A Study of the Socio-Economic Conditions of the Handloom Weavers of *Kota* and *Bundi* District in Rajasthan

AmitChatterjee, Assistant Professor, MIT-WPU | Nehal Jain, B.Sc. Economics Scholar, MIT-WPU

Abstract:

Handloom industry is one of the largest cottage industries in India. Being labour intensive, it is the second largest employment generator after agriculture in the rural sectors of the economy. India contributes 95% to the total world exports of handloom products, enjoying an almost monopoly. Spread across the country, the industry is known for its delicate, diverse, and fine craftsmanship. Out of the 344 GI tags held by India, 202 are of the handloom and handicraft products. However, the handloom industry's present status in India is disturbing, particularly in the socio-economic conditions of the weavers. The present study enquires into the socio-economic conditions and the well-being of the handloom weavers in India with the help of the sample collected from three villages of *Kota* and *Bundi*districts in Rajasthan for the *Kota Doria*handloom product. The study reveals that the weaver households in the survey regions had low standards and quality of living. The handloom weavers of *Kota Doria*were found to have extremely poor socio-economic conditions and various government schemes have failed to uplift the weavers' income levels.

Keywords: Amenity Index, Bundi, Kota, handloom industry, Household Quality, India, socio-economic conditions, Standard of Living, weavers

1. INTRODUCTION

Handloom industry—a labour-intensive industry—is one of the largest cottage industries in India. It is the second largest employment provider after agriculture in the rural sectors, providing employment to about 43.32 lakh handloom workers. The handloom textiles differ across regions, representing the unique diverse cultures of India. India holds 202 Geographical Indication tags in handloom and handicraft products alone. The intricacy of the designs and the excellence in its quality is a major driver for the global demand of Indian handloom products. India's share to the total world exports of handloom is 95%, thus, letting it enjoy an almost monopoly.

A characteristic feature that highlights the handloom industry is the major contribution of women in the workforce. As per the Handloom Census conducted by the NCAER in 2010, the industry engages approximately 29.98 lakh women in a ratio of 3.5:1 against the males. Impressively, the composition of the SCs, the STs, and the OBCs in the workforce is also significantly high; 10.1%, 18.1%, and 45.2%, respectively. Such attributes of the handloom industry make the study of the

socio-economic conditions of the weavers of great importance.

1.1. Area of Study

The primary research to analyse the socio-economic conditions of the weavers of *Kota Doria*was conducted in the *Kaithun*and *Kotsuwan*villages in *Kota* district and *Roteda*village in the *Bundi*district of Rajasthan, India, where the clusters of *Kota Doria*weavers are located.
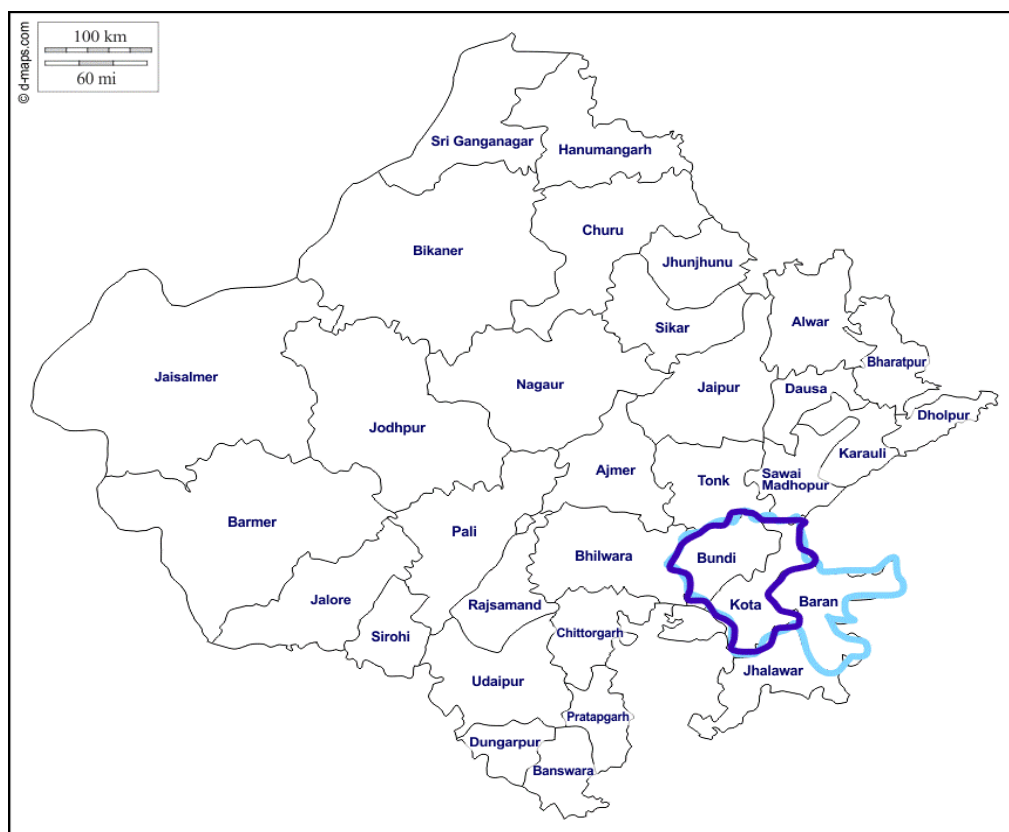
Source: Image taken from Google Map

Kaithun, the biggest cluster of *Kota Doria*weavers, is located at approximately 0.091° to the south and 0.1076° to the east of *Kota* city, at 25.1228° N, 75.9724° E, approximately 19.2 km from *Kota*. The region has an area of about 17 km^2.

Kotsuwan, on the other hand, with an area of 10.18 km^2, is at 25.2581° N, 76.0218° E, approximately 29.8 km from *Kota.*

Roteda, in the *Bundi*district, is located at 25.3842° N, 76.1342° E, approximately 43.4 km from*Kotsuwan*and 41.9 km from *Kota;* and has an area of 16.39 km^2.

The temperature in the regions range between the high of 45-50°C in the months of April to June and the low of 3-14°C in the months of November to January.

1.2 *Kota Doria*: An Overview

Kota Doria, one of the finest hand-woven textiles from Rajasthan, is popular among women throughout the country, especially the *Marwari* community in Rajasthan. The term *'doria'* meaning 'thread' in Hindi accentuates the fine weaving of threads to make the *saree.* The *Kota Doria* fabric consists of cotton and silk yarn woven in different combinations in warp and weft. The squared patterns called *khats*thus obtained are the defining attributes of the hand spun textile. The unparallel craftsmanship, the use of *zari*(fine metallic

threads of gold and silver), the unique *khats*, the transparency and the light weighted material of *Kota Doria* fabric prompted the Kota Doria Development Hadoti Foundation (KDHF), with the help of United Nations Industrial Development Organisation (UNIDO), to apply for the GI tag. *Kota Doria was registered under the Geographical Indications of Goods (Registration & Protection) Act, 1999, in 2005.*

Credits: Clicked by the researcher herself

Astonishingly, the origin of the *Kota Doria's* weaving tradition goes back to the Mysore district in the southern state of Karnataka; hence also known as *Kota Masuria.* However, in the late seventeenth century, a Mughal army general and his son Rao Ram Singh aided the weavers to migrate to the state of Rajasthan instead. The weavers from Mysore thus settled in the district of Kota in southeast Rajasthan,

primarily in the *Kaithun* village, where the weaving became more entrenched. Earlier, the weavers in Mysore made use of silk to weave the *saree.* However, as the cluster set itself in Kota, a mix of cotton and silk increasingly began being used for the handwoven fabric. Ironically, while this art of weaving has now disappeared altogether from the Mysore where it had its roots, it became prominent in and around the various villages of Kota.

1.3. A Glimpse on Present Status

Since independence, government has initiated a plethora of schemes and policies for the welfare of handloom weavers. However, despite such a vast array of initiatives and measures the budgetary allocation by the government to the handloom sector has seen a fall of about 34% from 2012-13. Stiff competition from power looms is a leading cause for the industry's downfall. The weavers also suffer due to the domineering presence of the Master Weavers who take the maximum share of the profits from the sale of these handloom products, leaving little to nothing for the small weavers. The wages earned by the weavers is even lesser than the prescribed minimum wage rates for the semi-skilled labourers by the government of India. The minimum wages for semi-skilled labourers in Rajasthan were revised to be ₹223 in 2018, giving an average monthly income of ₹5798 at the least, which is still far greater than the average monthly income earned from weaving activities. Thus, the income levels and the economic conditions of the handloom weavers have only worsened since the third national handloom census in 2010.

The budgetary allocation to the sector of as high as ₹607 crore in 2012-13 fell by about 34.76% to ₹396 crore in the annual budget of 2018-19.

Year	Fund Outlay in the Budget (in ₹ crores)	% Change in Fund Outlay (base year: 2012-13)	Export Revenue (in ₹ crores)
2012-13	607	--	2812.32
2013-14	656	8.07%	2233.11
2014-15	312	-48.59%	2246.48
2015-16	440	-27.51%	2353.33
2016-17	710	16.96%	2392.21
2017-18	604	-0.49%	2280.19
2018-19	396	-34.76%	(NA yet)

Source: Note on Handloom Sector, 2015, Ministry of Textiles | Handloom Export Promotion Council |Union Budget, Govt. of India
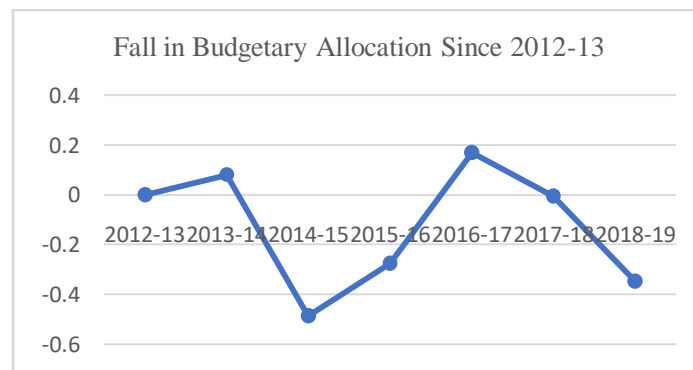
2. LITERATURE REVIEW

Kota Doria is a traditional handloom textile of Rajasthan. Although not much literature is available on the handloom industry of *Kota Doria*, the following reports on the subject, sharing similar objectives of interest have been identified:

• **Srivastava (2016)** in her study on *Kota Doria*investigated the challenges and opportunities in promoting the handloom product in the market. According to the report, although the GI tag for *Kota Doria* has provided assurance to the customers and increased the confidence on quality on one hand; but fakes and imitations at cheaper prices by power looms available in the market caused hinderance to

the demand of authentic handloom textile, on the other hand.

• **Chaturvedi, Malik (2018)** in their study aimed to analyse the financial and marketing conditions of the weavers in *Kaithun*village of *Kota* district. Through cartographic techniques the researcher has identified prevalence of unsold stock of *Kota Doria* and the minimal involvement of small weavers in the marketing activities. These factors along with dominating Master Weavers have contributed towards low income levels of the weavers.

• **Niranjana, Vinayan (2001)** in their study on the handloom weaver communities in Andhra Pradesh had a comparative analysis

with states of Kerala, Karnataka, and Tamil Nadu. They pointed out the need to devise appropriate institutional and structural supports urgent for protecting weaver interests. The need has originated from the presence of resources in a dispersed manner, allowing household-based labourers to use only a small amount of capital.

- **Soundarapandian (2002)** in his study analysed the performance of the handloom industry after the implementation of New Economic Policy in India. Numerous policies had been launched for the sector, however, the research identified that the policies did not adequately address the financial, institutional and other aspects needed to promote weaver welfare.

- **Rajeswari (2013),** in her study of the performance of co-operative silk producers in *Kumbakonamtaluk*of Tamil Nadu, concluded that the shortages of raw materials, problems in the marketing of handloom products, low wage rates and poor credit facilities have contributed towards the poor socio-economic status of the weavers in the region. Inadequate demand and political intervention have also led to the problem of piling up of handloom products stock.

- **Singh (2014)** in his study of the problems and prospects of handloom industry in India concluded that the industry faces multiple problems mainly arising due to shortage of capital and weak marketing networks.

- **Raju and Rao (2014)** in their study on the socio-economic conditions of handloom weavers in *Guntur* district of Andhra Pradesh concluded that independent weavers have better socio-economic statuses than weavers working under the Master Weavers. Occupational diseases were found to be high among the respondents.

- **Goswami and Jain (2014)** emphasised on reducing overall cost, product diversification and differentiation, high quality of raw materials and effective distribution channels to solve the problems of low income and poor-socio-economic conditions of the handloom weavers in India.

- **Shaw (2015)** in the study of the present situation of the traditional handloom weavers of *Varanasi*, Uttar Pradesh, concluded that the capitalist production by the power looms and low labour wage rates have contributed towards the decline of the traditional handloom industry in the region. The incomes earned by the weavers was identified to be insufficient in sustaining the livelihoods, leading to a persistent crisis of indebtedness.

- **Prathap and Naidu (2015)** in his study on the handloom industry in the *VontimittaMandal*in *Kadapa*district of Andhra Pradesh concluded that with majority of the expenditure on food, clothing and medicine, the weavers had been reportedly missing any benefit availed to them under the various government schemes, especially the health insurance scheme provided by the government.

- **Das (2015)** in her dissertation on the handloom weavers in *Bargarh* district, Odisha, observed that poor working conditions, lack of infrastructure and low-income levels have been the major causes of weavers' poor socio-economic conditions.

- **Varghese and Salim (2015)** concluded that financial and management issues and heavy competition from the power loom sector poses the biggest threat to the handloom industry of Kerala. With poor cost competitiveness, the profit margins were identifiably lower.

- **Sadanandam (2016)** conducted a study in *Warangal* district in Telangana to study the socio-economic conditions and standing of the handloom weaver societies. The research identified involvement of people of all age groups in the weaving activity. The supply of raw materials was observed to be of poor quality.

- **Jain and Gera (2017)** in their analytical study of the Indian handloom industry identified lack of financial literacy among the weavers and absence of proper credit facilities, poor quality yarn, and lack of skill training among the weavers to be the root causes of their poor socio-economic conditions.

- **Roy (2017)** analysed the silk handloom industry in *Nadia* district of West Bengal for its problems and performance. The researcher identified low productivity as compared to the power looms and marketing issues to be the major problems faced by the industry.

- **Kumar (2017)** in his study on the handloom weavers of *Karimnagar*district of Telangana identified a declining trend in handloom production over the years from 1995-96. The decline has been attributed to a large number of power looms present in the state.

- **Roy and Chouhan (2017)** in their study on the handloom weavers of *Gangarampur*block in West Bengal analysed the weavers' socio-economic conditions through the evaluation of household standard and quality of living indices.

- **Rao and Sreedhar (2017)** in their study of the socio-economic conditions of the handloom weavers in *GannavaramMandal*of *Krishna* district in Andhra Pradesh observed the incidences of high poverty rates among the weavers along with the poor performance of the co-operative sector.

- **Sen (2018)** studied the condition of handloom weavers in West Bengal. They found that the earning per saree produced is quite meagre, often less than the wages offered under MNREGA for unskilled labourers and the daily wages of construction workers or auto rickshaw drivers.

- **Paul (2019)** in his study in *DakshinDinajpur*of West Bengal aimed to analyse the current status of the handloom industry in the region and identify the problems faced by the weavers. He identified that the collapse of primary weaver cooperative societies escalated the fall in weavers' income levels and

contributed to their poor socio-economic conditions.

2.1 Research Gap

The earlier researches conducted on *Kota Doria* examined the marketing conditions and the challenges lying in the production and sale of *Kota Doriasarees.* Although they revolved around the problems faced by the small weavers, none of the previous researches on *Kota Doria* examine the socio-economic conditions of *Kota Doria* weavers, specifically; with respect to their literacy levels, presence of basic amenities like sanitation facilities, electricity, medium of cooking, sources of drinking water, and asset holding. Not much work has been done in analysing the availability of different government schemes and the fulfilment of their objectives either in the *Kota Doria*handloom industry. The analysis of socio-economic conditions and the standard and quality of living of the weaver households is the research gap identified.

3. RESEARCH OBJECTIVES

The objectives of this research are to:

1. study the socio-economic conditions of the *Kota Doria*weavers in *Kaithun, Kotsuwan,* and *Roteda*regions of *Kota* and *Bundi* districts of Rajasthan
2. ascertain the improvement in standard of living and quality of living of *Kota Doria* weavers
3. analyse the efficacy of government policies in uplifting the socio-economic conditions of the weavers in the study areas
4. see the correlation of revenue earned by the Indian handloom industry with *budgetary allocation, interest rates,* and *prices of raw materials*, and make necessary policy recommendations

4. RESEARCH HYPOTHESES

According to the Handloom Census conducted in 2009-10, the total handloom weaver households residing in rural areas were reported to have an annual income of ₹37,707, thereby giving the monthly income of ₹3142.25. This mean monthly income is taken as the population mean (μ) for both samples. i.e. μ = ₹3142.25

Thus, with the provisional supposition that the government aid has not been efficient in improving the handloom weavers' situations and that they are low on their socio-economic levels, following hypotheses have been designed:

Hypothesis: *Different government policy measures have significantly affected the socio-economic parameters of handloom weavers ($\mu \geq 3142.25$)*

4.1 Research Methods

In this research, *Quality of Living and Standard of Living* have been used as proximate measures to analyse the socio-economic conditions of the weavers.

- The weaver household quality of living index (HQ_L):

  Quality of Living = f (HI, BI, AI)

  HI: Housing Index *BI*: Basic Amenities Index *AI*: Asset Index

- The weaver household standard of living index (HS_L):

  Standard of Living = f (HyI, LI, SI)

  HyI: Hygiene Index *LI:* Literacy Index *SI:* Social Security Scheme Index

4.2 Research Methodology

- To study the socio-economic conditions of the weavers of *Kota Doria* in *Kaithun* and *Kotsuwan* region in *Kota* district and *Roteda* region in *Bundi* district of Rajasthan, a primary research was conducted through a structured interview schedule. The aspects on which data collection was focused on is given in the appendix.
- The data was collected from *Kaithun* and *Kotsuwan* regions in *Kota* district and *Roteda* region in *Bundi* district using *Purposive, Snowball, and Simple Random Sampling Techniques*. A total of *83 households* were surveyed in the *three regions in two districts of Rajasthan*. Two distinct samples have been collected.

$n = n_1 + n_2$

n_1 is the sample of size 50 collected from *Kaithun* and n_2 is the sample of size 33 collected cumulatively from *Kotsuwan* and *Roteda.* Since a high degree of similarity exists between the samples collected from *Kotsuwan* and *Roteda,* they have been taken as one unit.

$n_2 = n_2' + n_2''$

n_2' is the sample collected from *Kotsuwan* and n_2'' is the sample collected from *Roteda.*
- The data so collected has been presented with the help of simple *cartographic techniques* (i.e., using pie charts, bar graphs, etc.)
- The *Household Quality of Living (HQ$_L$)* and *Household Standard of Living (HS$_L$)* indices have been calculated by making use of *simple average method.*
- Hypothesis testing is done using the *z test* for normal distribution, since n is sufficiently large (i.e., n > 30) for both samples n_1 and n_2 (n_1 = 50 and n_2 = 33).

5. RESULTS AND DISCUSSIONS
A) Socio-Economic State
1. *Age Distribution of Weavers*
The data collected shows that people of all age groups are engaged in weaving in the two samples with the maximum frequency in the age range from 45-55 years.

Age	Frequency	Percentage
15-25	7	8%
25-35	21	25%
35-45	11	13%
45-55	26	31%
55-65	11	13%
65-75	7	8%
Total	83	100%

Age Composition of the Handloom Weavers
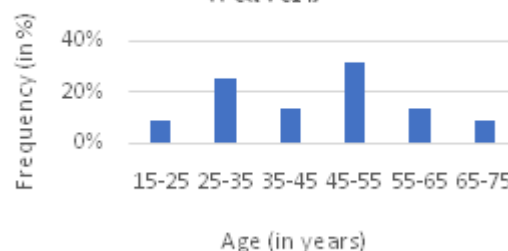
However, the research found that now only about 35% of the weavers are engaged in weaving as full-time occupation. This indicates that weaving is not an economically feasible occupation and is less likely to continue being transmitted inter-generation.

2. *Gender-wise Distribution*
The primary data collected reports the dominance of

Muslims weavers in the industry. Of all the total 83 households surveyed, 100% of the weavers were Muslim.

Thus, the industry clearly provides huge potential for social welfare of the Muslim.

About 90% of the weavers surveyed were found to be women.

Gender	Kaithun ($n_1 = 50$)		Kotsuwan&Roteda ($n_2 = 33$)	
	No. of Weavers	Percentage	No. of Weavers	Percentage
Male	9	9%	3	4%
Female	90	91%	76	96%
Total	99	100%	79	100%

GENDER COMPOITION OF WEAVERS IN KAITHUN

Male
9%

Femal
e
91%
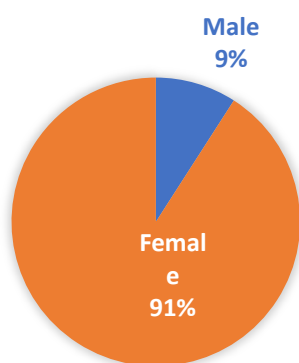
GENDER COMPOSITION OF WEAVERS IN KOTSUWAN & ROTEDA

Male
4%

Female
96%
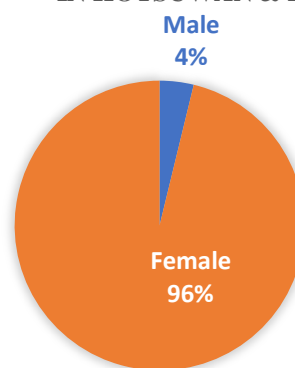
3. Literacy Level of Weavers

The study reports that majority of the adult weavers are uneducated. The variable *education* has been studied in terms of the level of schooling of the weavers. Only 2 respondents from *Kaithun* had done post-graduate studies, the highest level of education reported.

Education	Kaithun ($n_1 = 50$)			Kotsuwan&Roteda ($n_2 = 33$)		
Level	Uneducated	Educated	Percentage Educated	Uneducated	Educated	Percentage Educated
	44	6		30	3	
Primary	-	1	17%	-	0	0%
Middle	-	2	33%	-	2	29%
10th	-	1	17%	-	1	14%
12th	-	0	0%	-	0	0%
Higher	-	2	33%	-	0	0%
Percentage	88%	12%		90.90%	9.09%	

Thus, the research show that about 90% of the workforce engaged in weaving occupation is uneducated, and the dropout ratio of the ones who have attended school is at an average of 66.67% (of the total in both samples). This places an emphasis on the handloom industry in terms of providing employment to unskilled and semi-skilled segments of the population.

4. *Income Level of Weavers*

The monthly income distribution of the weavers as per the data collected from the study areas is as follows:

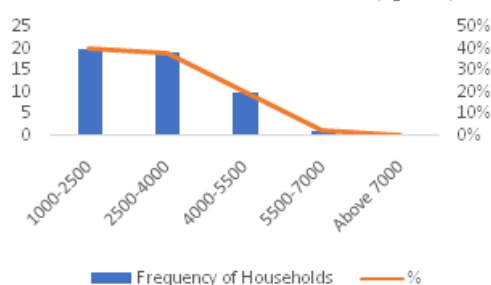| Monthly Income (in ₹)	Kaithun ($n_1 = 50$)		Kotsuwan&Roteda ($n_2 = 33$)	
	Frequency of Households	%	Frequency of Households	%
1000-2500	20	40%	9	27%
2500-4000	19	38%	22	67%
4000-5500	10	20%	2	6%
5500-7000	1	2%	0	0%
Above 7000	0	0%	0	0%
Mean Income	₹2790/-		₹2764/-	

These reported monthly incomes from the weaving activities are significantly low, further indicating the economic infeasibility of weaving as an occupation. The mean monthly income distribution of the weavers from the two samples show the staggering inequalities present between the people earning in the range of ₹2500-4000 and more than ₹7000 a month

5. *Family Size*

Family Size		Kaithun ($n_1 = 50$)		Kotsuwan&Roteda ($n_2 = 33$)	
		No. of Weaver HHs	%	No. of Weaver HHs	%
< 4	Small	10	20%	2	6%
4 to 6	Medium	25	50%	10	30%
> 6	Large	15	30%	21	64%

Monthly Mean Income Distribution of Weaver Households in Kaithun ($n_1 = 50$)

Monthly Mean Income Distribution of Weaver Households in Kotsuwan & Roteda ($n_2 = 33$)
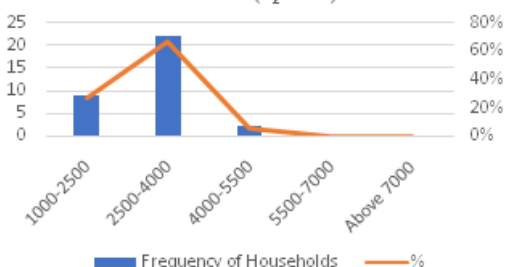
50% and 30% households in *Kaithun*, and 30% and 64% households in *Kotsuwan* and *Roteda* are living with medium sized and large families, respectively.

6. Schemes for Weavers

Although 58% *Bunkar*Card holders in *Kaithun*, only about a mere 2% have gained its benefits. On the other hand, in *Kotsuwan*and *Roteda*regions, about 64% of the households surveyed do not even hold the Weavers' Card; whereas none of the remaining 36% households who own the card have benefitted from it.

None of the other government schemes for the handloom weavers' have been availed to the households surveyed in both sample study areas. Only about 10% of the weaver households surveyed were reported to be aware about the schemes; however, the difficulties of continuous and long follow ups with the concerned departments and presence of a large number of intermediaries prevented these weavers from availing benefits of these schemes.

96% of the weaver households in *Kaithun*and all weaver households in *Kotsuwan* and *Roteda*work as hired labourers under the Master Weaver.

B) Social Well-Being
- **Quality of Living Index (Q_L)**

	Housing Index (a)		Basic Amenity Index (b)								Asset Index (c)		Total (a + b + c)	
			EI		SI		WSI		LPGI					
	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2
HQ_L	0.46	0.33	0.76	0.45	0.60	0.36	0.56	0.24	0.58	0.21	0.50	0.30	1.585	0.94

- **Standard of Living Index (S_L)**

	Hygiene Index (a)				Social Security Scheme (b)								Literacy Index (c)		Total (a + b + c)	
	TI		WI		WCI		APLI		BAI		II					
	1	2	1	2	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2	n_1	n_2
HS_L	0.60	0.36	0.56	0.24	0.58	0.36	0.48	0.24	0.56	0.39	0.06	0	0.12	0.09	1.12	0.64

The degree or extent of Quality of Living and Standard of Living is evaluated based on the following criteria:

QL or SL Index Range	Degree
> 2	High/Good
1 < Index < 2	Moderate
< 1	Low/Poor

The indices obtained as per the research are as follows:

Indices	Kaithun (n_1 = 50)	Kotsuwan&Roteda (n_2 = 33)
Household Quality of Living Index (HQ_L)	1.585	0.93
Household Standard of Living Index (HS_L)	1.12	0.6409

Analysis from the HQ_L and HS_L

1. Kaithun: Sample 1 (n_1 = 50)

- As the HQ_L lies in the moderate range (1<1.585<2), it indicates the lower moderate socio-economic conditions of the weavers.

- The index obtained from statistical analysis affirms the findings of the primary research that hinted at the low levels of quality living among people.

Credits: clicked by the researcher herself

The cluster is approximately 19 km from the city, *Kota*. It is owing to this proximity to the urban region that the weaver households are diversifying their sources of income by finding jobs in the city. This helps them maintain their quality of living (which consists of the type of housing, the presence of basic amenities in the household, and the asset holdings of the weaver households) at a moderate index of 1.59 on an average.

- The Standard of Living Index of 1.12, falling in the lower moderate category (1<1.12<2), provides further evidence of the low levels of socio-economic conditions of the weavers residing in the area.

- The unawareness and lack of accessibility of the different government schemes and policies for weaver welfare to the weavers in the region add to the poor socio-economic conditions, thereby restricting their standards of living from improving.

2. Kotsuwan and Roteda: Sample 2 (n_2 = 33)

- As both HQ_L and HS_L are less than 1, they indicate the poor socio-economic conditions of the handloom weavers.

- Unlike the first sample, both villages of *Kotsuwan* and *Roteda* are relatively far from the main urban city, *Kota*, and is in the interiors. This limits the ability of the weaver households to diversify their sources of income to relatively higher earning occupations.

Credits: clicked by the researcher herself

- The lack of reach of government schemes and policies to the weavers, lack of awareness, and illiteracy further contribute to their pityingly poor socio-economic conditions and standards of living, as also reported by the different socio-economic variables in the primary research conducted.

The results obtained apply to the whole population and the sample estimates, thus, represent the population as the sample size is sufficiently large (n>30). Therefore, the study shows that the socio-economic conditions of the *Kota Doria* weavers is poor.

6. EMPIRICAL FINDING AND HYPOTHESES TESTING

The research hypotheses formulated is as follows:

Hypothesis: Different government policy measures have significantly affected the socio-economic parameters of handloom weavers ($\mu \geq 3142.25$)

The two samples collected—sample 1 from *Kaithun* and sample 2 from *Kotsuwana* and *Roteda*, collectively—are of large size, where, $n_1 = 50$ and $n_2 = 33$. Thus, z test for single mean has been used to test the hypothesis. A left-tailed test must be performed.

$$Zc = \frac{\bar{x} - \mu}{s1/\sqrt{n}}$$

efficacy of various government policies in both study areas.

Hypothesis testing is done for both samples 1 and 2, separately, to test the

	Kaithun	*Kotsuwan&Roteda*
Sample size (n)	50	33
Sample mean $(\bar{x})$	Rs. 2790	Rs. 2764.29
Population mean (μ)	Rs. 3142.25	Rs. 3142.35
Modified sample std. dev. (s_1)	Rs. 1116.16	R. 700.47
Confidence Interval	95%	95%
Computed z value	-2.231	-3.098

Thus, *H_0 is rejected at 5% level of significance for both samples.*

Thus, the proposition that various government policy measures have significantly affected the socio-economic parameters of handloom weavers is rejected.

6.1 Findings

- The following HQ_L and HS_L estimates obtained provide evidence of the poor socio-economic conditions of the *Kota Doria*weavers in *Kaithun, Kotsuwan,* and *Roteda*:
  - HQ_L of 1.59 and SQ_L of 0.93 for *Kaithun* – poor quality and standards of living
  - HQ_L of 1.12 and SQ_L of 0.64 for *Kotsuwan&Roteda* – poor quality and standards of living
  - The following z variates calculated for 95% confidence intervals prove that government policy measures have failed to uplift the weavers' living standards:
    Z = -2.23 for *Kaithun*
    Z = -3.09 for *Kotsuwan&Roteda*

Computed values of z
(-2.23 and -3.09) fall in the critical region

z = -1.645
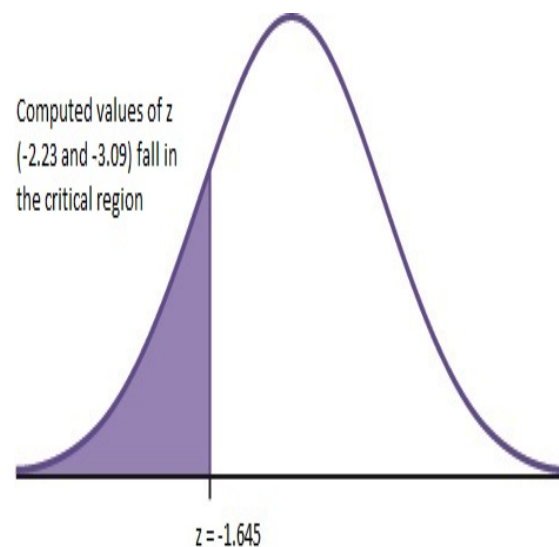
Therefore, the z test conducted on both the samples indicate a lack of efficacy of government policies for weaver welfare. The socio-economic conditions of the weavers are poor. The government schemes and policies have caused no increments in the mean income of the population compared to that of 2010. They have, instead, decreased the mean income of the populations (μ) from that of 2010 levels, as proven from the rejection of null hypothesis.

6.2 Correlation Analysis—A Further Attempt to Assess Economic Viability of Handloom Weaving

With *Kaithun, Kotsuwan*and *Roteda*having low values of the HQ_L&HS_L, it has been

established that the socio-economic conditions of the handloom weavers in India is poor. The failure of various government policies in uplifting the weavers' income levels has also been concluded from the statistical hypothesis testing. Therefore, a ***correlation analysis*** of the revenue earned by the industry with variables such as prices of raw materials, interest rates and budgetary allocation, has been performed to evaluate where the lacuna lies in the expected and present

Revenue is expressed as a function of the output and the various factors that affect the cost of production and earnings.

$$R = f (P_Y, P_D, i_f, B)$$

where,
R = revenue
P_Y = prices of yarn
P_D = prices of dyes & chemicals
i_f = formal interest rate
B = budgetary allocation to the handloom sector

Year	Revenue (in ₹ crores)	Yarn (in ₹ per kg.)	Dyes & Chemicals (in ₹ per kg.)	Interest Rates (%)	Budget (in ₹ crores)
2012-13	2812.32	123.14	75.67	8.5	607
2013-14	2233.11	141.71	98.29	9.0	656
2014-15	2246.48	145.58	134.09	8.5	312
2015-16	2353.33	136.63	119.70	6.0	440
2016-17	2392.21	163.52	100.33	6.0	710
2017-18	2280.19	162.57	93.53	6.0	604

revenue generation.

Source: Annual Reports (2012-13 to 2017-18), Ministry of Textiles, Government of India | RBI Website

Correlation Analysis

	Yarn	*Dyes & Chemicals*	*Interest Rate*	*Budgetary Allocation*	*Revenue*
Yarn	1				
Dyes & Chemicals	0.171106	1			
Interest Rate	-0.58784	-0.06305	1		
Budgetary Allocation	0.265601	-0.79841	-0.15749	1	
Revenue	-0.61259	-0.66343	0.159892	0.247022	1

6.3. Interpretation and Findings

From the correlation analysis, it can be seen that:

- Prices of raw materials (yarn, dyes & chemicals) have a negative correlation with the revenue generation of handloom industry. Although various schemes have provisions of supplying raw materials at subsided rates to the

weavers, lack of accessibility of these schemes to the small weavers lead to the absence of any benefits being drawn from them.

- The small positive correlation coefficient between formal interest rates and revenue indicate that the weavers have had little access to proper credit facilities, and still majorly rely on Master Weavers,

relatives, and other informal money lenders for loans.

- The small positive correlation coefficient between revenue and budgetary allocation diverges greatly from the expected large correlation. This is an indicator of the inefficient fund disbursal from government schemes towards their specified objectives.

7. POLICY RECOMMENDATIONS

Based on the findings of the study, following policy recommendations have been made:

- A proper financial and institutional setup is needed to ensure timely availability of these schemes to small weaver households.
- Setting up of more IIHTs to provide formal skill training to weavers.
- Subsidies should be granted to the handloom weavers to help them lower their costs of production, thereby increasing the profit margins.
- Promotion of use of ICT and its awareness amongst the handloom weavers would help them get information, helping them in production and marketing of their textiles. This information must be availed free of cost.
- Weavers should be provided an online platform for sales. Each weaver should be able to freely access these platforms without being in the clutches of the Master Weavers.

8. CONCLUSION

Handloom industry holds an important place in the Indian economy. Providing employment to approximately 43 lakh handloom workers, it is the second largest employment generator in the rural sectors of the country. A plethora of schemes and policies for the weaver welfare have been launched by the government. However, they fail to uplift the socio-economic statuses of the weavers. The study conducted on the weavers of *Kota Doria* present in the sampling regions of *Kaithun*(sample 1) as well as *Kotsuwan*and *Roteda*(sample 2) both show extremely poor levels of socio-economic conditions of the weavers, also indicated by the low quality of living and standard of living indices calculated for the weaver households using the primary data. Majority of the weaver households were found to be living in *kaccha*houses and lacked proper electricity and sanitation facilities. The z variate computed for the two samples further solidifies the situation of a lack of efficacy of the government measures towards weaver upliftment. The average annual income earned by the weavers was found to even lower than the annual income earned by the semi-skilled labourers under the prescribed minimum wage rates by the government.

Additionally, the economic viability of handloom weaving was further found to be significantly low. The low coefficient of correlation obtained, especially, between the revenue and budgetary allocation by the government confirmed the inefficient fund disbursal and their failure in meeting the targets. The correlation coefficient between revenue and interest rates also indicated the weavers' inaccessibility to the formal and efficient credit facilities.

It was also 98% of the respondents interviewed worked under the master weaver. The dominance of the master weavers prevailing in the study regions hint at a resemblance to the *zamindari* system. Such intermediaries, lack proper credit facility to the weavers, supply side bottlenecks, absence of effective skill training, and most importantly, unawareness about the various policies and schemes cause the standards of living and

socio-economic conditions of the weavers to be at lower margins.

AUTHOR DECLARATION

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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APPENDIX

Age & Gender	Number of handlooms present in the household (if present)	Ration Card (BPL) Holders Yes/No
Religion	Number of weavers working on the loom	Any other card holders?
SC/ST/OBC/General	Number of woman weavers	Bank Account (Yes/No)
Number of family members; male/female/children	Number of male weavers	Bank loan taken (Yes/No)
Educated/Uneducated; if yes then, Qualification: primary/ middle/ secondary/ senior secondary/ undergrad/ higher	Would you want your children to continue weaving as an occupation? (Yes/No)	Amount of loan taken, and interest charged on loans by bank
If children go to school; Government/ private school?	If working under Master Weaver/ SHG/ individual	Other mediums of fund borrowing: friends/relatives/master weaver? At what interest rate?
*Kaccha*house/*pakka house*	Number of sarees produced in a week/month	Beneficiary of MUDRA Yojna/not
Electricity present/absent	Time engaged in weaving per day	Weavers' Credit Card holders/not
Skill training (Yes/No)	Time taken per saree	Beneficiary of any government scheme/not; if yes, then which?
Kerosene stove (*chulha*)/ LPG stove	Weekly/monthly income from weaving	Any insurance taken?
Water supply: lake/ well/ handpump/ community tap/ pipeline	Procurement of yarn: market/NGO/master weaver	Weekly/monthly expenditure
No vehicle/ bicycle/ motorbike/ tractor/ car/ other vehicles (if present, how many)	Average raw material (yarn) cost	Major sources of expenses: general grocery/ medicines/ other health expense/ fuel/ bills/ yarn/ others
Cattle/ livestock (present/absent)	Indulged in agriculture (Yes/No)	Toilet in the house present/absent
How do you sell the finished products (sarees): master weaver/ SHGs/ NGO/ directly in the market (if so, how far is the market)	Own farm land/rented/hired labourers?	Electric bulb/ Electric Fan/ Cooler/ Refrigerator/ Television/ any other electric appliance (present/absent)
Income from other sources?	Sources of income other than weaving?	