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Economic Sustainability and Resilience of MSME sectors: Case of Traditional Craft Industries of West Mithila Region, Bihar

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ABSTRACT: Micro, Small and Medium Enterprises (MSMEs) have a very important role to play in ensuring the processes of economic growth that are inclusive, employment-friendly and maintain regional balance integrating various levels of development. The levels of development may require building resilience of creative community clustering to its integration with overall grouping (ecology) of urban and regional environment. Though MSME sector is the backbone of Indian economy contributing 45% of the industrial output, 40% of exports, 42 million in employment, create one million jobs every year, it is still a very unorganized and informal stage and therefore preparedness for MSME is very important to achieve economic sustainability and resilience. This paper mainly discusses the factors contributing to the resilience of MSMEs by using a conceptual framework derived from the concept of forward & backward linkages; clustering & spatial distribution; networking; and resilience planning through entrepreneurship, local economic development and creation of know-how at the global scale. The central concern for the resilient MSMEs development is to create the synergies between the clustering linkages & its correlation leading to an understanding of MSME growth patterns and embedded geographical production networks & their connectivities for the sustainable economic development.

Keywords: MSME, Resilience, Economic sustainability, Clustering linkages, Production networks

I. INTRODUCTION

The MSME (Micro, Small & Medium Enterprises) sector is largely considered as the backbone of the Indian Economy. Within the MSME sector, it is the traditional knowledge-based craft industries which dominate with 73% share of the total units as per 4th All India Census of MSME (2011-12). Since traditional knowledge-based craft industries are labour intensive in nature, it is very informal and unorganised. In ensuring the sustainable economic development of the overall MSME sector, augmentation of creative traditional knowledge- based craft industries can play a crucial role.

Thispaper explores the potential of Creative Traditional knowledge-based industries in ensuring sustainable economic development of West Mithila Region in Bihar. Maithili-speaking areas are known as Mithila Region. The western part of Mithila Region comprises 7 districts, which are the area of study. The West Mithila region of Bihar is rich in a variety of creative traditional knowledge based industries like- Madhubani paintings and craft, papermache, lac bangles, applique, sujani art, Sikki grass art, tikuli art, etc. At the present time when Bihar is facing economic backwardness and striving for development, importance of traditional art & Craft is reflected as enabler and driver of sustainable economic development.

II. FRAMEWORK OF THE STUDY

The methodological framework of the study is divided into four parts. The first part deals with the assessment of the significance of Traditional knowledge-based craft Industries of the West Mithila Region. In the second part, analysis of the spatial concentration and networking of Traditional knowledge-based craft Industries has been done to understand the craft ecosystem of the region. In the subsequent part, nesting analysis has been done on the basis of location quotient and shift & shares of the region. In final section, outcomes of the study & recommendations are given.

III. ASSESSMENT OF THE SIGNIFICANCE OF TRADITIONAL KNOWLEDGE-BASED CRAFT (TKC) INDUSTRIES

A. Analysis of Nature of Employment

About 91% of the manufacturing sector in the region comprises MSME industries in which micro industry has a large share of about 96%. In the micro industry sector, craft industries have a share of 74% which shows the domination of TKC industries in the manufacturing sector (Bihar Statistical handbook 2014; Census of Handicraft Artisans 2013).

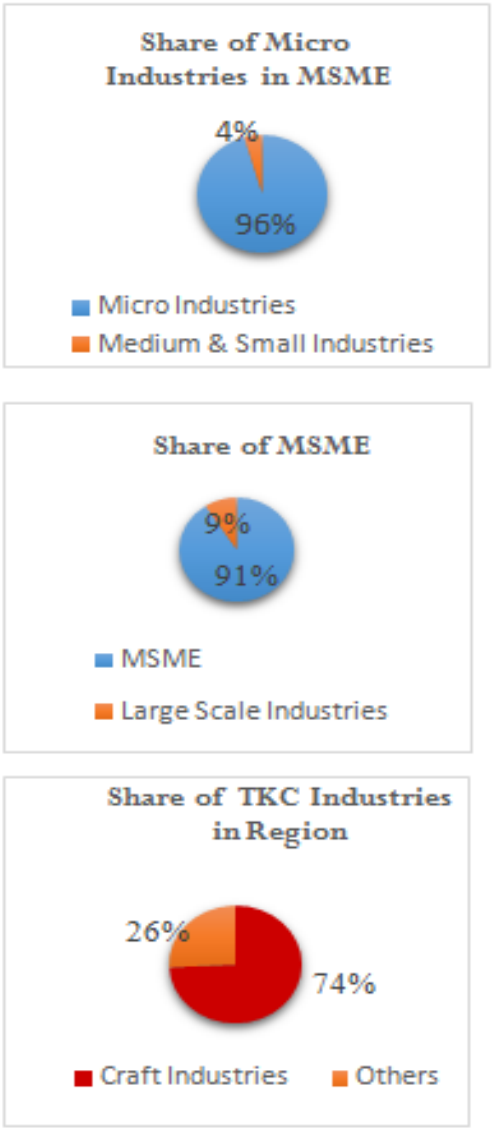

Fig. 1. Share of Industries in Region.

B. Nature of Work of Artisans

84% of artisans are solely dependent on the TKC industries and for the rest 16%, it is a secondary source of income.Among those 16%, majority of artisans are engaged in service sector and agriculture.About 20 % of traditional knowledge-based craft industries of Bihar are concentrated in the Western Mithila Region.It shows the significance of these industries as an enabler of the sustainable economic development of the region.

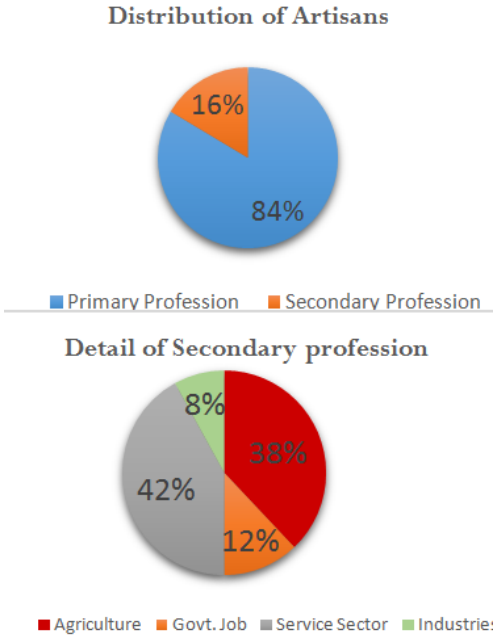

Fig. 2. Nature of Work.

IV. ANALYSIS OF THE SPATIAL CONCENTRATION AND NETWORKING OF TKC INDUSTRIES

A. District Wise Classification and distribution pattern of TKC industries

In order to understand the general pattern of concentration of Traditional knowledge-based craft industries, the blocks and villages and its associated crafts have been mapped as in figure 3. The general pattern of geographical distribution suggests that there are 7 prominent traditional crafts spread over 85 marked villages of 45 blocks of West Mithila region.

B. Spatial Distribution of Artisans in Region

Spatial distribution of artisans has been analyzed by mapping the number of artisans in each district. Madhubani&Darbhanga districts have highest number of Artisans, while East & West Champaranhas least number of artisans.

It has been observed that the districts like W. Champaran and E. Champaran having lowest artisan population are the districts which have high out-migration rates.

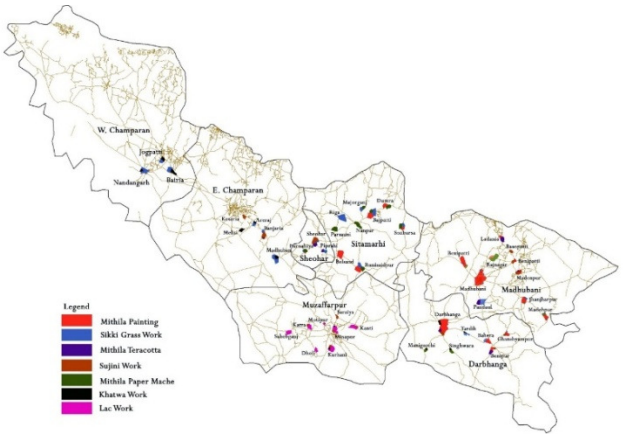

Fig. 3 Distribution of Craft.

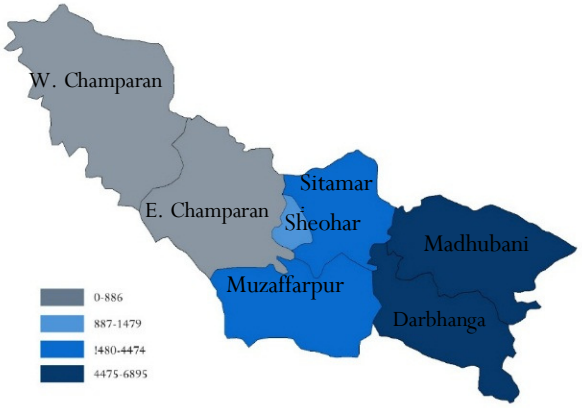

Fig. 4. Distribution of Artisans.

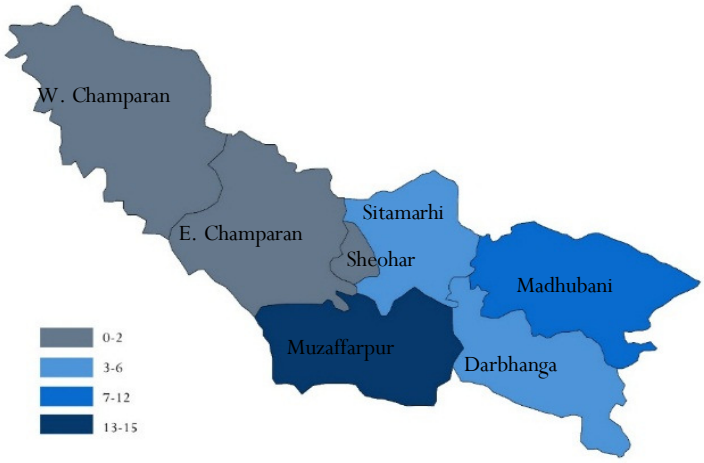

Fig. 5. Distribution of Craft Clusters.

C. Number of Clusters Identified in Region

It is evident from the analysis of the geographical distribution of the clusters over the region that despite the highest number of artisans in Madhubani and Darbhanga, the number of organized cluster is highest in Muzaffarpur.

V. FACTORS OF DEVELOPMENT

A. Detailed Analysis of Spatial Distribution of the Factors of Development

According to Brian Berry, the factors of economic development of a region depends on the social, political, cultural, physical geographical, physical and other geographical factors.

During survey, a set of 5 factors and 21 indicators were identified which affect directly or indirectly the development of traditional art & craft industries. Each one of the 5 factors and 21 indicators of were analyzed by the method of categorical judgment in identified blocks. The details of the 5 factors and 21 indicators are given below. For the development of TKC industries in the region, the indicators having the positive vector must be developed and the negative vectors have to diminish. Higher the value of positive indicator, the better the situation and lower the value of negative indicator, the worse the situation.

B. Weightage of the factors of development

Ranking of the factors of development was done as per expert opinion surveys and then the final weightage of each of the factors was analyzed using the method of pair-wise comparison.

C. Factor analysis by Categorical Judgment

Factor analysis has been done to generate the ranking of identified 45 blocks for assessing propensity of development. A Set of 21 indicators has been taken for each of the five factors. The normalization of each indicator has been done using least square method. In this method, we multiply the normalized indicator by its direction vector. The mean of the indicators are multiplied by the weightage of each factor. The summation of the weighted factors is done to get the block ranking for assessing propensity of development.

Table 1: Details of factors and indicators.

Factors		**Indicators**	**Direction Vector**
Parameters of quality of life	**Education**	Literacy Rate	positive
		No. of College(>class 10)	positive
	Health Infrastructure	Sex Ratio (2011)	positive
		Death rate(2011)	negative
		No. of Health Infrastructure	positive
	Basic Facilities	% of HHs without electricity	negative
		% of HHs without bathing facility	negative
		% of HHs without waste-water drainage facility	negative
		% of HHs without sanitation facility	negative
		% of HHs with far sources of drinking water	negative
		% of HHs without kitchen	negative
Human Resources		% HHW(2011)	positive
		% change in HHW (2001-11)	positive
		No. of artisans	positive
		No. of villages	positive
Banking & Finance		No. of Banks	positive
		% of HHs availing banking service	positive
Growth potential		Level of urbanisation (2011)	positive
		Growth rate of population (2001-11)	positive
		Population Density	positive
Transport & connectivity		Road length of SH, NH/ sq.km	positive
		Road length/ sq.km	positive

Table 2: Factors and Weightage.

Factor	Weightage
Connectivity	**0.427**
Human Resource	**0.213**
Banking & Finance	**0.142**
Growth Potential	**0.122**
Quality of Life	**0.094**

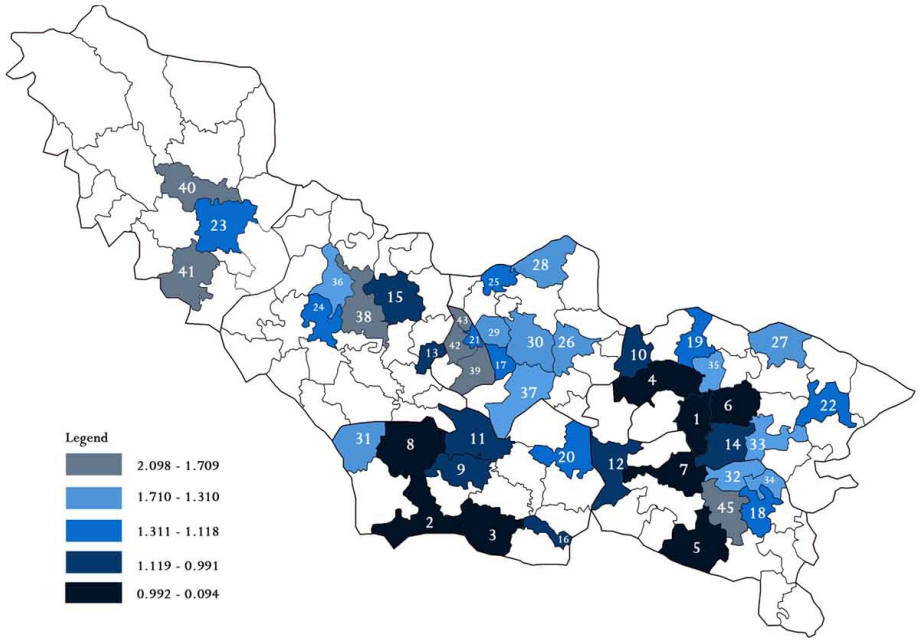

Fig. 6. Development of prosperity in block.

Table 3:Location Quotient Analysis.

District	Total Working Population	No. of Artisans	Location Quotient
Sitamarhi	1114583	2754	0.002470879
Madhubani	**1636938**	**7409**	**0.004526134**
Sheohar	216372	14790	0.002864214
Muzaffarpur	**1547586**	**4474**	**0.003898618**
Darbhanga	**1223640**	**5148**	**0.003616083**
E. Champaran	1737539	1386	0.00079768
W. Champaran	1478947	1082	0.000731602
Bihar	34724987	2994239	0.086227217

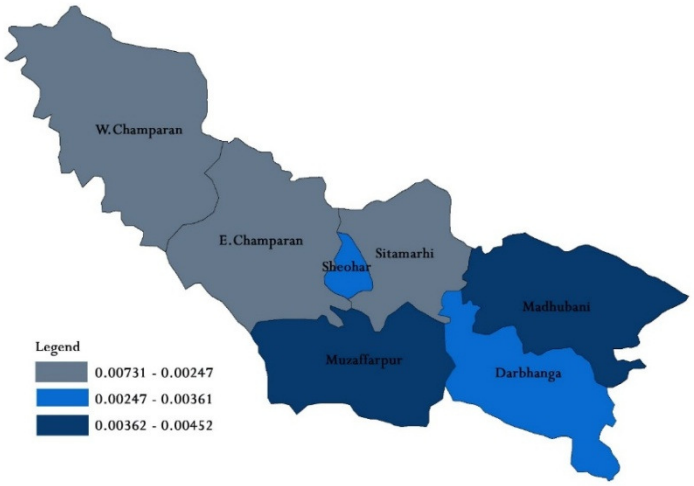

Fig. 7. Location Quotient Map.

Table 4: Shift and Share analysis of the region.

Region		**Sitamarhi**	**Madhubani**	**Sheohar**	**Muzaffarpur**	**Darbhanga**	**E. Champaran**	**W. Champaran**	**Bihar**
Total Employment	2011	1114583	1636938	216372	1547586	1223640	1737539	1478947	34724987
	2001	855000	1228000	161000	1140000	1029000	1287000	1287000	27975000
Employment in Craft Industries	2011	2754	7409	1479	4474	5148	1386	1082	2994239
	2001	2215	6987	1254	3921	4798	1035	892	2267562
Absolute increase in employment (G) Year 2001-11	nos.	259583	408938	55372	407586	194640	450539	191947	6749987
	%	30.36	33.3	34.39	35.75	18.92	35.01	14.91	24.13
National Share(N)	nos.	243739	350072	45897	324986	293343	366892	366892	7974982
	%	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
Total Shift (P+D)	nos.	15844	58866	9475	82600	-98703	83647	-174945	-1224995
	%	6.5	16.82	20.64	25.42	-33.65	22.8	-47.68	-15.36
Industrial Mix Component	nos.	16200	59314	9406	82531	-98455	83479	-175024	-363980
Locational Component	nos.	**-263**	**-448**	**69**	**65**	**-248**	**222**	**79**	**1669226**

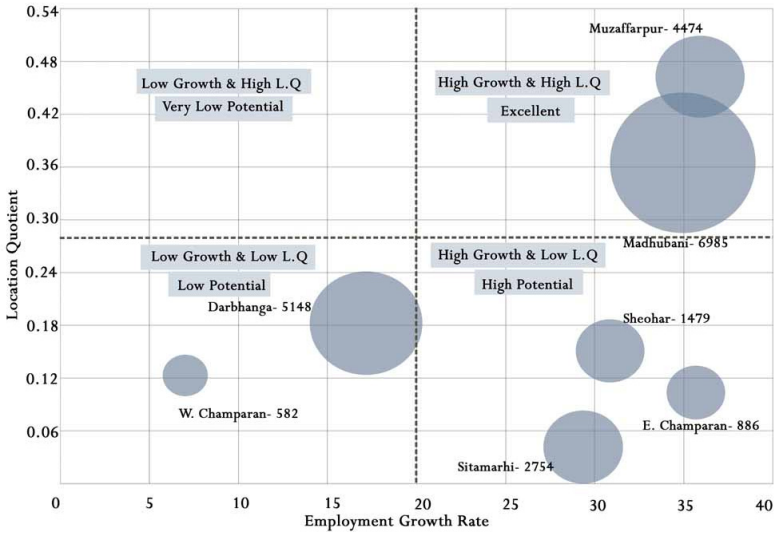

Fig. 8. Inferences of location quotient and shift & shares.

In figure 6 the block rankings of the identified 45 blocks have been shown in map.

VI. NESTING ANALYSIS

The nesting analysis of the traditional knowledge-based craft industries can be done by the methods of location quotient and shift & shares of the region.

A. Location Quotient of the Region

The Objective of the location quotient is to find out the potential centers of development craft clusters. For location quotient analysis, total number of artisans is taken from the registered data of Development Commissioner (Handicraft) and working population data was taken from the Census 2011. Basically location quotient of a district is the ratio of number of artisans to the working population.

Madhubani has the highest nesting of artisans in the whole region, preceded by Muzzafarpur and Darbhanga. The GIS mapping of the values of location quotient has been done and final map is given in figure 7.

B. Shift & Share Analysis

Shift and share analysis of TKC industries of region has been done to figure out its present situation in comparison to the national growth. In shift and share analysis, absolute increase in employment, national share, total shift, industrial mix component and total share component are calculated for the each of the block of the region. Shift and share analysis has two different applications. On the one hand, economic geographers and regional scientists apply the technique to analyze regional economic performance. On the other hand, planners use shift and share analysis as a forecasting tool to see how national growth trend forecasts will affect a sub national region

C. Inferences of Location Quotient & Shift & Share Analysis

The districts with high employment growth and high location can be developed as central hub for the craft industries. The districts having low employment growth and low location quotient are the ones of low potential to develop. So, extra care must be taken to develop this part of the region.

VII. RECOMMENDATIONS & CONCLUSIONS

The West Mithila Region has a rich heritage of traditional art & craft. Over the years, the economic backwardness of Bihar has led to the migration of these artisans to urban areas in search of odd jobs as daily laborers, rickshaw puller, *chai-wallahs,* etc. Due to shifting of job of artisans, the traditional knowledge-based craft industries are shrinking day by day. So the augmentation of traditional art & craft industries is very important to preserve the identities of these artisans and there by contributing to sustainable economic development of the region.

The aim of the present study is to find out the spatial distribution of TKC industries, their potential and weaknesses and thus framing the recommendations. There are various direct and indirect factors of the development of the traditional art and craft industries. The direct factors are related to the issues of capacity development, marketing and value addition while the indirect factors are education, quality of life indicators, banking facilities, connectivity, etc.

Value addition and marketing are the most important issues of these industries. Consequently, marketing, R&D units and training centers must be proposed in craft clusters. Presently Development Commissioner (Handicrafts) is working on the R&D programs with collaboration of NIT Patna and NID Ahmedabad. Thus for the augmentation of traditional knowledge-based craft industries, the holistic approach of development is needed to implement broad policy guidelines as well as area specific action plans.

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