



AGRICULTURE BASED VILLAGE ENTERPRISES: A CLUSTER APPROACH

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Introduction

All types of industries are making use of a single or a set of technologies for their operation. The term technology is derived from the Greek words: '*techne*' meaning skill or craft to make something and '*logos*' meaning knowledge. In other words, technology can be defined as combination of types of knowledge required to carryout the necessary operations for transforming the factors of production into product, the use of that knowledge or provision of services. Hence, technology implies both the physical process of transforming inputs in to desired outputs and the arrangements needed for organizing this transformation.

When considered from the view point of its strategic importance small scale industries in India is a vast sector, producing more than 7,500 products, contributing 40% of industrial manufacturing, accounting for 35% India's total export and emerging as the second largest provider of employment – to about 17 million persons.

In recent times a new approach has emerged in Europe, especially 'Third Italy' model popularly known as 'industrial district' or "cluster". According to UNIDO a cluster is "A sectoral and geographical concentration of enterprises faced with common opportunities and threats which: a) gives rise to external economies i.e. specialized suppliers of raw material, components and machineries; sector specific skills etc. (b) favors the emergence of specialized infrastructures and services; (c) enables cooperation among public and private local institutions to promote local production, innovation and collective learning" (Ceglie and Dini, 1999).

In USA, a cluster is defined as: "A geographically bounded concentration of similar, related or complementary businesses, with active channels for business transactions, communications and dialogue, that share specialized infrastructure, labor markets and services, and that are faced with common opportunities and threats" (Rosenfield, 1996)

Cluster in India have been known to exist as efficient production and business systems for centuries, much before SSI development was taken up as an important agenda by the policy makers. These clusters, which existed traditionally, were both artisan based as well as modern SSI - based. It is estimated that 350 modern SSI cluster exist in India in addition to the 2,000 artisan based rural clusters. The United Nations Industrial Development Organization (UNIDO) has conducted a study on the restructuring and the modernization of the small Industry clusters in India. The study considers an initial list of 138 clusters in 16 states covering 18 types of industries. Of these 138 clusters, 125 have been classified as natural, based on their origin, while the remaining 13 have been identified as induced clusters. The break up of distribution of 138 clusters is Tamil Nadu (8 clusters), Harayana (12 clusters), Uttar Pradesh (13 clusters), Himachal Pradesh (7 clusters), Gujarat (20 clusters), Punjab (14 clusters), Maharashtra (24 clusters), Assam (1 clusters), West Bengal (9 clusters), Karnatka (4 clusters), Orissa (3 clusters), Rajasthan (14 clusters), Delhi (3 clusters), Madhya Pradesh (2 clusters), Andhra Pradesh (1 clusters), Kerala (2 clusters).

In Maharashtra various selected clusters are located in different districts

- 1. Automobile Components Aurangabad
- 2. Automobile components Pune
- 3. Bed Spread Sholapur
- **4. Brass Goods Bhandara**
- 5. Electronics Pune
- 6. Electronics Mumbai
- 7. Food Products Pune
- 8. Ganesh Statues Pen Panvel
- 9. Kum Kum Kem Sholapur District
- **10. Lakh Bhandara**
- 11. Readymade Garments Mumbai
- 12. Silver Ornaments Huppari
- **13. Beedi Bhandara / Shihhar**
- **14. Chunna Bhatti Rajura**
- 15. Foundry Kolhapur
- 16. Kaju Vauguria / Ratnagiri
- 17. Chemicals Vashi
- 18. Chappals Kolhapur
- 19. Diesel Engines Kolhapur
- 20. Powerlooms Bhivadi
- 21. Power looms Text Processing Bewandi / Malagarh
- 22. Sarees Paithan
- **23. Sarees Power loom Nagpur**
- 24. Shipping Industry Malegaon

Thus it is apparent that out of 24 clusters only 5 clusters are located in Vidarbha and none of them is located in Wardha district.

Wardha District at a Glance:

As per the record of District Industry Centre (DIC), the total number of registered industries are 1,469 giving employment to about 7,012 persons. The total investment in all the industries is about Rs. 756.6 million. The details of the industries in Wardha district are given below in a tabular form it also contains information about proposed industries.

Table showing existing and proposed Micro, small and Medium enterprises, employment, investments and production capacity in Wardha District

Sr. No.	Industry	No. of Enterprises		Employment		Investment (Rs. in Lakh)	
		Existing	Proposed	Existing	Proposed	Existing	Proposed
01	Food and Beverages	175	514	948	1408	1882	3629
02	Manufacture of Textile	54	94	448	643	1183	1019
03	Wearing Apparel; Dressing and Dying of fir	30	63	94	771	53	85
04	Tanning and dressing of leather, Manufacturing of Luggage, Handbags saddler, harness and	43	79	218	327	27	339

	footwear						
05	Wood, Products of wood, Cork, Articles of straw, plating material	28	233	154	1078	173	1110
06	Paper and paper products	24	58	166	588	205	391
07	Publishing, Printing and reproduction of recorded media	84	180	463	638	548	274
08	Chemicals and chemical products	65	253	344	1203	128	1929
09	Non metallic mineral products	89	39	732	356	947	323
10	Fabricated metal products	73	708	593	3506	434	2805
11	Machinery and equipment NEC	93	41	842	457	1238	240
12	Motor vehicles, Trailers and semi trailers	3	0	67	0	243	0
13	Furniture NEC	73	258	468	504	48	200
14	Collection, Purification and distribution of water	4	10	27	18	46	98
15	Maintenance & repair of motor vehicle, motor cycle, Retail sale of automotive fuel	78	275	172	540	32	115
16	Maintenance and repair of personal and household goods	173	227	274	383	45	98
17	Computer and related activity	64	178	372	471	89	2025
18	Other business activities	153	105	242	191	68	104
19	Other service activity	163	679	388	1514	177	898
	Total	1469	3994	7012	14596	7566	15712

Courtesy: DIC, Wardha

Agriculture scenario in Wardha District

The **geographical area** of Wardha district is **628,900 hectare**. Out of this **429,600 hectare** area is cultivated during rainy season. In Wardha district the **total population** is **1,231,000** (636,000 men and 595,000 women). Of this population **140,000** people are classified as **cultivators**. It includes **90,000 small and marginal farmers**. The farming sector is supported by **239,000 agriculture laborer**.

The artisan population is 5,000. In cottage and household industries about 4,000 people are engaged. The Agro and allied industries has work force of 31,000

personnel. About 47,000 people are associated with other kinds of work (According to 2001 census).

The rural population is extensively organized either in to Self Help Group, or Water User group or as Youth Groups. As of now there are more than 5,000 SHGs in Wardha District and most of them are of rural women. Majority of them have small savings in the bank account.

The farming community of Wardha district grows variety of crops in their farm either by using energy intensive chemical fertilizer and pesticide based production system or organic farming based production system. The details of

the two major crops in Wardha district are given below.

Cotton (*Gossipium herbacium*)

This crop is the main cash crop for the people of Vidarbha area. Farmers having

dry land predominantly grow this crop. The area covered by this crop during different cropping season in Wardha district is given below in a tabular form.

Sr. No.	Year	Area (Hectare)
01	2000-2001	153,124
02	2001-2002	158,072
03	2002-2003	126,430
04	2003-2004	110,731
05	2004-2005	108,958
06	2005-2006	096,632
07	2006-2007	081,200 (predicted)

From the table it is apparent that the area under cotton cultivation is reduced considerably. During 2000-2001 the area covered under this crop was 153,124 hectare & it is equal to 35.64 % of the total cultivable area. However during 2006-2007 the area covered by Cotton was only 81,200 hectare or 18.9% of the total cultivable area. A considerable (50%) reduction in the total area and that too in a period of seven years is very much apparent.

Soya Bean (*Glycine max*)

Soya bean is recently (1995-1996) introduced cash crop in this region. It is preferred by the farmers because the cost of cultivation is less (less labor intensive), demand of water is limited (rain fed), this crop is of shorter duration, its productivity is good and last but not the least the financial benefits are handsome. Because of these feature the area of Soya bean cultivation has increased from 29.16% during 2000-2001 to 47.32 during 2006-2007.

Sr. No.	Year	Area (Hectare)
01	2000-2001	125,297
02	2001-2002	121,018
03	2002-2003	145,710
04	2003-2004	150,159
05	2004-2005	181,324
06	2005-2006	199,697

Thus **Cotton & Soya bean** are the only cash crop of this area and at present there is no additional alternative to it for farmers having dry land. Hence farmers of Vidarbha will keep on growing these crops even in future and there is no possibility of further reduction in the area. The third emerging alternative to the farmers is growing sugarcane, vegetables and fruits (16,035.61 Hector areas under Orange.).

Thus if the policy makers wants to create a set of industries in the district then the raw material generated in the agriculture field will play a major role in setting the pattern.

Forest in Wardha District

The north blocks (Ashti, Arvi, Karanja and Seloo) of Wardha district have good forest cover. Out of total geographical area of the district (6,310 Sq. Km) the forest cover is found in 1,046 Sq. Km area. Though the major cover in the forest is that of the teak, other non timber forest products are also found in appreciable quantity. In addition to teak, which is a timber product, Wardha forest gives substantial amount of honey and gum. The third important resource which is not finding its utility in any sector at present is weeds. Weeds of woody types are extensively found in the forest and according to our finding they can be

productively utilized for generating rural enterprises. Schedule tribe and scheduled cast populations of the district derive marginal benefit from all this forest wealth. Since typically this population belong to below poverty line (BPL), any increment in the income in this sector, by virtue of rural industrialization, will benefit the disadvantageous sector of the district.

Thus we are proposing a set of industries which should be promoted in the district for generating rural employment by using existing natural resources.

Industrialization in Wardha District

01 Manufacture of Bio-fertilizer, Bio-pesticide etc.

Total number of Units:	15
Employment:	150
Unit cost:	20 lakhs
Total cost:	300 lakhs
Production quantity per unit per year:	01 lakh Kg
Value of production per year per unit:	Rs. 50 lakhs
Net Profit per unit:	Rs. 15 Lakhs

02 Manufacture of textile (Khadi)

Total number of spinning units at village level:	100
Employment:	1,000
Investment	500 Lakhs
Production quantity per unit per year:	300000 hanks
Labor charges paid per person per year:	Rs. 30,000/-
Total number of weaving units:	015
Employment:	300
Investment:	750 Lakhs
Production quantity per unit per year:	60,000 Meter cloth
Value of cloth:	Rs. 20 to 60 lakhs

03 Manufacture of Wearing Apparel, Dressing and Dying of Fur

Total number of units:	100
Employment:	1,000
Investment:	1,000 Lakhs
Production quantity per year for all the units:	15 lakhs Apparel
Value addition:	750 lakhs

04 Manufacture of Food Products and Beverages

Total number of units:	100
Employment:	1,000
Investment:	1,000 Lakhs

Wardha district has many positive aspects which are related to location, environment, history, polity and movements of variety of kinds. The district has many voluntary agencies (educational, technical, financial etc.) working for the village development by using appropriate technologies and methodologies. As mentioned earlier villagers are organized in to functional SHGs etc. Thus there exist effective mechanisms to create a set of cluster of viable industries in the district. The potential areas of cluster development are given below.

	Production quantity per unit per year:	10,000 Kg food products
	Value of processed food:	5 lakhs
05	Manufacture of Paper and Paper Products	
	Total number of pulp making units:	100
	Employment:	300
	Investment:	1,500 Lakhs
	Production quantity per unit per year:	30,000 Kg pulp
	Value of processed pulp:	15 lakhs
	Total number of Paper making units:	10
	Employment:	200
	Investment:	200 Lakhs
	Production quantity per unit per year:	2.5 lakh Kg paper
	Value addition of paper:	60 lakhs Ruppes
	Total number of particle board making units:	08
	Employment:	150
	Investment:	400 Lakhs
	Production quantity per unit per year:	2 lakh boards (2 feet by 3 feet by 12 mm)
	Value addition of paper:	60 lakhs Ruppes
06	Tanning, Dressing of Leather, Manufacture Luggage, Handbags Saddle, Footwear	
	Total number of units:	15
	Employment:	200
	Investment:	300 Lakhs
07	Manufacture of Wood products, Cork articles of straw & Plating Materials	
	Total number of units:	100
	Employment:	1,000
	Investment:	1,000 Lakhs
08	Manufacture of Furniture	
	Total number of units:	25
	Employment:	250
	Investment:	250 Lakhs
09	Manufacture of Oil and Oil based products (from edible and non edible oil)	
	Total number of particle board making units:	25
	Employment:	250
	Investment:	375 Lakhs

10 Manufacture of value added products from Non Timber Forest Products (NTFP), like Honey, Gum, Medicinal Herb etc.

Total number of small (ancillary) units:	100
Employment:	1,500
Investment:	300 Lakhs
Total number of big units:	25
Employment:	300
Investment:	1,000 Lakhs

Summary

To summarize for achieving 4% growth in the agriculture through rural industrialization we are proposing to establish 738 industrial units which will create job opportunities for 7600 people (men and women) belonging to rural sector by investing Rupees 887.5 million.

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