

# A Statistical Investigation on present condition of Tant: A case study of Sirajgonj district, Bangladesh

Mst. Dilara Pervin, A. S. M. Abu Saeed, Md. Sabuj Ali, Dr. Papia Sultana

## Abstract:

Tant industry is the biggest handicraft industry in our country. At present Tant are declining day by day. The aim of the study to identified the existing problems in the Tant industry, evaluate the socio-economic condition of the workers associated with the Tant industries including Tant households. For this study, data are collected with SRSWOR. Our research project based on the prospective pilot study of survey on Present condition of Tant. Original sampling method is multistage cluster sampling. The linear regression model was performed to analyze the factors affecting the deviation of income index. By Enter method, we do not get the appropriate model, so we get the appropriate model we use to perform another method namely "Forward method". According to this method in 12th step it consists twelve variable which is Yearly expenditure, No of family members, Perception on Tant are declining day by day, Initial investment, Source of loan, Marital status, Family status, No of Tant at beginning, Involving with Tant since boyhood, Education level, Additional job, Designing cloth. We observed that Yearly expenditure, No of family members, perception on Tant are declining day by day, Initial investment, Source of loan, No of Tant at present, Involving with Tant since boyhood, Education level, Additional job, Designing cloth are significant ( $P < 0.001$ ) to the deviation of income index whereas Marital status, Family status are insignificant effect to the deviation income index.



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## Introduction

As the key element of introduction and evolution of civilization which can be identified easily at first, that is cloth. When influence of civilization on the primitive society was started, from that time the primitive people wore leaf of tree, bark and leather of beast as cloth, evolved day by day turn into modern cloths, to cover themselves. One of the elements of this evolution is "Tant". Tant sector in Bangladesh consists of more than 0.505 million Tant and 1.0 million Tant weavers. But only 0.3 million looms are active (59% of existed looms) and that provides around 620 million meters of fabric (about 40% total demand of the population) annually. About more than 1.5 million people are directly and indirectly involved for their livelihood. Tant industry is the biggest handicraft industry in our country; it is the second largest source of rural employment after agriculture and technology could be best green technology to fulfill basic needs of human i.e., clothing. Tant sector has a great deal of potential for further value addition in the RMG (Readymade garment) sector for further meeting local needs of fabrics and expanding sales of its products directly in foreign country. This sector is an important channel for balanced sustainable economic growth. Tant weavers and workers are generally poor. Vitality of Tant Industry can lead to improvement in the earning of those people on a large scale who are at the fringes of social existence by alleviating their poverty. This sector can be a source of employment of hard-passed rural people, particularly (www.textiletoday.com.bd). There are some empirical studies have been found out to analyses situation of Tant in rural area. Some of them are as follows: Mosiur Rahman (2010), worked on "investigation of Tant owner" data are collect from foridpur thana under Pabna District. In the research it was found that most of the Tant owner is rimary educated. Rajon sarkar (1998), worked on "situation of Tant worker" Data are collected from Shantipur thana under Tangail District. In this research it was found that most of the respondents are take loan.

## Objectives of the Study

The specific objectives as underlined in the project are as follows:

- 1) To identified the existing problems in the Tant industry and to focus on the future prospects of this sectors.
- 2) To evaluate the socio-economic condition of the workers associated with the Tant industries including Tant households.
- 3) To find out the more production from their worker.

## Methodology:

Data are collected with SRSWOR (simple random sampling without replacement). Our data collection places are five villages which is Islampur (Daya), Nagordala, Hamlakol, Hasakola, Barachucuty. All of the villages at Shahazadpur Thana under Sirajgonj district (www.habibullahnagor up .Sirajgonj.gov.bd.com). From these villages we collect data. Our research project based on the prospective pilot study of survey on Present condition of Tant. Original sampling method is multistage cluster sampling. At 1<sup>st</sup> stage we select one Thana from the district, at 2<sup>nd</sup> stage we select one union from the selected Thana, at 3<sup>rd</sup> stage we select 5 villages from the selected union and finally at 4<sup>th</sup> stage we select 150 respondents from the selected village. Now we used in appropriate measure of mean with SD (standard deviation), median with IQR (inter quartile range) and percentage for discrete and

continuous data. For modeling at first checked the normal P-P plot to the deviation of income index (current and five years earlier). We see that our data follows the normal curve. Then we can use the linear regression model to analyze the factors affecting the deviation of income index. To analyze the effect of various variables to the respondent information we want to perform the linear regression model by Enter method. When we do not get the appropriate model, so to get the appropriate model we want to perform another method namely "Forward method".

## Result and Discussion

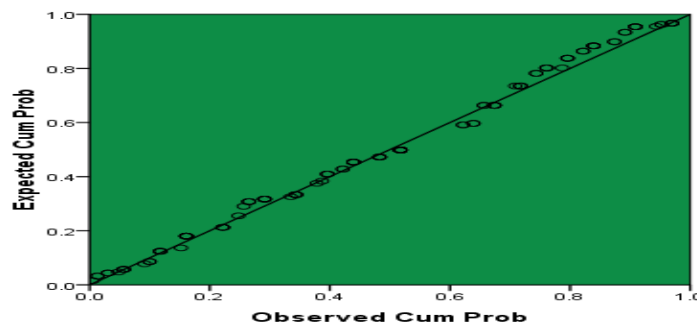
Generally it is important to know the characteristics or nature of the data before performing any analysis. In order to know nature of the study subjects the frequency distribution and graphical representation could be very useful. In the frequency table percentage is presented for categorical data, mean with SD (standard deviation) are presented for continuous data and median with IQR (inter quartile range) are presented discrete data and fitting of an appropriate model (linear model) are used for advanced analysis too. The characteristics table of respondents is given in Table 1. We observed that the respondents religion are Islam (96%) and remaining (4%) are Hindu, Marital status of Married (81.30%) and remaining (18.70%) are Unmarried, Family status are Unique (58%) and remaining (42%) are Combined, Take Initial loan (54%) respondents. Sources of loan NGO (75.30%), Bank (13.60%), others (11.10%). Respondents used colored string (65.30%) and other respondents are not used this. Cloth usually produced Shari (90.70%) and Lungi (8.30%). (85.30%) respondents opinion. Tant are decline day by day and remaining (14.70%) respondents are not say this. Perception on reason of decline respondents' opinion increasing string (44.50%), huge amount of cloth smuggling from India (35.20%), Scarcity lack of investment (13.30%) and remaining others. Designing cloth (63.30%), Purpose of designing cloth for more profit (55.80%), Market demand (37.90%), Good looking of cloth (5.20%) and remaining others (1.10%). Respondent additional job (26.70%) and nature of additional job Farmer (57.50%), Service (30%) and Business (12.50%). Involving with Tant since boyhood (36.00%) and for region involving with Tant less labour as inherited (77.80%), more profit (14.80%), Encouragement of government (7.40%). Maximum respondents' education level is six to ten. Average price of cloth produced in a week is (51526.67) Tk, Average yearly expenditure is (143640) Tk.

**Table 1: Characteristics of study subject**

Characteristics	N=150	
Religion (%)	Islam	144(96.00)
	Hindu	6(4.00)
Education level (in years), Median (IQR)	8(6-10)	
Marital status(%)	Married	122(81.30)
	Unmarried	28(18.70)
Family status(%)	Unique	87(58.00)
	Combined	63(42.00)

No of family members, Median (IQR)		7(6-10)
No of Tant at beginning, Median (IQR)		5(3-8)
Initial investment (in Tk), mean (SD)		43393.33(34010.44)
Initial loan (%)		81(54.00)
Source of loan (%)	Bank	11(13.60)
	NGO	61(75.30)
	Others	9(11.10)
No of Tant at present, Median (IQR)		14(10-20)
No of worker, Median (IQR)		14(10-19)
Price of cloth produced in a week (in Tk), mean (SD)		51526.67(28147.67)
Yearly expenditure (in Tk), mean (SD)		143640(101395.50)
Yearly income from Tant at five years earlier (in Tk), mean (SD)		88400(47706.74)
Income index1*(5 years earlier), mean (SD)		102.94(53.47)
Current yearly income (in Tk), mean (SD)		183600(132361.72)
Income index2* (current), mean (SD)		138.25(90.00)
Investment at present (in Tk), mean (SD)		347366.67(325291.14)
Colored string themselves (%)		98(65.30)
Price of string per bundle (in Tk), mean (SD)		2904.79(548.46)
Cost of dyeing of string per bundle (in Tk), mean (SD)		301.25(52.75)
Perception on Tant are declining day by day (%)		128(85.30)
Cloth usually produced(%)	Shari	136(90.70)
	Lungi	14(09.30)
Perception on reason of declining(%)	Scarcity lack of investment	17(13.30)
	Huge amount of cloth smuggling from India	45(35.20)
	Increasing price of string	57(44.50)
	Other	9(07.00)
Designing cloth(%)		95(63.30)
Purpose of designing cloth (%)	More profit	53(55.80)
	Good locking of cloth	5(05.20)
	Market demands	36(37.90)
	Other	1(01.10)
Additional job(%)		40(26.70)
Nature of additional job(%)	Farmer	23(57.50)
	Service	12(30.00)
	Business	5((12.50)
Involving with Tant since boyhood(%)		54(36.00)
Reason for involving with Tant(%)	More profit	8(14.80)
	Less labour as inherited	42(77.80)
	Encouragement of government	4(07.40)
Changeable income (in Tk), mean (SD)		36.06(56.47)

For modeling at first checked the normal P-P plot to the deviation of income index (current and five years earlier). We see that our data follows the normal curve Table 2.



Then we can use the linear regression model to analyze the factors affecting the deviation of income index. To analyze the effect of various variables to the respondents information we want to perform the linear regression respondents information, Educational level, Religion, Marital status, Family status, No of family members, No of Tant at beginning, Initial investment, Initial loan, No of Tant at present, No of worker, Price of cloth produce in a week, Yearly expenditure, Investment at present, Colored string, Cloth usually produced, perception on Tant are declining day by day, Designing cloth, Additional job, Involving with Tant since boyhood by Enter method and the result are given in the following Table 3. According to our given information in the below table we noticed that educational level, No of family members, No of Tant at beginning, No of worker, Initial investment, Source of loan, Yearly expenditure, perception on Tant are declining day by day, Designing cloth, Additional job and Involving with Tant since boyhood are significant (0.001) to the deviation of income index whereas Marital status, Family status, Price of cloth produced in a week, Investment at present, colored string themselves, cloth usually produced are insignificant (0.001) effect to the deviation of income index.

Since by Enter method we do not get the appropriate model, so to get the appropriate model we want to perform another method namely "Forward method". According to this method in 12<sup>th</sup> step it consists twelve variable which is Yearly expenditure, No of family members, Perception on Tant are declining day by day, Initial investment, Source of loan, Marital status, Family status, No of Tant at beginning, Involving with Tant since boyhood, Education level, Additional job, Designing cloth and the optimum result is given in the following Table 4. From the below table we observed that Yearly expenditure, No of family members, perception on Tant are declining day by day, Initial investment, Source of loan, No of Tant at present, Involving with Tant since boyhood, Education level, Additional job, Designing cloth are significant to the deviation of income index whereas Marital status, Family status are insignificant effect to the deviation income index.

**Table 3: Analyzing effect of various variables to deviation of income index**

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower	upper
(Constant)	-89.989	12.490		-7.205	<.001	-114.957	-65.021
Education level(in year)	2.055	.491	.113	4.183	<.001	1.073	3.038
Marital status(married)	-2.244	7.566	-.012	-.297	.768	-17.369	12.880
Family status(unique)	.405	2.390	.003	.169	.866	-4.373	5.183
No of family members	-4.964	.551	-.311	-9.014	<.001	-6.065	-3.863
No of Tant at beginning	-1.392	.514	-.084	-2.707	.009	-2.421	-.364
Initial investment(in Tk)	.000	.000	.199	3.994	<.001	<.001	.001
Source of loan(NGO)	17.587	2.539	.131	6.927	<.001	12.512	22.662
No of tant at present	11.292	2.516	1.318	4.489	<.001	6.263	16.321
No of workers	-10.899	2.244	-1.288	-4.856	<.01	-15.385	-6.413
Price of cloth produced in a week at present (in Tk)	.000	.000	-.054	-1.068	.290	<.001	.000
Yearly expenditure(TK)	.001	.000	1.008	15.946	<.001	<.001	.001
Investment present(in Tk)	6.75E-006	.000	.027	.785	.435	<.001	.000
Colored string themselves(Yes)	-2.510	4.110	-.016	-.611	.544	-10.726	5.707
Cloth of usually produced(Shari)	10.101	9.338	.050	1.082	.284	-8.566	28.768
Perception on Tant are declining day by day(Yes)	22.536	7.652	.064	2.945	.005	7.241	37.832
Designing cloth(Yes)	-9.294	3.904	-.068	-2.381	.020	-17.097	-1.490
Additional job(No)	15.658	6.649	.083	2.355	.022	2.367	28.948
Involving with Tant since boyhood(No)	23.539	3.624	.171	6.495	<.001	16.294	30.784
ANOVA Table: F-statistics=390.43      d.f=(18,62)      p-value=<.001      R <sup>2</sup> =.991							

\* Enter method

\*Other indicate (Business and service)

Reference categories: Source of loan(others), Colored string themselves(No), cloth usually produced (Lungi) Perception on Tant are declining day by day (No), Marital status



(unmarried), Family status (combined), Involving with Tant since boyhood (yes), Additional job (Yes), Designing cloth (No)

**Table 4: Analyzing effect of various variables to deviation of income index**

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			lower	upper
(Constant)	-109.010	11.469		-9.505	<.001	-131.897	-86.123
Yearly expenditure(TK)	.001	.000	.986	49.866	<.001	<.001	.001
No of family members	-4.234	.375	-.265	-11.302	<.001	-4.981	-3.486
Perception on Tant are declining day by day(yes)	33.433	5.314	.094	6.292	<.001	22.829	44.037
Initial investment(in Tk)	.000	.000	.227	7.182	<.001	<.001	.001
Source of loan(NGO)	17.518	2.440	.130	7.180	<.001	12.650	22.386
Marital status(married)	9.789	5.788	.050	1.691	.095	-1.761	21.338
Family status(unique)	3.050	2.292	.022	1.331	.188	-1.523	7.622
No of Tant at beginning	-1.758	.491	-.105	-3.582	<.001	-2.737	-.779
Involving withTant since boyhood(No)	21.983	3.038	.160	7.235	<.001	15.919	28.046
Education level(in year)	2.385	.474	.131	5.031	<.001	1.439	3.330
Additional job(No)	14.504	4.630	.077	3.132	.003	5.264	23.744
Designing cloth(yes)	-7.495	2.945	-.055	-2.545	.013	-13.373	-1.618
ANOVA Table: F-statistics= 446.49 d.f=(12,68) P-value=<0 .001 R^2=0.987							

\* Forward method

Other indicates (business and service)

Reference categories: Perception on Tant are declining day by day (No), Marital status (unmarried), Family status (combined), Involving with Tant since boyhood (yes), Additional job (Yes), Designing cloth (No).

## Conclusion

Tant industry is the biggest handicraft industry in our country. Most of the worker are generally poor and maintain their family by working in Tant. At present Tant are declining day by day. We observe that, most of the respondents educational qualification is less than S.S.C in Sirajgonj district and which is the present situation in Bangladesh, most of the respondents are Islam, married respondents are larger, most of the family are unique, the respondents main source of loan is NGO, most of the respondents are used colored string , respondents produced shari larger than lungi, most of the respondents opinion Tant are declining day by day, respondents usually design their cloth, main profession of the respondents is farming besides Tant in Sirajgonj district and which is represents the present situation in Bangladesh. Marital status, Family status, Price of cloth produced in a week, Investment at present, colored string themselves, cloth usually produced are insignificant effect to the deviation of income index and others variable are significant effect to the deviation of income index but Since by Enter method we do not get the appropriate model, so to get the appropriate model we want to perform another method namely "Forward method". From the following result we observed that marital status, Family status, Additional job(no), designing cloth(yes) are insignificant effect to the deviation income index and others variable are significant effect to the deviation of income index.

## Limitation and Further research

The data was based on the pilot study of a survey on "Present condition of Tant in Sirajgonj district". There are many limitations in our data such as the time and the cost were not sufficient for this study. Further we can conduct this research in broad sense with the help of this project and this research we can decide that present condition of Tant in Bangladesh.

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