

## **Contribution of MSMEs with Reference to Entrepreneurship Development and Employment Generation in North-East India: A Critical Evaluation**

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### **Abstract**

*This paper critically examines the contribution made by Micro Small and Medium Enterprises (MSME) with respect to Entrepreneurship development and employment generation in eight states of North East India (NEI). The new North East Industrial and Investment Promotion Policy have been introduced in 2007 with the aim of consolidating and developing this sector in NEI. So, we use the period 2006-07 to 2012-13 as the reference period of the study. We use Panel data regression model to study the contribution of this sector in North East Region. Our main finding is that MSME sector has made significant contribution in development of entrepreneurship among the youth population of North East States in India. Some states show more success due to their specific state policies like financial subsidy, SEZ etc. Next we focus on employment generation capacity of MSME sector. We derive employment elasticity of output to find out the employment generation capacity of this sector. We find that MSME sector has been able to create employment opportunity within the sector but it fails to absorb the semi-skilled and un-skilled migrated labour forces from agriculture and other sector in all eight states of NEI.*

Key words: MSME, NEI, entrepreneurship development, employment elasticity of output.

### **I. Introduction**

Micro Small and Medium Enterprises (MSME) sector has emerged as highly vibrant and dynamic sector of Indian Economy over last few decades. The MSME sector has often been termed as engine of growth for developing nations. This sector contributes significantly to manufacturing output, employment and exports of the country. The MSMEs including Khadi and village/rural enterprises are credited with highest rate of employment growth. This sector takes less capital per unit of labour, traditional skill, local resources etc. It also plays an important role in economic development with their effective, efficient, flexible and innovative entrepreneurial spirit. MSMEs have shown consistent growth in terms of number of Entrepreneur Memorandum (Part-II [EM-II]) filed every year. The number of enterprises was 1.73 lakh. In the subsequent period it has been increased to 1.93, 2.13, 2.39, 2.84 and 3.23 lakh during 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13 respectively (Government of India, MSME Annual Report, 2013-14). Around 805.24 lakh person have employed over 361.76 lakhs enterprises (including registered and unregistered sector) throughout the country during 2012-13. After 2006, this sector has registered a consistent and high rate of growth compared to other industrial sector. There are over 6000 products ranging from traditional to high-tech items, which are being manufactured by MSMEs in India. Data reveal that MSMEs provide maximum opportunities for both self-employment and wage employment after the agriculture sector.

In India, role of MSMEs have become very crucial as MSMEs have potential to balanced distribution of income, reduction of poverty, generation of employment and growth in export, development of entrepreneurship, development of industry and rural economy. In order to highlight its contribution to the economic growth and development of a particular region, entrepreneurship

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has been mostly referred to as a source of 'employment generation' (Adejumo, 2000). Several studies have established that entrepreneurial activities stimulate economic growth; employment generation; and empowerment of disadvantaged segment of population, which include women and poor (Oluremi & Gbenga, 2011; Thomas & Mueller, 2000).

The North East of India (NEI) comprising of the 8 states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim, is a reservoir of rich natural resources. It is surely a region endowed with huge hydro-energy potential, oil and gas, coal, limestone, forest wealth, fruits and vegetables, flowers, herbs and aromatic plants, rare and rich flora and fauna. These resources can be utilized profitably for all round socioeconomic development and employment generation in the region.

Entrepreneurship is more than simply "starting a business" (Adejumo, 2000). It is a process through which individuals identify opportunities, allocate resources, and create value. This creation of value is often through the identification of unmet needs or through the identification of opportunities for change. It is the act of being an entrepreneur which is seen as one who undertakes innovations with finance and business acumen in an effort to transform innovations into economic goods. Entrepreneurship development has also led to employment generation, growth of the economy and sustainable development.

The ministry of MSME is actively promoting the development of MSMEs in the North East Region (NRE) through the programmes and schemes being implemented by its attached office, public sector enterprises, statutory bodies and autonomous organizations, namely, Micro, Small and Medium Enterprise Development Organization (MSME-DO), the national small Industries Corporation Ltd. (NSIC), the Khadi and Village Industries Commission(KVIC), the Coir Board and three National level entrepreneurship development institute particularly, Indian Institute of Entrepreneurship (IIE), Guwahati. The new North East Industrial and Investment Promotion Policy 2007 such as subsidies on transport, capital investment, interest on working capital, excise duty refund, income tax exemptions etc. also create attractive investment climate in that region. This will lead to higher income and employment opportunity and development of the region. On this background, this paper critically evaluates the contribution and role of MSMEs to promote entrepreneurship and employment in the NER over the years.

## **II. Objective, database and methodology**

The study on the contribution of MSMEs with reference to entrepreneurship development and employment generation in North-East India has made from the point of view of the following objectives: (1) To evaluate the contribution made by MSMEs to generate better income and employment opportunities in the Economy of NEI; (2) To analyse whether MSME sector could explore the opportunity of entrepreneurship development in the NER of India; and (3) To find out the difficulties that has been faced by MSMEs to promote entrepreneurship development and employment among the working population in NEI.

The reference period of the study covers the period from 2006-07 to 2012-13. The 'New North East Industrial and Investment Promotion Policy' was introduced in 2007 with the aim of consolidating and developing this sector in NEI. So, we use this period as the reference period of the study. Data used in the study are secondary in nature and have been compiled from various annual reports of MSMEs published by Ministry of Micro, small and medium enterprises, Govt. of India.

In the present study, we analyse a panel data regression model of all eight states in North East India, with the reference period 2006-2013. We operationally define entrepreneurship as the key outcome of interest such as total number of firms, total output, total employment and fixed investment from the MSME sector in NEI. We also focus on the specific government policy intervention on development of entrepreneurship in MSME sector of NER. The outcome of interest

is contribution of MSME sector within each state as measured by the total number of firms/ unit, total output, total employment and total fixed investment in each state.

The study tries to test the following hypotheses: (1) There is no significant development of entrepreneurship in NEI within each state measured by total number of MSME, total output, total employment and total fixed investment; and (2) There is significant contribution of MSME in employment generation in NEI.

### III. Model

To test significance of the two hypotheses, we use Fixed Effect Panel data model to capture the impact of the variable that vary over time. The fixed effect model using binary variables can be written as follows:

$$PRDN_{it} = \alpha_1 D_{1t} + \alpha_2 D_{2t} + \dots + \alpha_7 D_{7t} + \beta_0 + \beta_1 WEN_{it} + \beta_2 FINV_{it} + \varepsilon_{it} \dots \dots (1)$$

Where PRDN is the dependent variable stands for production/total output, WEN represent number of working enterprises, FINV stands for total fixed investment in the MSME sector. In the above model  $i=1(1)8$  i.e., there are 8 cross sectional unit namely eight states of the NER and  $t$  represents number of years. Here  $t=1(1)8$  and  $\varepsilon_{it}$  is the disturbance term ( $\varepsilon_{it} \sim iidN(0, \sigma^2)$ ). It is assumed that all the independent variables are non-stochastic and uncorrelated with the disturbance term.  $\beta_0$  is the intercept term. To capture cross sectional unit effect (specific effect of a particular state associated with particular state policy), we use binary/ dummy variable.  $D_{it}$  captured the state effect. We take 7 dummy variables to avoid dummy variable trap. We used seven dummy variables as we consider eight states of NEI. The value  $D_{1t} = 1$  for first state (Sikkim) unit effect and 0 for all others. Similarly,  $D_{2t} = 1$  for second state unit namely Arunachal Pradesh and 0 for all others and so on. The term  $\alpha_i$  is the coefficient of  $i^{th}$  dummy regressor. In equation (1), the slope coefficients of independent variables are same from one cross sectional unit (state) to next. We used Least Square Dummy Variable Approach (LSDV) to capture the pooled effect.

### IV. Findings

The results of the panel data analysis show that there has been a continuous steady growth of production of MSME units in some of the North East states namely Assam, Nagaland, Mizoram, and Meghalaya. It indicates that introduction of new North East Industrial and Investment Promotion Policy 2007 was successful. Favourable business environment has been developed (due to favourable tax policy, SEZ policy etc.) within these states. Investors also successfully explore these new business opportunities and number of MSME unit has expanded. Table No.1 captures the trend of production growth in NEI.

**Table 1: Trend of MSMEs Production of Goods & Services in the States of NEI**

Year	State wise production (Rs. Crore)							
	Sikkim	Arunachal Pradesh	Nagaland	Manipur	Mizoram	Tripura	Meghalaya	Assam
2006-07	49.56	256.49	1384.71	160.5	303.35	575.09	437.38	6805.62
2007-08	49.50	292.31	21.93.15	161.94	321.09	646.73	495.37	7444.91
2008-09	55.60	353.16	4814.74	166.93	360.95	744.04	553.92	8039.41
2009-10	84.21	401.50	6530.05	170.10	389.71	828.50	612.18	8656.33
2010-11	117.48	471.58	9762.85	217.10	450.71	987.41	816.90	12708.8
2011-12	129.58	526.48	11456.82	248.50	486.53	1074.5	924.21	13689.3
2012-13	142.35	586.47	13586.75	284.57	549.31	1243.8	1048.60	14259.2
2013-14	156.36	647.52	15478.25	314.27	568.06	1359.2	1243.20	15589.6

Source: Annual Reports MSME 2012-2014, Govt. of India.

The above figure shows that Entrepreneurship development has taken place rapidly into Assam, Mizoram, Nagaland and Meghalaya compare to other four states (Sikkim, Arunachal Pradesh, Manipur and Tripura) in North East India. Now we consider the estimated effect of Number of working enterprises and fixed investment of total output of MSME sector as proposed in regression equation 1. It is given in Table 1.

**Table 2: Estimated Impacts of Change of WEN and FINV on PRDN over Time and Across States**

No. of observation = 64; F (10, 53) = 1156.16; Prob>F = 0.00000; $R^2 = 0.9951$ , Adj $R^2 = 0.9943$ ; Root MSE = 343.64			
Source	SS	df	MS
Model	1.2890e+09	09	143218055
Residual	6376811.8	54	118089.107
Total	1.2953e+09	63	20560941.3

Source: Computed by Author from Annual Reports of MSME 2012-14, Govt. of India.

It is clear from the above table that the value of adjusted  $R^2$  is very high. It reflects that the chosen independent variables have been able to explain the variation of dependent variable in the model. The estimated regression coefficients, their standard error and t values are given in the following Table2.

**Table 3: Regression Estimated of the Impact of WEN and FINV on Expansion of Entrepreneurship**

F (7, 54) = 28.218***						
PRDN	Coefficient	Std. Err.	t	p> t	95% Confidence Intervals	
FINV	1.26738	0.091056	13.92	0.000	1.084828	1.449941
WEN	0.212542	0.046954	4.53	0.000	.1184055	0.3066783
Constant	-427.606	167.611	-5.50	0.000	-1258.264	-586.186

Source: Computed by Author from MSME Annual Reports 2009-10, 2012-13, 2013-14

Note: \*\*\* indicates that the coefficient is significant at one per cent.

The estimated t values show that all the coefficients of the variables are significant; supporting the hypothesis that entrepreneurship development in NEI has taken place in terms of number of MSMEs and fixed investment. The independent variables would correlate with each other and could affect the dependent variable in many ways. So we should go for a check of multicollinearity. We take Variance inflation factor (VIF) to check the multicollinearity among the independent variables. The estimated values of VIF of the independent variables are given below in Table 3.

**Table 4: Estimated Values of VIF Showing the Absence of Multicollinearity**

Variable	VIF	1/VIF
FINV	4.83	0.207093
WEN	6.86	0.14577
Mean VIF	5.845	

Source: Computed by author from MSME Annual Reports 2012-2014.

Both the variable values are less than 10 and the tolerance values are greater than 0.1. It implies that the variable values are not near perfect linear combination of one another. Now we could compare the effect of state dummies fixed effect panel regression with the OLS estimates. It is given in Table 5.

**Table 5: Prevalence of MSME and Entrepreneurship Development of Dependent Variable: Production growth (Year Wise)**

Variable	Fixed Effects Panel	OLS	A Reg.
FINV	1.2673843*	1.2835764*	1.2732452*
WEN	0.21254192*	0.21254192*	0.21254192*
I=2 Dum_ Arunachal Pradesh	-943.30537*		
I=3Dum_ Nagaland	565.3215**		
I=4 Dum_ Manipur	-912.60636**		
I=5 Dum_ Mizoram	-1141.1069*		
I=6 Dum_ Tripura	-166.50111		
I=7Dum_ Meghalaya	-671.64179***		
I=8 Dum_ Assam	-3848.6897*		
Constant	-922.22501*	-32.408796	-922.22501*
# Obs.	64	64	64
R <sup>2</sup> Overall	.99507711	.99507711	.99507711
R <sup>2</sup> Adjusted	.99425663		

Note: \*\*\*, \*\* & \* indicate that the coefficient is significant at 1%, 5% & 10% levels respectively. Dum: State Dummy

Source: Compiled by author from MSME Annual Reports 2012-2014

Result shows that the effect of state dummy is significant for some states. Among the eight states of NEI, Nagaland, Meghalaya, Assam and Manipur and Mizoram have successfully deployed their state policies to accelerate the production of the MSME enterprises. It leads to faster entrepreneurship development in the NER. The other states are not very much successful to implement industrial policy where the MSME enterprises can take advantage for further development.

To test the validity of the second hypothesis we used the concept of employment elasticity of output. This concept is very useful to check the employment generation capacity of the sector. In this paper we use a double- log linear equation relating employment to Gross Domestic Product (GDP). The basic formula of the equation is as follows:

$$\ln L = \beta_O + \beta_I \ln Y \quad \dots \dots \dots \quad (2)$$

Where  $L$  stands for employment and  $Y$  stands for GDP of the economy as a whole.  $\ln$  stands for natural logarithm. Regression coefficient  $\beta_1$  has served as the employment elasticity. In other words,

We used the concept of employment elasticity to capture two different effects. The first one is the change in employment due to change in corresponding sectoral GDP. The interpretation of second one is the change in employment due to change in GDP of the eight different states of NER as a whole. The two types of GDP determined the employment elasticity simultaneously. Here, we have polled both the time series and cross section data to determine the employment elasticity. The pooled regression model specification will be of the following form:

$$\ln L_t = \beta_0 + \beta_1 \ln Y_{itp} + \beta_2 \ln Y_{ip} + \varepsilon_t \quad \dots \dots \dots \quad (4)$$

Where, variables have defined earlier. Subscript  $i$  denote the  $i^{\text{th}}$  sector,  $p$  denotes the  $p^{\text{th}}$  state and  $\varepsilon_t$  is the disturbance term ( $\varepsilon_t \sim \text{iidN}(0, \sigma^2)$ ). The regression equation will capture not only the sectoral GDP but also the state GDP. The table captures the employment elasticity using pooled state time series data. The effect of GDP and GSDP are not same. We can distinguish them in

between employment effect and growth in sectoral GDP/ gross state domestic product (GSDP) and total state GDP/ GSDP. It is shown in Table 6.

**Table 6: Estimated Sectoral Effect of Employment and GDP/GSDP**

		Time period 2006-2013
<b>MSME</b>		
$R^2=0.8627$ , $R^2$ Adjusted=0.8398, $F(9, 54)= 37.70$		
From Sectoral GSDP		1.076719 (.2431929)*
From Total GSDP		-.183144 (.3353636)*
<b>Manufacturing</b>		
$R^2=0.8142$ , $R^2$ Adjusted=0.77833, $F(9,54)=26.30$		
From Sectoral GSDP		-.2755234 (.4381386)**
From Total GSDP		1.329697 (.8515308)**
<b>Service</b>		
$R^2=0.8129$ , $R^2$ Adjusted=0.7818, $F=(9, 54)=26.08$		
From Sectoral GSDP		0.0149525 (.0175064)**
From Total GSDP		0.8205362 (.2894142)**

Significance level: \* Significant at 5%; \*\* Significant at 1%.

The employment elasticity of output with respect to GSDP or income gives some interesting results. First of all, the employment elasticity with respect to total GSDP of the MSME sector appears to be negative. This means, higher total GSDP in the NEI states will lead to lower employment in the MSME sector. MSME sector didn't provide higher employment opportunity compare to other sector with the increase in GSDP. This, in essence, is in line with the structural change theory proposed by Chenery and Syrquin (1975).

So, the above estimates suggest that increase in income/ output of the MSME sector has two counteracting influence. On the one hand, the expansion of MSME sector has boost up employment in the sector. On the other hand, the expansion of the state economy as a whole has reduced the employment of the MSME sector. So, workers of the MSME sector reallocate their service to other sector having opportunity of higher income.

Manufacturing sector gives a different estimate. In this sector, the coefficient of employment elasticity with respect to total income bears a positive sign. This implies that the net employment generation capacity is higher for manufacturing sector. The sectoral contribution with respect to employment generation in manufacturing sector is negative. This is due to the fact that workers of the manufacturing sector will get less employment opportunity within the sector, but they will get more employment opportunity in the other sector with the expansion of the state economy as a whole. The result is very significant in the sense that more skill is required to get employment in the manufacturing sector as it uses more capital intensive technique.

The result of service sector is something different. It shows positive effect within sector income as well as state economy income as a whole. The value of estimated coefficient is very low within the sector. It indicates, although, the employment opportunity within the sector has been increased but the labour absorbing capacity is low. So, workers get more employment opportunity in the other type of the services with the expansion of the state economy as a whole. Note that we have considered a short period. The result may change in the long run. In that situation some of the above estimated coefficients may turn out to be statistically significant.

So far as the second hypothesis is concerned, it is evident from the above estimates that MSME sector has been able to create sufficient employment opportunity within the sector, in eight different states of NEI. However, this sector fails to absorb labour force migrated from agriculture, industry and other sectors with expansion of the economy as a whole. So, the contribution of

MSME, in terms of employment generation is significant within the sector but not within the state or economy of NEI as a whole.

## V. Recommendations

Government has taken several programmes or scheme like National Small Industries Corporation Ltd. (NSIC), Khadi and Village Industries Commission (KVIC) and coir Board, relating to Entrepreneurship Development Programmes (EDPs) and Skill Development Programmes (SDPs) in NER. Again three national level entrepreneurship development institutes have been set up by the Ministry to undertake training programme for skill and entrepreneurship development in NER. The scheme named as Rajib Gandhi Udyami Mitra Yojana, is a scheme for promotion and handholding MSMEs has been launched by the government to encourage entrepreneurship in the NER. All these efforts are not sufficient for the expansion of MSME sector in the NER. Some recommendations for expansion of the MSME sector and development of entrepreneurship are given below: (1) Improved efficiency and profitability of production should be achieved by incremental changes to better utilize the existing resources through innovative community-based programmes implemented by client-oriented staff; (2) In order to improve efficiency, we need participatory methods to identify and target priority problems. Development of scheme and rest interventions for specific locations will be essentials for ensuring ownership and acceptability among the communities. It will increase output and employment simultaneously; (3) A key element will be to identify and promote current best practices of the most successful community members; (4) Special effort focused on modern technology and research and development for value added product should be established for promoting agricultural, forest and allied enterprises; (5) Effort is also required for strengthening effective linkages between MSME-OD, NSIC, KVIC and other organization like NGOs, Regional Rural Bank (RRB), Small Industry Development Bank of India (SIDBI), Commercial Banks and other funding agencies; and (6) MSMEs should explore the modern low cost strategic marketing technique such as Blogging, sending SMS and Emails, developing Website of the company etc. It will make them competitive and help them to become a part of global value chain.

## VI. Conclusion

Entrepreneurship development is an effective tool for employment generation, innovation of new product and diversity among various social groups in an economy. This paper analysed the contribution made by MSME sector in developing entrepreneurship in eight states of NEI. We begin with an overview of this sector in eight states of NEI. We get some recent trends which highlights the development significance of this sector in the economy of NER. The analysis is based on data covers a period from 2006-07 to 2012-13 and study some key indicators of Entrepreneurship such as number of units, total employment, fixed investment and total production. Data analysis reveals that state dummy coefficients are significant for four states namely Assam, Nagaland, Meghalaya and Mizoram. These NE states have created favourable industrial environment within the states to encourage entrepreneurship development in terms of number of MSME units, production, fixed investment and employment. The same did not happen in other four states. They have failed to create favourable industrial environment for expansion of entrepreneurship in terms number of MSME, fixed investment, production and employment.

This paper also captures the contribution of MSME sector in terms of employment generation in the states of NEI. Employment elasticity of output with respect to GSDP or income has been estimated from the available data. Sectoral effect of manufacturing sector is negative. It is due to lack skill formation of the NEI over the years. So, effort from the government is required for more skill and human capital formation in the NER. Service sector shows a different result. Labour absorbing capacity of this sector has been low compare to other states of India. Workers get better job opportunities outside MSME sector. Not only Training but government effort is required for skill development among the work force of the NER.

Last but not least, more support is needed for MSMEs from the government in the form of priority sector lending, government procurement programme, credit and performance ratings and marketing support. The policy makers should focus on to provide possible help to the sector to utilize the potentials of the sector and to revive the sector to act as the back bone of the country's economy and to propel economic growth.

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