



# Decadal Analysis of the role of MSMEs as a power source for Atmanirbhar Bihar, using Simple OLS method

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## **Abstract:**

*The study talks about consideration of MSMEs as an engine for growth of GSDP and the overall employment level in Bihar. The study uses the secondary data available from government of Bihar as well as government of India for the establishment of the result. Telephonic survey has also been conducted for collection of primary data. The results of the study shows significant relation between the growth of MSMEs and the GSDP of Bihar and the growth of MSMEs and the employment generated in the state. The study says that Bihar can become Atmanirbhar with the help of MSME sector, as it has potential to do so.*

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**Disclaimer:** This research does not question any scheme or policies of the government. It has tried to analyze the importance of MSMEs in light for the growth of Bihar.

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## 1. **INTRODUCTION:**

*“From the perspective of the economy, from the perspective of spreading opportunities across the country and perspective of spreading social equality, MSME is a critical sector in the economy.”*

- **Raghuram GovindaRajan**

Atmanirbhar Bihar is a call to make the state and its people self-reliant in all senses, particularly encouraging entrepreneurs to produce maximum goods and services within the state. It can be noted from the fact that after agriculture, MSME is not only the second-largest employment creator in India at relatively lower capital spending than large industries but also helps in industrialisation of rural and underdeveloped areas, thereby, reducing regional disparities, assuring more equitable dispersal of national income and wealth (Annual Report 2020-21 – MSME).

With around 63.4 million units throughout the geographical expanse of the country, as per the Central Statistics Office (CSO), the share of MSME in total Gross Value Added (GVA) during 2016-17 was 31.8 percent (PIB, 2019). According to data received from the Directorate General of Commercial Intelligence and Statistics (DGCIS), the share of MSME related commodities in total Export from India during 2018-19 is 48.10 percent. In accordance with the 73<sup>rd</sup> Round of National Sample Survey (NSS), the approximated number of workers in unorganised non-agriculture MSMEs in the country are 11.10 crore (Business Standard, 2019). About 95 percent of the industries in Bihar fall under the Micro Small and Medium Enterprises (The Times of India, 2012). Food processing, manufacturing, sugar, dairy, and healthcare are some of the fast-growing industries in the state (India Brand Equity Foundation, 2021). The extensive infrastructure development, such as roads and bridges and a substantial base of cheap industrial labour, make Bihar a probable investment location for an extensive range of industries particularly MSMEs (MSME DI, Patna). Hence, MSMEs can become a major growth driver in achieving the vision of self-reliant Bihar.

Provision of easy access to finance and credit, greater infrastructural and support facilities, creation of adequate market linkages, skill development and capacity building, access to modern tools and technology, policy intervention and support mechanisms will definitely help in building up the performance of the MSMEs and thereby attracting new industries in the state. Bihar has huge growth potential to create and enhance the capacity of enterprises by efficiently using the resources available.

The economic and social disruption caused by COVID-19 is expected to be far challenging than that of the 2008-09 Global Financial Crisis; and possibly even beat the Great Depression of the 1930s. The restrictions on movement of people and non-essential goods have affected the supply chain, leading to paucity of raw materials. Effective supply chain strategies within the state should be done to improve the performance of MSMEs in all dimensions and thereby making it self-sufficient in the long run. Innovation under local conditions is a critical element to help MSMEs, both new and existing, to address Bihar's mega challenges. A holistic and integrated focus on building a statewide entrepreneurial ecosystem can transform Bihar's socio-economic landscape in the next decade and enhance its socio-economic dimension of growth (Ghosh; Economic & Political Weekly, 2020).

## **1.1 MSME REDEFINED**

The Government of India has established MSME or Micro, Small, and Medium Enterprises in agreement with Micro, Small and Medium Enterprises Development (MSMED) Act of 2006. A proposition was made to restate MSMEs by the Micro, Small and Medium Enterprises Development (Amendment) Bill, 2018, to categorize them as manufacturing or service-delivering enterprises, established on their annual turnover.

**Table 1.1: Definition of MSME sector**

	2006 ACT		2015 BILL		2018 BILL	CABINET (JUNE 2020)	
CRITERIA	Investment		Investment		Turnover	Investment	Turnover
TYPE	Manufacturing	Small	Manufacturing	Small	Both	Both	
MICRO	<Rs 25 lakh	<Rs 10lakh	<Rs 50 lakh	<Rs 20 lakh	<Rs 5 Cr	<Rs 1 Cr	<Rs 5 Cr
SMALL	Rs 25 lakh -Rs 5 Cr	Rs 10 lakh- Rs 2 Cr	Rs 50 lakh- Rs 10 Cr	Rs 20 lakh – Rs 5 Cr	Rs 5 Cr- Rs 75 Cr	Rs 1 Cr – Rs 10 Cr	Rs 5 Cr- Rs 50 Cr
MEDIUM	Rs 5Cr- Rs 10 Cr	Rs 2 Cr- Rs 5 Cr	Rs 10 Cr – Rs 30 Cr	Rs 5 Cr – Rs 15 Cr	Rs 75 Cr- Rs 250 Cr	Rs 10 Cr- Rs 15 Cr	Rs 50 – Rs 250 Cr

**Source: MSME Development,2006 Act, MSME Development Amendment Bills 2015 and 2018, PIB update on Cabinet Approval; PRS**

## **1.2 MSME AS A CATALYST FOR ATMANIRBHAR BIHAR:**

Amidst the unprecedented COVID-19 pandemic global shock, the Government of India is taking various steps to face the challenges posed by COVID-19 through a spirit of self-reliance. A financial package for ‘Atmanirbhar Bharat Abhiyan’ was declared by the honourable Prime Minister of Rs 20 lakh crore which is equal to 10% of India’s GDP to aid our country out of this coronavirus emergency (Atmanirbhar Bharat, 2021). The Prime Minister laid down the five major pillars of ‘Atmanirbhar Bharat’ which are as follows:

- Economy
- Infrastructure
- Technology driven system
- Vibrant demography
- Demand

This special economic package is dedicated for the labourers, sincere tax payers, farmers, MSMEs and cottage industry.

Bihar has witnessed the largest reverse migration in the country following the nationwide lockdown in the wake of COVID-19 pandemic. Most of these migrant workers are rendered jobless in big cities and industrial towns (Venugopal, 2021). Bihar being an agrarian economy is considered economically backward when it comes to industries. Food processing, dairy, sugar, manufacturing and healthcare are some of the potential fast-growing sectors in the state (India Brand Equity Foundation, 2021). However, if the MSMEs were developed enough then there would not have been large scale unemployment and migration.

### 1.3 BIHAR INDUSTRIAL AREAS



Bihar Industrial Area Development Authority (BIADA) has been formulated by a legislation of State of Bihar namely Bihar Industrial Area Development Authority Act, 1974 to encourage and ease industrialization in the state. BIADA is a formal organisation which receives indications and instructions occasionally from Government in accordance with the provisions under BIADA Act, 1974. It grants land to entrepreneurs on the premise of established policies and principles for organised expansion of industrial areas, advancement of industries and matters pertinent to. There are 52 Industrial Areas (IA) / Industrial Estates (IE) / Large Industrial Estates (LIE) / Growth Centres (GC) / Mega Industrial Parks (MIP) under the support of 4 Regional Offices spread across 30 Districts which are as follows:

Patna	Bhagalpur	Muzaffarpur	Darbhanga
IA/IE Patliputra	LIE Barari	IA Sitamarhi	IE Bela
IA Fatuha	IA Jamalpur	IA Siwan	IE Dharampur
IA Biharsharif	IA Munger	IA/IE Muzaffarpur	IA Donar
IA Nawada	IA Sitakund	IA Bettiah	IA Pandaul
IA Gaya	IA Lakhisarai	IA Kumarbagh	IE Jhanjharpur
IA Jehanabad	GC Khagalgaon	IA Ramnagar	IE Samastipur
IA Aurangabad	GC Maranga	IA Raxaul	GC Khagariya
GC Aurangabad	IE Purnea City	IA Hajipur	IE Saharsa
IA Dehri-on-sone	IE Forbesganj	EPIP Hajipur	IE Murliganj
IA Barun	IE Katihar		MGC Udakishanganj
IA Bikramganj	IE Khagara (Kishanganj)		
IA Buxar	IE Bhediadangi		
IA Bihiya			
GC Giddha			
IA Bihta			
MIP Bihta			
IA Barauni			
IA Kopakalan			
IA Sikanderpur.			

## 2. LITERATURE REVIEW:

We have supported our article with comprehensive literature by examining the dynamic relationship of the MSMEs with several economic variables in making Bihar a self reliant state.

Indian economy after the post liberalisation period has witnessed a swift development of trade and emergence of the MSME sectors through industrialization which has led to boost the per capita income and become an essential tool for an extensive transmogrification of the Indian economy (Bishwajeet Prakash, 15<sup>th</sup> April, 2019).

In a study by Mr. Nagarajan Muthukrishnan, 2020 shows; investigation of new strategies should be adopted by government and industries to combat the effect of corona virus on the health of the economy. The impact of lockdown on the countrys trade has affected rapidly. This paper also explains the different measures in order to keep a good hold of MSME'S growth.

A significant role of the MSMEs has been observed since it creates huge employment opportunities for skilled as well as semiskilled people. This paper also throughs light on the various policies adopted by MSMEs and it proved to be a dynamic and progressive sector for balancing the regional disparity of the country by giving ample opportunities to the youth to start their venture. This sector has immense contribution in the production and export side (Rakesh Rathore, Aditi Mathur, 2019).

The MSME sector has been contributing as the 'second highest employment opportunity after the agriculture along with contribution of 8 percent GDP, 45 percent in production and 36 percent in Export'. This paper is mainly based on data set collected through primary survey and its main motive is to figure out the marketing

and financial hindrance faced by the entrepreneurs during the functioning of its unit (Bishwajeet Prakash, Jainendra Kumar Verma, 2019).

In a study by Mukherjee, Dipa and Majumder et al; 2014; shows an outline of the expansion and production yield dynamism of the unofficial manufacturing sector in Bihar with regard to the national layout throughout the period 2000-2010. The section showing versatility are also recognised and the relationship between these two are analyzed.

Sadiqua Tabassum, Mohd Fasi, 2017 explained that there has been a number of causes in the increase in MSME dysfunctioning. The inner causes are related to arrangement, execution and manufacturing whereas the exterior reasons include infrastructural and marketing constraints and other related factors. The improper functioning of the msmses has its adverse effects on the holder, workers and lender which also leads to a lot of devastation of the statesresources and distress. A more vigorous system needed to overcome this inefficient working of the msmses.

Also Khan, Shadab Hassan, 2020 states that the small scale industries are degrading due to overpowering reasons such as unfavourable policies of the government and availability of mechanised ready made products, missing 'community planning' and existential requirements. They have focused on the main underlying issues faced specially by these cottage industries in order to develop better solutions of the specific problems loaded upon the people working in this sector. They have also shown the reasons for the inefficient working of the policies and programmes introduced by the government.

The present article deals with micro, small and medium enterprises and their role in economic growth and employment generation in the Indian context. The article discusses how policy environment for promoting MSMEs changed from 'protectionism' during the pre-1990s to 'export orientation' during the post-1990s (Shambhu Ghatak, 2010).

MSME sector has been widely reviewed as the backbone and an essential tool for the expansion of an economy for encouraging development with equity. Some of the major MSMEs have a significant contribution in highest employment generation and they also hold a vital portion of industrial output and merchandise. It very well serves the need of the small producers with less capital which in turn provides services to empower the less privileged people of the rural background to participate in the economic growth of the country. This sector has got immense potential to overcome the high unemployment rate faced by the state (J Lakshmi, G Sreedhar, 2017).

**To the best of the author's knowledge, there was a research gap in literature exploring the relation between the growth of MSME (shown by the units of MSME), GSDP of Bihar and the employment generated from them.**

### **3. OBJECTIVES:**

The objectives of this research work are:

- I. To study the relationship between growth of MSME and GSDP.

- II. Does the increase in number of units of MSME have a significant contribution in employment generation in Bihar?

#### 4. HYPOTHESES:

The hypotheses of this research work are:

1. **H<sub>0</sub>: A relationship does not exist between growth of MSME and GSDP**  
(H<sub>0</sub>:  $\beta_2 = 0$ )  
**H<sub>1</sub>: A relationship exists between growth of MSME and GSDP** (H<sub>1</sub>:  $\beta_2 \neq 0$ ).
2. **H<sub>0</sub>: MSMEs have a significant contribution in employment generation**  
(H<sub>0</sub>:  $\gamma_2 = 0$ ).  
**H<sub>1</sub>: MSMEs does not have a significant contribution in employment generation** (H<sub>1</sub>:  $\gamma_2 \neq 0$ ).

#### 5. DATA METHODOLOGY

We have used the data of Economic survey of India, Economic survey of Bihar (2019, 2020 & 2021), MSME Annual Report 2018 and 2019.

Bihar has been selected for the study because the state is one of the backward states in the country with respect to both SGDP and employment basis. The state has potential to develop its MSME sector for its industrial development.

We have also used the data collected from Department of Industries, Government of Bihar (data of number of units of MSME, number of persons employed in MSME, investment done in MSME).

Data from Udyog Aadhar Memorandum has also been included in our research for the proper analysis as all the MSMES in India are required to register under Udyog Aadhar through filling memorandum under ministry of MSME.

We have also taken the data from Udyog Mitra which is a part of Department of Industries, Government of Bihar. We have randomly collected 60 samples out of the population of 25052 data entries from the district wise report of Udyog Mitra, Patna.

We have also conducted a telephonic interview through schedule on 60 samples of Patna district from the data obtained by the district wise survey report of Udyog Mitra.

**Dependent Variables (Y)** - We have used different dependent variables to study different hypothesis i.e., State Gross Domestic Product (SGDP) and number of persons employed.

All the data manipulations, data analysis and hypothesis testing has been done through **SPSS Software (IBM SPSS Statistics 28.0.0.0)**.

#### 6. STUDY DESIGN:

This research has been done under the following study design. The models have been formulated under the hypothesis:

1.  $H_0: \beta_2 = 0$

$H_1: \beta_2 \neq 0$

Where  $\beta_2$  represents the coefficients of estimated effect of units of MSMEs ( $X_i$ ) on GSDP ( $Y_i$ )

The model can be specified as under

$$Y_i = \beta_1 + \beta_2 X_i + \Omega + U_i \quad \dots\dots(i)$$

The estimated regression equation for the above model can be written as

$$\hat{Y}_i = \hat{\beta}_1 + \hat{\beta}_2 \hat{X}_i \quad \dots\dots(ii)$$

To show the relationship between growth of MSME and GSDP of Bihar, data related to number of units of MSME and GSDP of Bihar, contribution of MSME in GDP of India and contribution of industrial sector in GVA of Bihar has been used.

The regression has been done using OLS on the data related to number of units of MSME and GSDP of Bihar as first we have plotted the scattered diagram and the curve shows more or less positive relationship between the two. Also, we have assumed that the error term follows the assumptions of OLS for getting a BLUE estimator ([See fig 1](#)).

The result is backed with the data showing the contribution of industrial sector in GVA of Bihar since MSME is also a sub part of industrial sector. The [table 9](#) and [figure 4](#) shows contribution of industrial sector in GVA of Bihar in percentage terms. According to RBI report 2017, about 95% of the industries in Bihar fall under the Micro, Small and Medium Enterprises (MSMEs) category.

Bihar constitutes a major portion of MSMEs in India thereby we have shown its contribution in the GDP of India. The table shows that the total number of MSMEs is varying yearly but a significant growth can be seen in absolute number. This shows that Bihar has a notable contribution in the total units of MSME in India.

Although the per cent share of MSME in the GDP of India is slightly varying ([figure 6](#)) but its share in absolute term is increasing ([figure 7](#)). From table 11, it can be stated that as the contribution of MSME in the GDP of India is increasing and similar would be the case with Bihar. Since Bihar has been recorded as the highest growing state in last decade with an overall growth rate of 12% (Bihar Economic Survey Report; 2020). This means although its share in percentage terms is decreasing but the actual scenario has been seen through its increase in absolute share.

For proving our second hypothesis, we have taken

$$Y = f(X) \quad \dots\dots(iii)$$

where employment generated (Y) as the function of the number of units (X) of MSME in Bihar. We will take out the Karl Pearson coefficient of correlation of the above function and will try to find that there

exists a strong correlation. We have also regressed the dependent variable employment generated due to increase in number of units of MSMEs in Bihar using simple OLS method. The model can be designed as:

.....(iv)

The estimated regression equation for the above model can be written as

$$\hat{Y}_i = \hat{\gamma}_1 + \hat{\gamma}_2 \hat{X}_i \quad \text{.....(v)}$$

To show the significant contribution of MSME in employment generation in Bihar, data related to number of units of MSME and employment provided, growth rate of MSMEs and employment, and total workers employed in the industrial sector of Bihar has been used. The scatter diagram ([figure 8](#)) shows a positive relation between number of units of MSME and employment, and therefore we have used OLS for estimating our model.

The [table 5](#) depicts that as the number of units of MSMEs is increasing, employment is also increasing. This shows they have positive relation depicting that MSMEs have significant contribution in employment generation. The above hypothesis has been tested using the two variables that are units of MSMEs and employment generated by them. Karl Pearson coefficient of correlation has been calculated.

## **7. RESULT AND DISCUSSION:**

To study the relationship between growth of MSME and GSDP, the Karl Pearson coefficient of correlation has been tested between the units of MSMEs and the GSDP of Bihar. The SPSS result in [table 2](#) (appendix), shows that sample size (N) is 8 and the correlation (r) found is **0.978** at 0.01 level of significance (2-tailed) which shows a strong correlation.

The regression results show ([table 3](#)) that the R Square value is very high being .956 means that more than 95% of the changes in the dependent variable have been explained by the explanatory variable. [Table 4](#) shows that the intercept term is found negative with very high standard error but the t statistics is significant at 1% level of significance. The slope coefficient is positive with very small standard error and t statistics is again significant at 1% level of significance. The overall test of significance of the model described by F statistics is also highly significant (i.e. 131.337).

The yearly contribution of the industrial sector in GVA of Bihar is increasing at an average rate of 19.5% which shows that Bihar has immense potential to perform well ([table 9](#) and [fig 4](#)). Also Bihar has a significant share of MSMEs in the total MSMEs of India as seen from [table 10](#). This seems that Bihar's MSMEs have significant contribution in the GDP of India. [Table 11](#) shows that the MSMEs have significant contribution in the GDP of India which ultimately signifies that as on a pan India level the growth in MSME have a impact on GDP of India, in a similar fashion MSMEs in Bihar also have significant contribution in the GSDP of state. [Fig 6](#) and [Fig 7](#) shows the percentage share of MSME in GDP and [Fig. 7](#) shows the same at absolute terms which has a positive slope.

Thus, it can be concluded from the above discussion that MSME has a significant contribution in GSDP of Bihar, depicting a positive relation between them.

Whether MSMEs have a significant contribution in employment generation?

SPSS shows the following result in [table 6](#); the Karl Pearson coefficient of correlation has been tested between the above two variables i.e. units of MSMEs and the number of people employed in them. Here, number of units (N) is 10 and the correlation (r) found is **0.994** at 0.01 level of significance (2-tailed) which shows a strong correlation.

[Table 12](#) gives the description of the statistics of number of units of MSME and the number of people employed. [Table 13](#) provides the regression results from SPSS by regressing the employment generated in the state on the number of MSME in the state. Result shows that the slope coefficient of number of units of MSME is highly significant t-value at 95% level of confidence. [Table 14](#) shows the about 98% variation in Y is explained by our independent variable X.

From [table 7](#) and [Fig 2](#), it can be seen that industrial sector has been providing significant employment opportunities in the state which also conclude that MSMEs plays a significant contribution in employment generation as could be seen from the fact that about 95% of industrial sector comprises of MSMEs (MSME Annual Report, 2020-21). The hike has been seen in the year 2011-12 and 2014-15 because between 2008 and 2016, the State Government of Bihar backed up its intension of developing this sector with targeted front-loaded capital subsidies for new units. This ultimately increased investment which thereby, simultaneously increased employment.

The contradiction between the data of employment provided by MSMEs and Industrial Sector has been seen due to the following reasons:

- According the definition of MSME, this sector comprises of only manufacturing and services but trading has also been included in the survey report of the Government which might be a reason that greater employment is seen in the data of employment generated by MSMEs as compared to industrial sector.
- On 24<sup>th</sup> September, 2014, Government of India launched the policy of Ease of Doing Business. According to this, people can voluntarily register their business through self-declaration without any inspection by the Government. This might create a discrepancy between the above two data.
- The Government Reports has been based on the survey conducted by their agencies rather than the census due to which above data might vary.
- The Government of Bihar might not include all the industrial areas in the report.

[Table 8](#) and [Fig 3](#) shows the result from our primary survey showing the percentage of people employed in micro, small and medium enterprises. 80% of people are employed in medium enterprises, 14% in small and 6% in micro enterprises.

The above discussion proves that the MSMEs in Bihar have contributing significantly in the employment generation in Bihar.

## 8. CONCLUSION:

The states like Bihar which has very few amounts of resources that are necessary for the growth of industries in the state but has good human resources may rely on the MSME sector for their economic development like Japan. The study provides the evidence that the state has seen a significant increase in its Gross State Domestic Product (GSDP) and employment generation due to the increase in the units of MSMEs sector in Bihar. This means that with the growth of MSME sector in Bihar, it is witnessing an increase in its income and employment level.

In this view, government should invest in MSME sector and regulate it in the most effective way as possible, so that the state can experience tremendous growth and development in a coming future.

This study uses the OLS method to estimate the above result; other methods can also be used in future study for more complex analysis. The study is also based on some eight to ten years of sample data, which is also very small when we use time series analysis. But due to the paucity of data, we used only few recent data that are available. Also in further studies, the assumption that the error term (in both the regression obtained for both the objectives) satisfying all the assumption of OLS method should be checked and accordingly the models should be framed.

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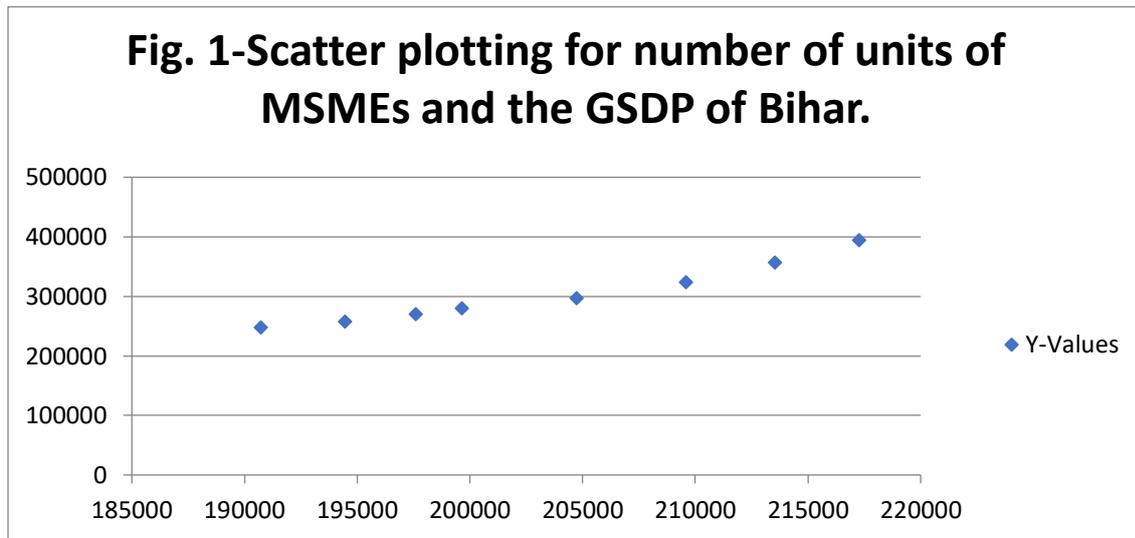
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**APPENDIX:****Table 1: Number of Units of MSME and GSDP of Bihar**

<b>YEAR</b>	<b>UNITS</b>	<b>GSDP</b>
2011-12	190740	247144
2012-13	194477	256851
2013-14	197610	269650
2014-15	199661	279482
2015-16	204752	296488
2016-17	209587	323004
2017-18	213549	356768
2018-19	217286	394350

**Source: Economic Survey, Bihar, 2019**

**Table 2: Correlation coefficients between units of MSME and GSDP**

		UNITS	GSDP
UNITS	Pearson Correlation	1	.978**
	Sig. (2-tailed)		.000
	N	8	8
GSDP	Pearson Correlation	.978**	1
	Sig. (2-tailed)	.000	
	N	8	8

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source: SPSS computation**

**Table 3: OLS Regression results for Objective(1):**

R	.978
R Square	.956
Adjusted R Square	.949
F Statistics	131.337

**Table 4: Regression coefficients results using SPSS**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-783715.722	94911.245		-8.257	.000
	X	5.341	.466	.978	11.460	.000

a. Dependent Variable: Y

**Table 5: Total number of units and employment**

YEAR	UNITS	EMPLOYMENT
2010-11	186778	607703
2011-12	190740	623782
2012-13	194477	634676
2013-14	197610	651969
2014-15	199661	676034
2015-16	204752	692045
2016-17	209587	709410

2017-18	213549	725489
2018-19	217286	736383
2019-20	220419	753776

**Source: Department of Industries, govt. of Bihar**

**Table 6: Correlations coefficient between units of MSMEs and employment generation by them**

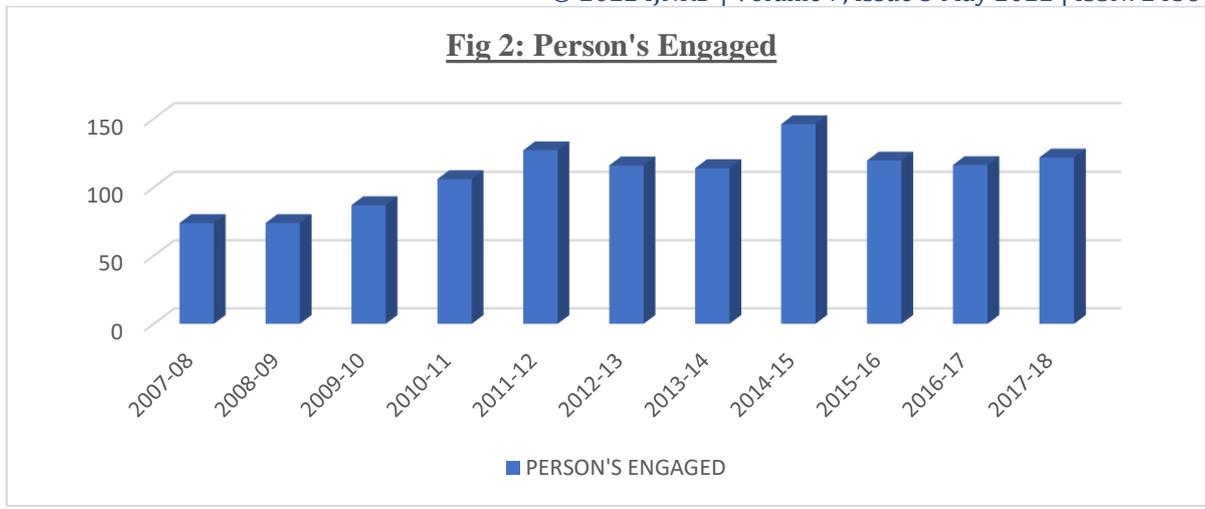
		Units	Employment
Units	Pearson Correlation	1	.994**
	Sig. (2-tailed)		.000
	N	10	10
employment	Pearson Correlation	.994**	1
	Sig. (2-tailed)	.000	
	N	10	10

\*\* . Correlation is significant at the 0.01 level (2-tailed).

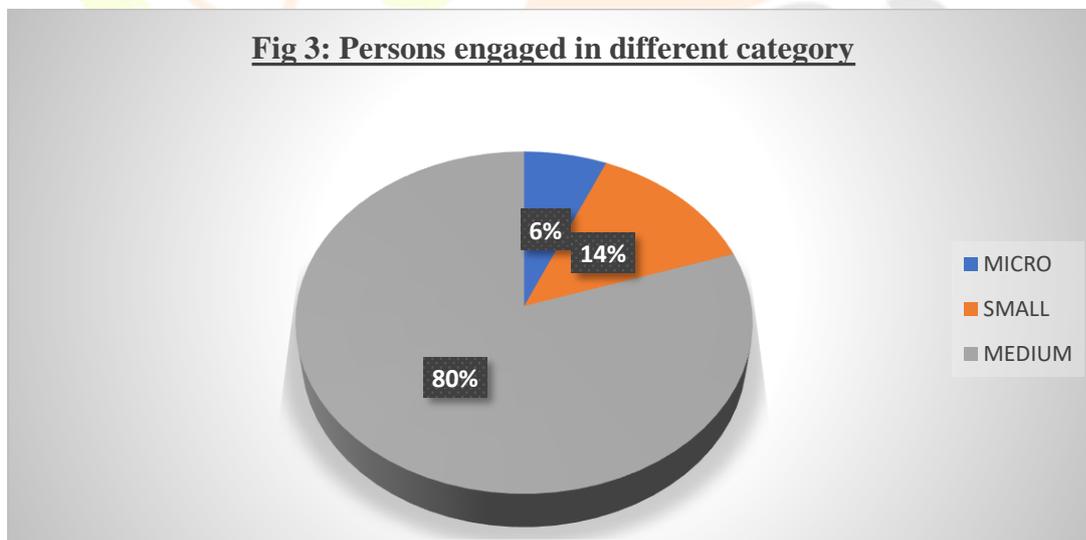
**Table 7: Persons engaged in industrial sector**

YEAR	PERSONS ENGAGED (IN '000) BIHAR
2007-08	74
2008-09	74
2009-10	87
2010-11	106
2011-12	127
2012-13	116
2013-14	114
2014-15	146
2015-16	119.50
2016-17	116.23
2017-18	121.77

**Source: Bihar Economic Survey 2021, pg. 148**

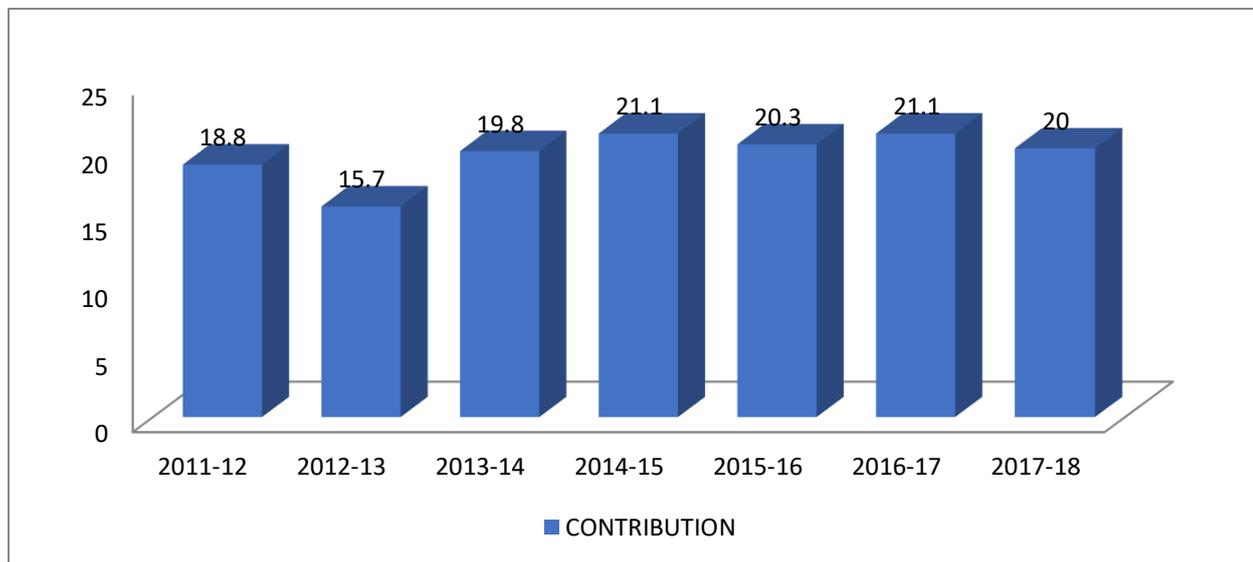
**Fig 2: Person's Engaged****Table 8: Employment in Micro, Small and Medium Enterprises**

CATEGORY	EMPLOYMENT
MICRO	6.6
SMALL	13.8
MEDIUM	82.3

**Source: Primary Data****Fig 3: Persons engaged in different category****Table 9: Percentage share of industrial sector in GVA of Bihar**

YEAR	CONTRIBUTION (IN per cent)
2011-12	18.8
2012-13	15.7
2013-14	19.8
2014-15	21.1
2015-16	20.3
2016-17	21.1
2017-18	20

**Source: Economic Survey, Bihar,2020.**

**Fig4: Contribution of industrial sector in GVA of Bihar****Table 10: Percentageshareof Biharin total MSMEs in India:**

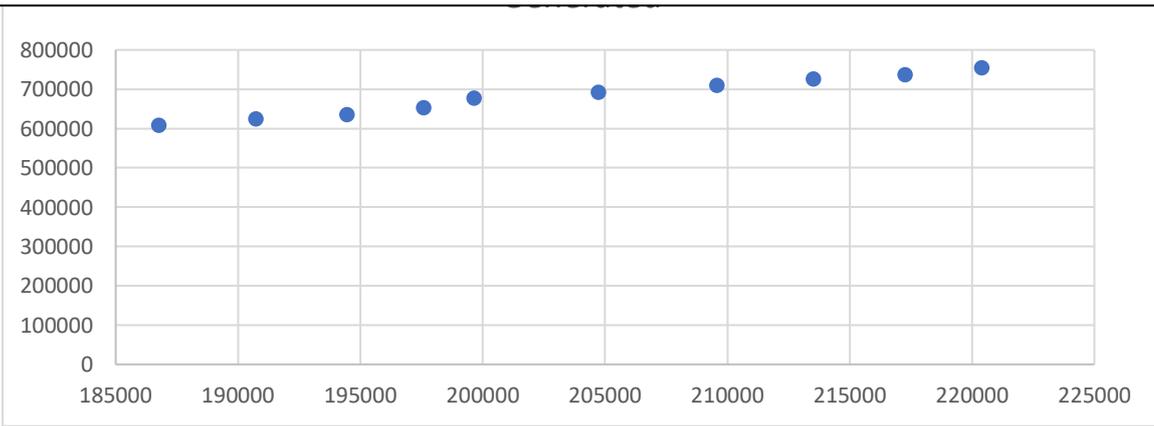
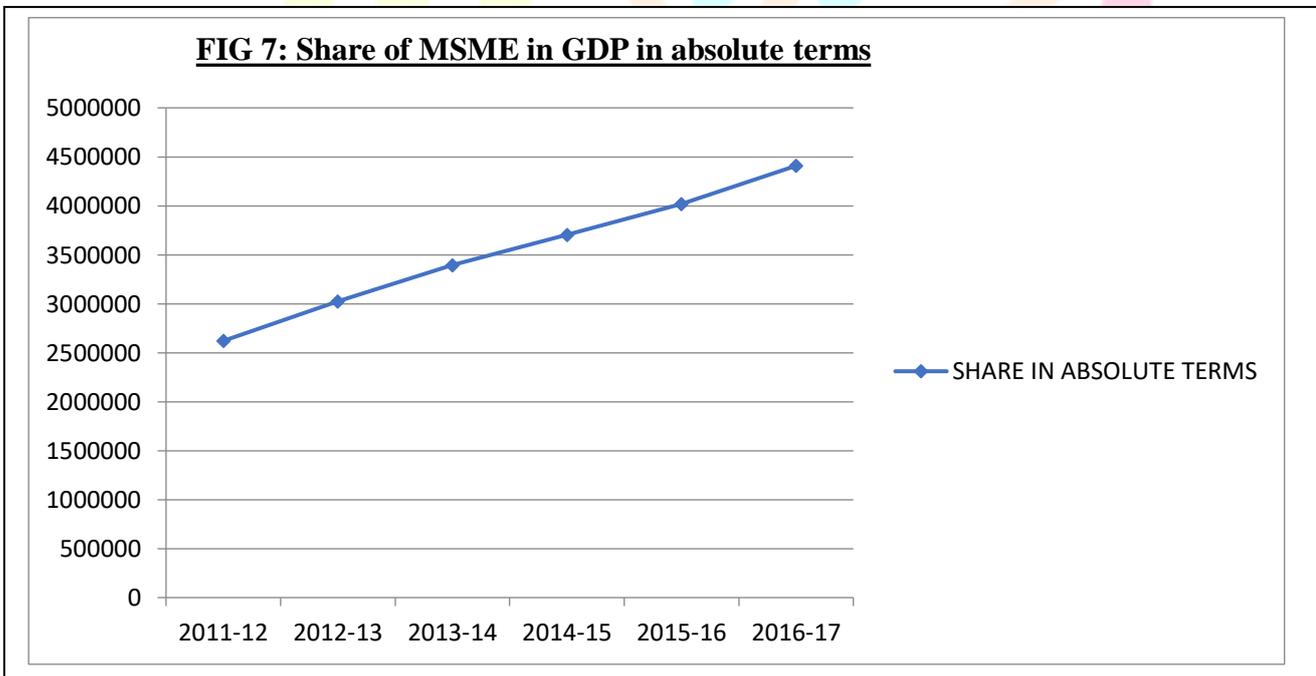
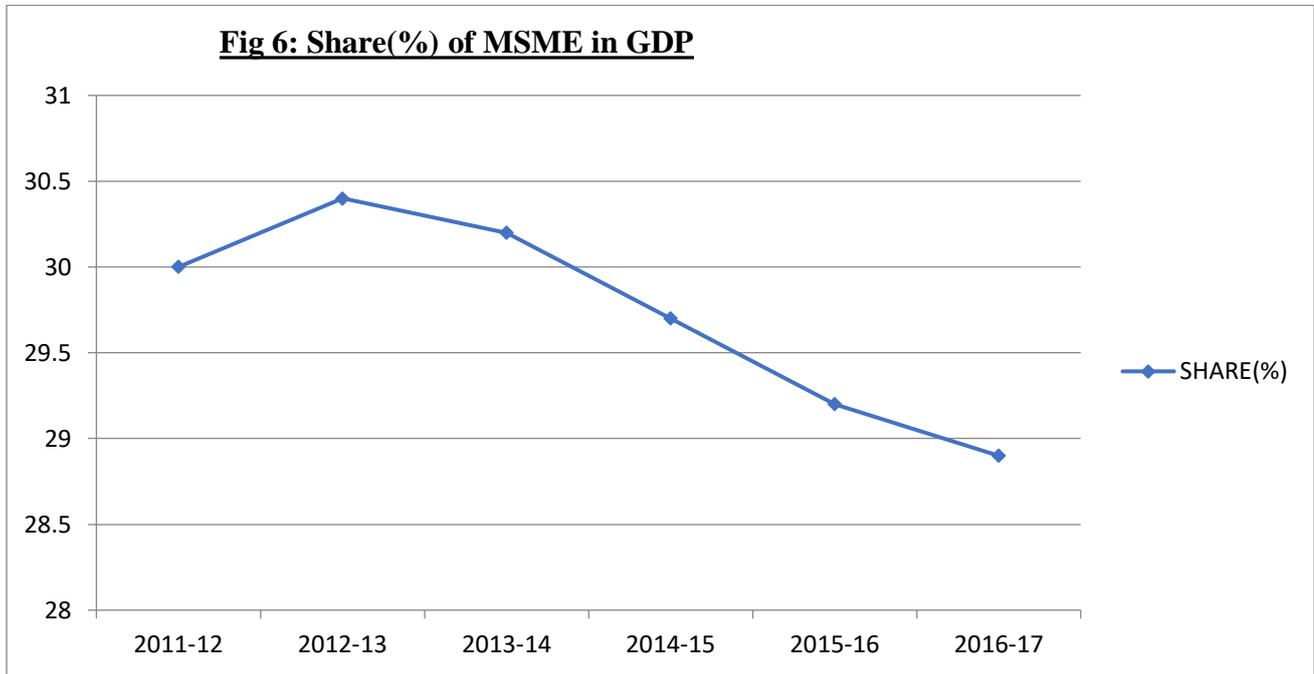
YEAR	MICRO	SMALL	MEDIUM	TOTAL MSME REGISTERED
2015-16	22.9	2.98	2.89	19.94
2016-17	25.34	3.27	5.84	23.26
2017-18	7.12	2.02	1.74	6.53
2018-19	3.61	2	1.71	3.42
2019-20	2.77	2.46	2.08	2.73

**Source: Udyog Aadhar Memorandum**

**Table 11: Contribution of MSME in Country's Economy**

YEAR	TOTAL GDP (IN CRORES) AT CURRENT PRICE	SHARE OF MSME IN GDP (IN %)	SHARE IN ABSOLUTE TERMS
2011-12	8736329	30.00	2620898.7
2012-13	9944013	30.40	3022979.952
2013-14	11233522	30.20	3392523.644
2014-15	12467959	29.70	3702983.823
2015-16	13764037	29.20	4019098.804
2016-17	15253714	28.90	4408323.346

**Source: MSME Report, 2018-19**



**Table 12: Descriptive Statistics units of MSME(X) and employment(Y)**

	Mean	Std. Deviation	N
Y	681126.700 0	50477.25165	10
X	203485.900 0	11494.89392	10

**Table 13: Coefficients of regression of units of MSME and the employment**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	- 207369.706	33642.324		-6.164	.000
	X	4.366	.165	.994	26.448	.000

a. Dependent Variable: Y

**Table 14: OLS Regression results for Objective(2)**

R	.994
R Square	.989
Adjusted R Square	.987
F Statistics	699.495