



Inputs Management and Various Terminal Products for the Livelihood Generation of *Bandha* Weavers of Cuttack District of Odisha

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ABSTRACT

The study was conducted in Tigiria, Baramba and Banki damapara blocks of Cuttack district of Odisha having 153 *Bandha* weavers. Raw materials used for fabric production were yarn and dyes. Majority (56.20%) of respondents use only mercerised cotton and mercerised cotton with silk (31.37%), synthetic dyes (98.69%) and natural with synthetic dyes (1.31%). No one used natural dyes. Types of synthetic dyes used were mostly vat dye with naphthol and acid dyes. They mostly depend on multiple sources like master weavers, local markets and weavers' co-operative societies to get their required raw materials and selling of products, indicating majority of respondents were very poor socio-economic status. Nuapatana *Khandua* silk saris, *maniabandha* cotton saris, cotton, silk and tasar *Bandha* yarns, and lord's fabrics of famous Jagannath Temple, Puri using single *Ikat* technique prior to 12th century were the unique traditional *Bandha* products of Cuttack district of Odisha. So some recommendations were forwarded to Govt. for sustainability of such indigenous *Bandha* products as well as improvement in livelihood system of *Bandha* weavers in the coastal part of Odisha.

Key Words: *Bandha*, *Bandha* weavers, Cuttack District, Dyes, Fabrics, Handloom, Yarn.

INTRODUCTION

Indian handloom industry is a part of country's culture and one of the oldest cottage industries diffused widely throughout the country. It contributes nearly 15% of the total cloth production and 95% of the world's hand-woven fabric comes from India. This sector has been sustained by transferring skills from one generation to another and the strength of this sector lies in its uniqueness, flexibility of production, openness to innovations and adaptability to the supplier's requirement (Banerjee *et al*, 2019). This industry has inherent linkage with agriculture, culture and traditions of the country making its versatile range of products appropriate for both domestic and the export markets. It contributes to 7% of industry output in value terms, 2% of India's GDP and 15% of the country's export earnings. With over 45 million people employed directly,

the textile industry is one of the largest sources of employment generation in the country. Among cotton, wool, silk and jute, cotton provides 25% of total global fibre production (Anonymous, 2017). Next to agriculture it provides a major source of employment to the rural people in India (Jayavel, 2013). It plays a very imperative role in India's economy and has the potential to create ample opportunities of employment generation amongst the rural & semi-rural livelihood (Anonymous, 2015). It is a traditional technology to produce special fabrics as well as ordinary fabrics by using yarns, unique colour combinations and elegant designs in rural and semi urban areas scattered throughout India (Sengupta *et al*, 2008). Handloom fabrics are organic as organic fibres such as cotton, silk, wool, linen, hemp or its blends are used in it (Bose, 2016). Handloom creates sustainable rural

job opportunities for the weavers and artisans across Odisha. Odisha holds 5th position in India in registered GIs (14) after Karnataka (31), Andhra Pradesh (20), Kerala (20), and Tamil Nadu (18). Out of 14 goods, 9 textile items are registered by the Department of Textiles, Government of Odisha and *Ikat* fabrics come under registered goods (Raja and Chaudhary, 2013).

Ikat technique is one of the oldest and ancient methods of fabric ornamentation. It is defined as the evolvement of designs by the hand resist dyeing process in yarn/fabrics. Basically, the *Ikat* in yarn resist method of ornamentation for fabric is quite different from that of fabric *Ikat*. The yarn resist process is widely adopted method of ornamentation with intricacy, fineness and craftsmanship throughout the design development rather than that of fabric *Ikat* ornamentation (Behera and Khandual, 2017 and Behera *et al*, 2019).

Bandha design of Odisha is internationally termed as *Ikat*, nationally termed as Tie and Dye. In fact the term *Ikat* is derived from the Malayan word *Magnikat* which means to bind, knot or wind around (Mohanty and Krishna, 1974). Single *Bandha*/single *Ikat* design requires dyeing of either warp or weft threads but in double *Bandha*/double *Ikat* both the threads are dyed to bring the colour according to the design. *Bandha* technique of weaving is much more intricate than simple handloom weaving (Das *et al*, 1994).

Odisha has the tradition of *Ikat* in districts mainly Bolangir, Subanapur, Bargarh, Boudh and Cuttack (Anonymous, 2008). Wide varieties of fabrics such as *Khandua*, *Tarabali*, *Nabakothari* of Cuttack district, *Saktapar*, *Bichitrapar*, *Sachipar*, *Utkal laxmi* of western Odisha are the unique traditional *Bandha* products reflecting the essence of traditional way of life with expression of their unparallel craftsmanship (Anonymous, 2017).

Nuapatna village of Tigiria block of Cuttack district of Odisha occupies a distinct place in the handloom map of the state having 5000 registered weavers. It is famous for its *Khandua* handloom.

But *Bandha* weavers are struggling for survival owing to competition from cheap machine-made products (Panda and Parida, 2019). *Gitagobinda Khandua Pata* is a special silk fabric on which *Gitagobinda* lyrics are written on *Ikat* technique. This fabric also called *calligraphy* fabric, having verses of *Gitagobinda Kavya* (Patra, 2015).

In the above context, the present research work was carried out at College of Community Science, Department of Textile and Apparel Designing under Orissa University of Agriculture and Technology, Bhubaneswar, Odisha with the objective to study of different types of raw materials and its sources, various terminal products and the effect of social variables on input use and making terminal products.

MATERIALS AND METHODS

The study was conducted in three *Bandha* producing blocks namely Tigiria, Baramba and Banki-II/Banki damapara of Cuttack district, coming under east coastal plain zone of Odisha. Ex-post facto survey research design was considered to gather data. The district, sub-divisions, blocks, gram panchayats were selected purposively. Simple random sampling techniques were followed to select villages and respondents making the total sample size of 153.

Techniques employed

Personal interview and focused group discussion techniques were used for collection of information from respondents of selected villages by close ended questions. The data collected were tabulated and statistically analyzed with the help of frequency, percentage, Pearson's correlation coefficient and multiple regression.

RESULTS AND DISCUSSION

Types of yarn

The data (Table 1) revealed that majority of respondents (56.20%) had used only mercerised cotton followed by mercerised cotton with silk (31.37%). (1.96%) were using plain cotton with mercerised cotton and also silk with tasar. (1.30%)

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Table1. Profile of the raw materials used and its sources.

(n = 153)

Sr. No.	Raw materials used and its sources	Frequency	Percentage
1.	Types of yarn		
	Plain cotton with mercerised cotton	3	1.96
	Only mercerised cotton	86	56.20
	Only silk	11	7.18
	Mercerised cotton with silk	48	31.37
	Silk with tasar	3	1.96
	Mercerised cotton with silk with tasar	2	1.30
2.	Type of dye		
	Synthetic dyes	151	98.69
	Natural dyes + synthetic dyes	2	1.31
3.	Type of synthetic dye		
	V+N (for Cotton)	90	58.83
	A(for Silk and Tasar)	14	9.15
	V+N+A(for both Cotton and Silk)	47	30.72
	V+N+R(for Cotton)	1	0.65
	V+N+R+A (for Cotton and Silk)	1	0.65
4.	Source of raw material		
	Only Weavers co-operative society	3	1.97
	Only Boyanika (The Apex society)	1	0.65
	Only MW	36	23.53
	Only LM	30	19.61
	WCS with MW	28	18.30
	WCS with LM	18	11.76
	MW with LM	11	7.19
	WCS with MW with LM	26	16.99

V= Vat dye, N= Naphthol dye, A= Acid dye, R= Reactive dye, WCS=Weavers Co-operative Society, LM=Local Market, MW=Master Weaver

mercerised cotton with silk and tasar and (7.18%) silk only. It was found that majority of the *Bandha* weavers in the study area were using mercerised cotton yarn and also mercerised cotton with silk yarn in *Bandha* weaving.

Type of dye

It was evident (Table 1) that vast majority of respondents (98.69%) were using synthetic dyes and not a single respondent had used natural dyes. Only (1.31%) of the respondents were using natural with synthetic dyes. The probable causes may be synthetic dyes are easily and abundantly

available all the time in the local market at low cost in comparison to natural dyes. Besides natural dyes extraction requires more time and also poor availability of natural dyes in local market.

Type of synthetic dye

Further attempt has been made to know the types of synthetic dyes used by the respondents and found (Table 1) that majority of respondents (58.83%) were using vat dye with naphthol followed by vat dye with naphthol and acid (30.72%). Very few respondents (0.65%) were using vat dye with naphthol and reactive as well as vat dye with naphthol, reactive and acid. Less percentage (9.15%) of the respondents were using acid dye. Since majority of the respondents were weaving only mercerised cotton followed by mercerised with silk, naturally they have to use vat dye with naphthol along with acid dyes.

Source of raw materials

Critical look (Table 1) revealed that *Bandha* weavers were facing constraints in getting raw

materials easily and depend on multiple sources. It might be the reasons for which they are only concentrating in weaving for their livelihood and due to lack of finance they cannot built their own enterprise and work as piece rate worker under WCS, master weavers and traders to get the raw materials.

Types of *Bandha* products and *Bandha* yarn produced

As majority of the respondents were weaving cotton and silk products with synthetic dyes, so further attempt was made to examine the types of products and *Bandha* yarn produced by the respondents. It was found (Table 2) that majority of the weavers were making cotton and silk *Bandha* saris and produced *Bandha* yarns. They usually supplied such *Bandha* yarns to other places where weavers do not know the *Bandha* work. Origin and production of the fabric for Lord Jagannath temple, Puri is the uniqueness of Nuapatana village under Tigiria block of Athagarh sub-division of Cuttack district in Odisha. But they produced less quantity

Table 2. Types of *Bandha* products and *Bandha* yarn produced. (n = 153)

Sr. No.	Type of fabric	Frequency	Percentage
1	BY (cotton, silk and tasar)	51	33.33
2	CS+SS+ <i>Gitagobinda Khandua</i>	5	3.27
3	SS	13	8.49
4	CS	19	12.42
5	BY+SS	8	5.23
6	BY+CS	10	6.54
7	CS+SS	18	11.76
8	BY+CS+SS	10	6.55
9	CS+SS+TS	2	1.31
10	CS+SS+Dress materials+Decorative items	7	4.57
11	BY+Star lungi+Dhoti joda	1	0.65
12	CS+SS+Stole(silk)	3	1.96
13	CS+SS+TS+Stole(silk and tasar)+Decorative items	4	2.61
14	CS+SS+Furnishing items	2	1.31

BY=*Bandha* Yarn, CS=Cotton Saris, SS=Silk Saris, TS= Tasar Saris

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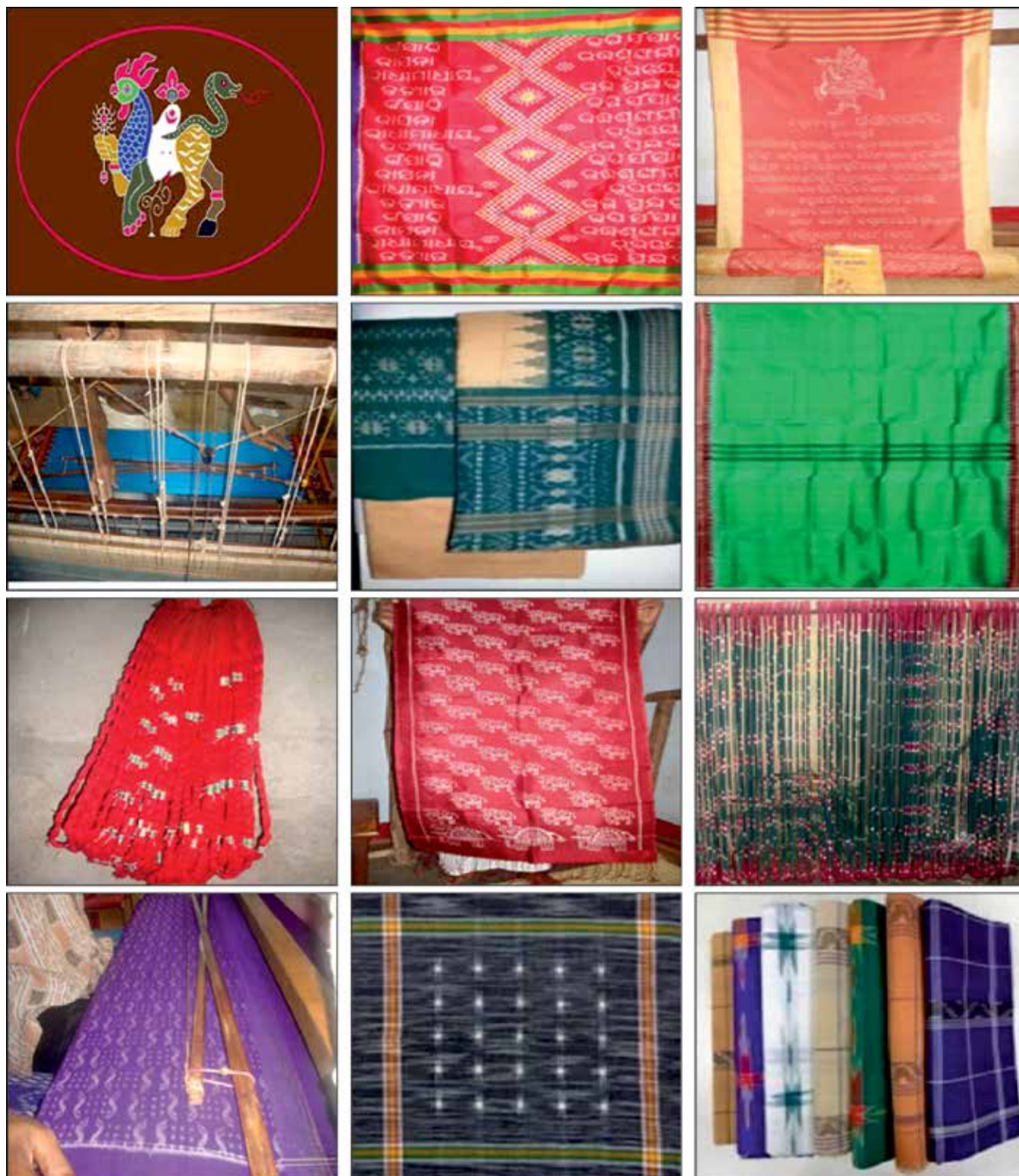


Figure1. Different *Bandha* fabrics [a-wall hanging (*Nabagunjara*),b-Lord's fabric,c-*Gitagobinda* lyrics, d-*Khandua* silk sari,e-dress material, f-dhoti joda, g-silk *Bandha* yarn, h-silk stole, i-cotton *Bandha* yarn,j-bed cover, k-napkin and l-star lungi] from left side to right]

Table 3. Influence of socio-economic variables on input use and terminal products. = 153

Sr.No.	Variable	Correlation ('r') value
X ₁	Age	-0.680**
X ₂	Gender	-0.115
X ₃	Family type	-0.201*
X ₄	Education	-0.244**
X ₅	Caste	-0.089
X ₆	Card holder	-0.174*
X ₇	Occupation	-0.249**
X ₈	Work experience	-0.057
X ₉	Sources of learning	-0.078
X ₁₀	Working hours per day	-0.476**
X ₁₁	Accommodation facility	-0.054
X ₁₂	Possession of tools and techniques	-0.065
X ₁₃	Work category	-0.520**
X ₁₄	Membership status	-0.059

** Significant at 0.01 level, * Significant at 0.05 level

of dress materials, stoles, dhoti joda, star lungi, furnishings and decorative items. Less tasar fabrics were produced because of less availability of the raw materials i.e. cocoons. Some unique *Bandha* products photos are shown at fig.1.

Influence of socio-economic variables on input use and terminal products

Acquiring knowledge and adoption of technologies are the multiple functions of personal, social, psychological and economic attributes associated with the individuals. Attempt was therefore made to assess the influence of socio-economic variables covered under the study that influence input use and terminal production.

It was revealed (Table 3) that gender status, caste, work experience, sources of learning, accommodation facility, possession of tools and technique and membership status had no influence in accelerating input use and terminal products. At the same time age, family type, education, card holder, occupation, working hours per day and work category had influenced negatively. Findings were

that socio-economic variables of the respondents covered under study had no influence in accelerating input use and terminal products.

So further attempt was made to locate the important socio-economic variables to assess the causal impact on the consequent factors. Therefore multiple regression analysis was made to locate the pertinent variables.

Findings (Table 4) revealed that the best fitted regression could explain 57.20% of the total variance in influencing the input use and terminal products by the respondents. Among the fourteen variables age, gender, work experience, working hours per day and work category attributes of the respondents found to influence significantly on input use and making terminal products.

CONCLUSION

The weavers in the study area have the traditional occupation of weaving. They were usually resource poor and fully depend on weaving for their livelihood. Almost all the respondents

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Table 4. Multiple regression of socio-economic variables influencing input use and terminal products. (n = 153)

Sr. No.	Variable	Unstandardized Coefficient		Standardized Coefficients		't' value	Probability
		Beta	Std. Error	Beta	Std. Error		
X ₁	Age	-4.262	.822	-.643	.058	-5.183**	0.000
X ₂	Gender	-5.879	2.419	-.138	.262	-2.430*	0.016
X ₃	Family type	-0.656	1.111	-0.051	0.000	-0.590	0.556
X ₄	Education	-0.015	0.511	-0.004	0.115	-0.030	0.976
X ₅	Caste	-0.936	0.995	-0.118	0.097	-0.941	0.348
X ₆	Card holder	-0.238	0.558	-0.036	0.263	-0.427	0.670
X ₇	Occupation	-0.717	0.500	-0.210	0.147	-1.435	0.154
X ₈	Work experience	2.248	0.911	0.224	-0.099	2.468*	0.015
X ₉	Sources of learning	0.974	0.730	0.220	0.314	1.335	0.184
X ₁₀	Working hours per day	1.486	0.790	0.259	-0.046	1.880	0.062
X ₁₁	Accommodation facility	1.609	0.994	0.143	0.058	1.620	0.108
X ₁₂	Possession of tools and techniques	-0.227	1.004	-0.018	-0.139	-0.226	0.821
X ₁₃	Work category	-0.723	0.358	-0.396	0.250	-2.021*	0.045
X ₁₄	Membership status	0.456	0.504	0.114	-0.083	0.904	0.367

R² – 0.572 Adj. R² – 0.529 S.E. – 3.320

were using mercerised cotton, mercerised cotton with silk and synthetic dyes. The respondents were procuring raw materials from various sources indicating their constraints. Due to lack of finance, they cannot build their own enterprise and work as piece rate worker under Weavers co-operative society, master weavers and traders to get the raw materials. They also struggling with cheap machine-made products. The respondents were mostly producing *Bandha* yarns and *Bandha* saris for their livelihood. *Gitagobinda Khandua* in the study area has its uniqueness not only in Odisha but also in the country as a whole. So, it is essential to sustain the *Bandha* products as well as the livelihood security of the *Bandha* weavers as it is a traditional art and culture of Odisha. It is therefore suggested to Govt. to take initiatives such as convenient infrastructural facilities, abundant supply of natural dyes, give emphasis on colour quality and colour combination,

trainings on new designs, conversion charge should be increased since it is laborious and an traditional art of Odisha, establishment of weekly market, introduction of handloom dress code and handloom course compulsory in all types of institutions for its uniqueness and marketing, introduction of special scheme for *Bandha* weavers, strengthening of the cooperative sectors etc. to increase their economic conditions and livelihood system as well as sustainability of indigenous *Bandha* products.

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