabanchak (38) followed by Radhaballavchak (36), Naranga Dighi (34), Tilkhoja (33), Charandaschak (32), Gobindapur (32), Chandipur (26) and Pindrui (22). Generally 2 to 3 weavers working both the sides of a loom, so total number of weavers working in a loom are 4 to 6.

**Table 4 Distribution of Number of Looms and Number of Carpet Weavers of Sample Villages**

Block	Village	Number of Loom	Number of Weaver
Moyna	Brindabanchak	8	38
	Charandaschak	7	32
	Radhaballavchak	9	36
	Tilkhoja	5	33
Pingla	Chandipur	5	26
	Gobindapur	6	32
	Naranga Dighi	8	34
	Pindrui	5	22
	Total	53	253

Source: Field survey, 2017

Table 5 shows the distribution of number of carpet weavers by level of their education in the sample villages. The share of carpet weavers' having primary education level to total number of carpet weavers of sample households is highest (74 percent), followed by the secondary education (18 percent) and about 09 percent of carpet weavers belongs above secondary level of education. So, most of the weavers belong to below secondary level of education.

**Table 5 Distribution of Number of Carpet Weavers by Level of Education**

Block	Village	Primary	Secondary	Above Secondary	Total Number of Weaver
Moyna	Brindabanchak	28 (73.68)	8 (21.05)	2 (5.26)	38 (100)
	Charandaschak	22 (68.75)	6 (18.75)	4 (12.50)	32 (100)
	Radhaballavchak	23 (63.89)	9 (25.00)	4 (11.11)	36 (100)
	Tilkhoja	29 (87.88)	3 (9.09)	4 (12.12)	33 (100)
Pingla	Chandipur	19 (73.08)	5 (19.23)	2 (7.69)	26 (100)
	Gobindapur	25 (78.13)	5 (15.63)	2 (6.25)	32 (100)
	Naranga Dighi	26 (76.47)	4 (11.76)	4 (11.76)	34 (100)
	Pindrui	16 (72.73)	5 (22.73)	1 (4.55)	22 (100)
	Total	188 (74.31)	45 (17.79)	23 (9.09)	253 (100)

Source: Field survey, 2017

Note: Parentheses represent the percentage of total

Table 6 highlights that the distribution of carpet weavers household by land holdings in the sample villages. In our study, about 53 percent carpet weavers' sample households hold less than 0.50 acre of land and 32 percent households having the size of land holdings are lies in between 0.50 acre to 1.00 acre and only 15 percent sample households posses more than 1 acre of land. So, most of the sample carpet weaver's households are small farmers.

**Table 6 Distribution of Sample Carpet Weavers' Households by Land Holdings**

Block	Village	Below 50 dec.	50 dec.to 1 acre	More than 1 acre	Total
Moyna	Brindabanchak	8 (40.00)	8(40.00)	4(20.00)	20 (100)
	Charandaschak	11(55.00)	7(35.00)	2(10.00)	20 (100)
	Radhaballavchak	10(50.00)	6(30.00)	4(20.00)	20 (100)
	Tilkhoja	11(55.00)	5(25.00)	4(20.00)	20 (100)
Pingla	Chandipur	11(55.00)	6(30.00)	3(15.00)	20 (100)
	Gobindapur	10(50.00)	6(30.00)	4(20.00)	20 (100)
	Naranga Dighi	13(65.00)	6(30.00)	1(5.00)	20 (100)
	Pindrui	10(50.00)	7(35.00)	3(15.00)	20 (100)
	Total	84(52.50)	51(31.87)	25(15.63)	160 (100)

Source: Field survey, 2017

Note: Parentheses represent the percentage of total

### 5.3 Income from Carpet Weaving:

The distribution of sample households involved in carpet weaving activity by the level of annual per capita income from carpet weaving activities is shown in Table 7. There are 12.50 percent sample households to total sample households having carpet weaving activities with annual per capita income from carpet weaving up to Rs. 8000. Among those households the per capita income from carpet weaving of 24.38 percent households lies between Rs 8001 to 12000, another 30.00 percent lies between Rs. 12001 to 16000, 24.38 percent lies between Rs. 16001 to 20000 and the rest 8.75 percent lies above Rs. 20000.

**Table 7 Distribution of Sample Households of Blocks by the level of Per-Capita Annual Income from carpet weaving**

Per Capita Annual Income from carpet weaving (Rs)	Number of households		
	Moyna	Pingla	Total
Up to 8000	9(11.25)	11(13.75)	20(12.50)
8001 to 12000	17(21.25)	22(27.50)	39(24.38)
12001 to 16000	25(31.25)	23(28.75)	48(30.00)
16001 to 20000	20(25.00)	19(23.75)	39(24.38)
Above 20000	9(11.25)	5(6.25)	14(8.75)
Total Households	80(100.00)	80(100.00)	160(100.00)

Source: Field survey, 2017

Note: Parentheses represent the percentage of total

The distribution of income from carpet weaving to total income of sample households is shown in Table 8. The share of income from carpet weaving to total income is more than 50 percent for 72.5 percent households. Among total sample households having carpet weaving activities 3 percent entirely depend on carpet weaving for their livelihood. The share of income from carpet weaving to total income lies between 51 percent and 75 percent for 55.00 percent households and between 76 percent and 99 percent for 14.38 percent households. There are also other 27.51 percent sample households for whom the share of income from carpet weaving to total income is less than 50 percent. On the other hand most of the sample households (97 percent) recorded multiple occupations. Carpets weaving based households are also engaged in farm activity as a subsidiary activity. Farm activity supports carpets weaving activity to maximize total income. Therefore, the employment in carpet weaving has a great impact by generating the income for sustainable livelihood and poverty alleviation of rural people.

**Table 8 Distribution of Sample Households of Blocks by Share of Income from Carpet Weaving to Total Income**

Share of NF Income (%)	Number of households		
	Moyna	Pingla	Total
Up to 25	6(7.50)	5(6.25)	11(6.88)
26 to 50	17(21.25)	16(20.00)	33(20.63)
51 to 75	43(53.75)	45(56.25)	88(55.00)
76 to 99	12(15.00)	11(13.75)	23(14.38)
100	2(2.50)	3(3.75)	5(3.13)
Total Households	80(100.00)	80(100.00)	160(100.00)

Source: Field survey, 2017

Note: Parentheses represent the percentage of total

## 6. CONCLUSION:

The carpet weaving industry in India is highly labour intensive and is an almost 100 per cent export oriented industry. The industry provides livelihood to approximately 2.5 million artisans and earns significant foreign exchange for the country. Compound annual growth rate (CAGR) of export of carpet and other floor coverings from India at during the period from 1991-82 to 2015-16 is estimated at 34.10 percent which is significant at 1 percent level of significance.

The manufacturer /exporter supplies the raw materials through the agent to the local level manufacturers/ investors or master weaver. Weavers produce the carpet by use of these raw materials and they are paid wage or *bani* against their products. *Bani* or wage may differ among different organizations, where instruments of production are owned/ possessed by the craft person and local level manufacturers / master advances the circulating capital (wage fund etc.). Along with those above modes in organization of the labour process there is the putting-out system.



Different types of labours are employed in different stages of production. The labourers organized by the local level manufacturer/ agents are paid wages according to their finished work.

The share of income from carpet weaving to total income is more than 50 percent for 72.5 percent households. Among total sample households having carpet weaving activities 3 percent entirely depend on carpet weaving for their livelihood. So, the employment in carpet weaving has a great impact by generating the income for sustainable livelihood and poverty alleviation of rural people. From the above discussion, it can be conclude that the industry has a good prospect in our country.

#### **ACKNOWLEDGEMENT:**

This paper is a portion of Minor Research Project sponsored by UGC and the author is thankful to the officials of U.G.C., Kolkata, for providing the financial assistance for carrying out the Project.

#### **REFERENCES:**

1. Anonymous., (2003). “Handmade Carpet Industry. Mirjapur and Bhodi ,UP”; *Envis News Letter on Occupational Environment and Health*. Vol 1.
2. Basuk, M. (2010), “New Opportunities & Future Prospects for Indian Hand Made Carpet Industry”, National Seminar cum workshop on recent R&D Initiatives and Developmental Schemes of wool and woolens.
3. *CUTS* (2007), “Strengthening the Linkages between Trade, Development and Poverty Reduction”, *CUTS Centre for International Trade, Economics & Environment* ([www.cuts-citee.org](http://www.cuts-citee.org))
4. Das, C.R (2017), “Pattern and Impact of Carpet Industry: A Household Level Study in West Bengal” *World Wide Journal of Multidisciplinary Research and Development*, 3(10) pp. 202-205.
5. Jain,K., and M. Jain., (2002). Carpet and Duries Weaving; Word Bank August, 2002.
6. Joshi, S.K., Sharma, U., Sharma, P., Pathak, S.S., et al (1999) Health status of carpet weaving children; 31..
7. Kousar, A., Akhtar, S., Shazad, F., Asma, S., Akhter, N., Nighat, S., (2005). Causes and Consequences of Child Labor in Carpet Weaving Industries; ;1813–2235/2005/01–1–58–59.