

# *Diagnostic Study Report*

## **INDORE PHARMA CLUSTER Madhya Pradesh**



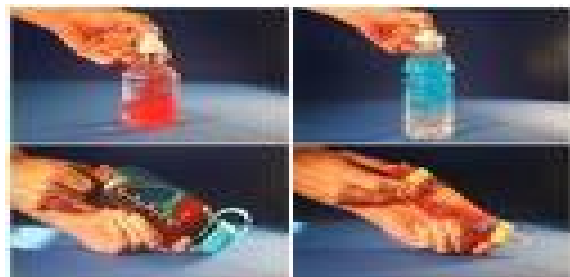
*Submitted to :*

***PMD DIVISION  
SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA***

**BY**

**APITCO**  
LIMITED  
Engineering Growth  
HYDERABAD

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### List of Abbreviations

APITCO	Andhra Pradesh Industrial & Technical Consultancy Organization
APM	Association of Pharma Manufacturers
BDS	Business Development Services
BMOs	Business Member Organizations
CAGR	Cumulative Annual Growth Rate
CMC	Combined Medical Center
CRO	Clinical Research Outsourcing
DCA	Drug Control Authority
DFID	Department for International Development
DIC	District Industries Centre
DMF	Drug Master File
DPCO	Drug Price Control Order
DSR	Diagnostic Study report
EOR	End of Project Report
EU	European Union
FDA	Foods and Drugs Administration
FIs	Financial Institutions
GMP	Good Manufacturing Practices
Gol	Government of India
Govt.	Government
GTZ	Deutsche Gesselleschaft fur Technische Zusammenarbeit
HO	Head Office
ICICI	Industrial Credit and Investment Corporation of India
IDAs	Industrial Development Areas
IIDCs	Industrial Infrastructure Development Corporation
IIE	Integrated Industrial Estates
IPQC	In process Quality Control
IPR	Intellectual Property rights
ISO	International Standards Organization
KFW	Kreditanstalt fur Wiederaufbau
M&E	Monitoring & Evaluation
MBA	Master of Business Administration
MNCs	Multi National Companies
MRP	Maximum Retail Price
MSMEs	Micro Small and Medium Enterprises
NIPER	National Institute of Pharmaceutical Education and Research
PCB	Pollution Control Board
PMA	Pharma Manufacturers Association
PMD	Project Monitoring Division
PPP	Public Private Partnership

R&D	Research & Development
RMS	Raw Material Suppliers
MCS	Machinery Suppliers
MFU	Manufacturing Unit
SC 'M'	Schedule "M"
SIDBI	Small Industries Development Bank Of India
SMEs	Small & Medium Enterprises
SSI	Small Scale Industries
TIs	Technical Institutions
USA	United States Of America
USD	United States Dollar
WHO	World Health Organization
PERD	B V Patel PERD center
LMCP	LM College of Pharmacy
NIT	Nirma Institute of Technology

## Executive summary

With the intent to facilitate increased flow of credit to MSMEs and support other developmental initiatives, SIDBI is implementing a multi-agency, multi-activity flagship project on financing and development of Small and Medium Enterprises in India.

SIDBI has been assigned with the responsibility of implementing the project. Banking Division, DEA of the Ministry of Finance; Government of India (GoI) is the nodal agency for the same. For implementation of the project, SIDBI has set up a dedicated Project Management Division (PMD) at New Delhi. The World Bank, Department for International Development (DFID), UK, KfW and GTZ, Germany are the major international partners in the project.

The objective of this project is to, inter alia, improve MSME access to finance (including term finance) and market oriented BDS, thereby fostering MSME growth, competitiveness and employment creation. The project is designed to achieve this objective through a multi-pronged approach that will address key bottlenecks to MSME financing and development in India.

APITCO has emerged as the preferred bidder for Pharmaceutical sub-sector after evaluation of its competencies by SIDBI-PMD in technical and commercial areas. The total project duration is 32 months.

The Pharmaceuticals cluster of Indore is situated in the city of Indore (Polo ground, Sanwer road, Laxmi Bai nagar) & 3 more industrial areas including Dewas (Dewas district), Ujjain (Ujjain district) & Pithampur (Dhar district). These places are situated in a radius of 25 kms.

These units are producing allopathic and ayurvedic formulations in various dosage form including syrups, tablets, capsules, ointments, I.V fluids & eye drops. Some units are also into the production of bulk drugs.

### Cluster at a glance

Parameter	
<ul style="list-style-type: none"> <li>■ Spread of the Cluster (r)</li> </ul> <b>Indore, Dewas, Ujjain, Pithampur (Dhar)</b>	25 km
<ul style="list-style-type: none"> <li>■ Total Units (Nos.)</li> <li>➤ Allopathy Formulation</li> <li>➤ Ayurvedic Formulation</li> </ul>	158 98
<ul style="list-style-type: none"> <li>➤ Aggregate Employment (Nos.)</li> </ul>	14000
<ul style="list-style-type: none"> <li>■ Estimated Turnover (Rs.Crores)</li> </ul>	2500
<ul style="list-style-type: none"> <li>■ Products</li> </ul>	Tablets, Capsules , Syrup, I.V.Fluid, Ointment, Eye drops
<ul style="list-style-type: none"> <li>■ Major Stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Manufacturers</li> <li>• Government &amp; support Institutions</li> <li>• Raw material suppliers, M/C suppliers, Support Firms, Financial Institutions and bankers</li> </ul>
<ul style="list-style-type: none"> <li>■ Major BDS Providers</li> </ul>	<ul style="list-style-type: none"> <li>• Testing Labs, Financial consultants, Educational &amp; Technical Institutes etc.</li> </ul>

### Overview of BDS Market:

As the regulatory requirements and technology of pharmaceuticals are fast changing on a regular basis, to understand and adopt the same is difficult for pharma SMEs as they can afford to employ qualified personnel exclusively for this purpose. Hence, the pharma SMEs has to depend on BDS service provider to meet some these requirement. By address these changing requirements, the pharma SMEs can improve their productivity, profitability and sustainability, some time even the existence.

As the demand for various categories of BDS providers are increasing due to presence of large base of small and medium enterprises in Pharma sector, the service providers are inadequate to the cater the industry. Due to short of service providers and high demand of available service providers, many a times these service providers are not in the reach of pharma SMEs. Therefore to make the BDS affordable by SMEs, it is suggested to empower existing BDS service providers

BDS market in the cluster is weak. Most of the manufacturers are availing BDS services from those who are located at Hyderabad, Ahmedabad, Mumbai, Baroda, Nasik etc. No BDS is locally available on quality compliance issues. CAs are available locally and they are providing services on taxation and preparing the financial proposals for credit requirements

Demand side constraints

- High Cost of Business Development Services
- Poor networks among the firms resulting in lack of utilization of services
- Fear of leak of technical know how

Supply side constraints

- Weak penetration of BDS providers poor marketing techniques
- Information of services not known to the units as specially regarding individual consultants
- BDS providers preferred to cater to large & medium firms

**Major issues and suggested interventions**

Issues	Suggestive intervention
<ul style="list-style-type: none"> <li>• Price fluctuation</li> <li>• Quality raw material (ayurvedic)</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitization workshop for formation of consortium for Raw material procurement</li> <li>• Linkages with farmers</li> </ul>
<ul style="list-style-type: none"> <li>• Poor adherence to quality compliance norms</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness Workshop on Quality Compliance</li> <li>• Conducting pilot audit for implementation of cGMP/WHO-GMP/ISO in few firms</li> </ul>
<ul style="list-style-type: none"> <li>• Limited local market</li> <li>• Low level of exports</li> <li>• Low contract manufacturing</li> <li>• Low institutional marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Interactive meet with local Doctor's</li> <li>• Development of web portal for domestic as well as export market.</li> <li>• Sensitization workshop on export procedure and documentation</li> <li>• Active support in export promotion. Brand building by organizing national/ international event on pharmaceuticals.</li> </ul>

<ul style="list-style-type: none"> <li>• Scarcity of skilled manpower</li> </ul>	<ul style="list-style-type: none"> <li>• Organize Short term training programmes in the areas of quality assurance, quality control, production etc</li> <li>• Linkage with ITI / technical educational Institutions for regular source of human manpower</li> <li>• Creation of videos for in local language or various quality issues.</li> </ul>
<ul style="list-style-type: none"> <li>• Limited encouragement of Banks for working capital</li> </ul>	<ul style="list-style-type: none"> <li>• Organizing bankers Meet</li> <li>• Create and popularize products for cGMP, WHO-GMP, testing and manpower training.</li> </ul>
<ul style="list-style-type: none"> <li>• Improper utilization of energy</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct awareness workshop on energy management</li> <li>• Conducting pilot energy audit in 4 firms</li> </ul>
<ul style="list-style-type: none"> <li>• Lack of awareness on advanced production management software</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitization workshops and training programme for production team</li> <li>• Creation of cluster specific product for inventory, promotion etc.</li> </ul>
<ul style="list-style-type: none"> <li>• Lowly active association and institution.</li> <li>• Lack of research institutions.</li> </ul>	<ul style="list-style-type: none"> <li>• Organizing BDS meet.</li> <li>• Link with national research institution of repute</li> </ul>

## Chapter – 1 Introduction

### 1.1 Background

BDS markets in developing countries are mostly underdeveloped. This is a result of both an insufficient articulation of demand on the part of SMEs as well as weaknesses in supply. SMEs are mostly not convinced of the impact these services have on their businesses. They are at times unaware of BDS availability, with many being unable or unwilling to pay for existing services. On the other hand, BDS providers mostly offer supply-driven services or services that are unaffordable for SMEs. Therefore, there is a need for intervention to stimulate BDS market development.

With a view to enable BDS market development and make Indian SMEs to enhance their competitiveness, SIDBI has initiated a project to provide need-based and demand driven BDS in the areas of technology, markets, skills, ICT, energy, environment etc. in select clusters. The project funded jointly by World Bank, DFID, KFW and GTZ, aims at providing BDS through professional organisations with proven track record in extending demand driven BDS and implementing cluster development interventions.

APITCO has been chosen by SIDBI-PMD Division as the Facilitator Agency for the development of BDS markets in the Indore Pharmaceutical cluster. The project to be implemented over 32 months has 4 phases viz. a) pre Implementation, b) implementation, c) sustainability and d) exit

### 1.2 Methodology :-

The methodology for preparing the Diagnostic Study Report has been prepared in a step-by-step process as is given

1. Collection of Secondary Data
2. Collection of primary data
3. Data Compilation and Analysis
4. Preparation of Draft Report

### **1.2.1 Collection of Secondary Data**

The secondary data was collected through related Government Institutions and departments like DTIC, MSME-DI, Food & Drug Administration, MPAKVN, Associations etc. Some data was also collected through related web sites.

### **1.2.2 Collection of Primary Data**

Primary data was collected by adopting a three pronged strategy given as below:

- (a) Through Questionnaires based survey of manufacturing units, raw material suppliers, machinery suppliers, packaging material supplier and BDS providers related to industry.
- (b) Focus Group Discussions of a core team comprising of Cluster Manager and Net Work Expert with the help of Subject Expert and Project Manager along with association members, raw material suppliers, packaging material suppliers, etc.

### **1.2.3 Data Compilation & Analysis**

The primary and secondary data collected was compiled a comprehensive analysis regarding status of the cluster, BDS providers, key issues and required interventions were conducted.

### **1.2.4 Preparation of Draft Report**

Based on the compiled data and analysis this draft DSR was prepared as per the specification given by Monitoring & Evaluation Agency.

## Chapter – 2 Framework

### 2.1 The Cluster

The Pharmaceuticals cluster of Indore is situated in the city of Indore (Polo ground, Sanwer road, Laxmi Bai nagar) and 3 more industrial areas including Dewas (Dewas District), Ujjain( Ujjain District) & Pithampur ( Dhar District). These places are situated in a radius of 25 kms. The location map is enclosed in annexure –1.

These units are producing allopathic and ayurvedic formulations in various dosage form including syrups, tablets, capsules, ointments, I.V fluids & eye drops. Some units are also into the production of bulk drugs.

Sl. No.	Location	No. of units in Allopathy	No. of units in Ayurvedic
1	Indore	102	75
2	Dewas	08	07
3	Pithampur	30	08
4	Ujjain	18	08
	<b>Total</b>	<b>158</b>	<b>98</b>

(Source: -Food & Drug Control office)

### 2.2 Production Process

#### 2.2.1 Tablets

Tablet manufacturing, starting from raw material procurement to dispatch for marketing. involves 10 stages. As per regulatory requirements, all the incoming raw materials are to be tested to set standards as per prescribed procedures. The approved material are charged into a mixing machine for dry mixing. Binding agents are added to the dry mixed raw materials to make a dough.

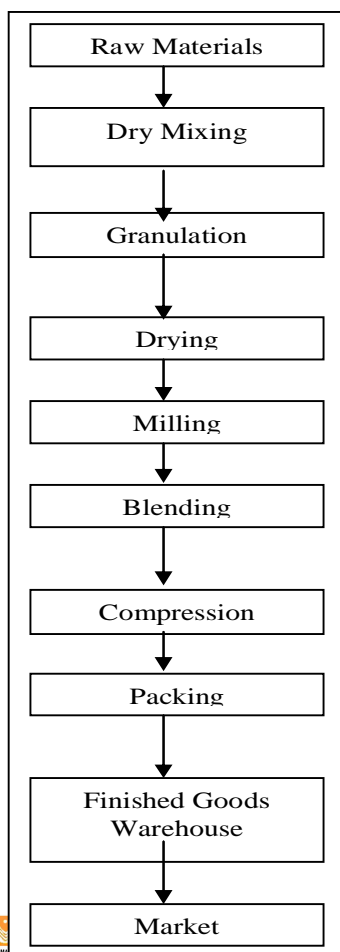
The dry mixed raw materials binding agents are added to make a dough. The dough is spread on trays for drying. Dried material is milled to obtain granules. To those granules, preservatives, lubricants are added and mixed. These final granules are charged to compression machine to produce tablets. These tablets are tested before proceeding for final packaging. Packed product finally dispatched for marketing. A sample of each batch is retained as "retained sample" for any future cross reference.

### 2.2.2 Capsules

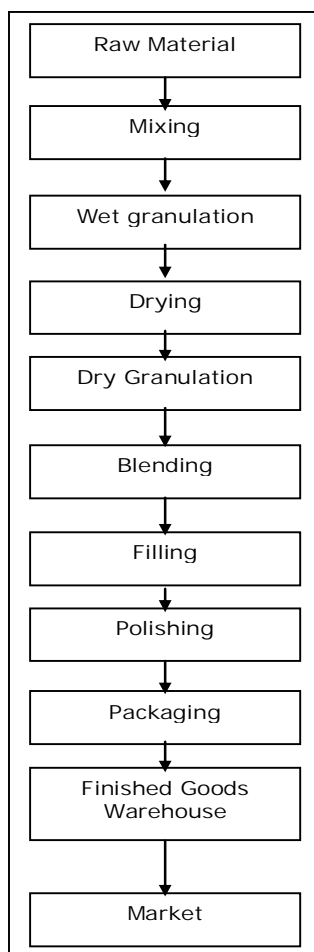
Capsules manufacturing, starting from raw material procurement to dispatch for marketing. Involves 11 stages. As per the regulatory requirements, all the incoming raw materials are to be tested to set standards and as per prescribed procedures. The approved materials are charged into a mixing machine for dry mixing. To the dry mixed material binding agents are added to make dough. The dough is spread on trays for drying. Dried material is milled to obtain granules. To these granules, preservatives, lubricants are added and mixed. These final granules are filled in the empty gelatin capsules, capsuling are done in an automatic / semiautomatic process. After filling, the same are subject to polishing to remove adhered materials and give a glow. These capsules are tested before proceeding for final packing. This finally packed products will be dispatched for marketing. A sample of each batch is retained as "retained sample" for any future cross reference.

The flow charts of manufacturing tablets, capsules and liquid orals are as below.

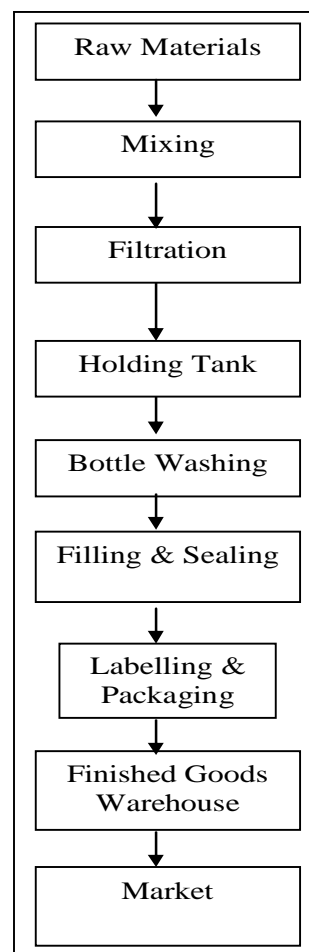
**Tablets Mfg. Process**



**Capsules Mfg. Process**



**Liquid Orals Mfg. Process**



## 2.3 History of the cluster

### 2.3.1 Milestones / Turning points

The Pharmaceutical industry started in Indore about 100 years ago with the establishment of "WADNERE INDUSTRIES", manufacturers of "GRIPE WATER" for children. There after the first industrial estate was established in the year 1954. As a result few units those which were earlier running in the residential areas shifted there. In 1958 Madhya Pradesh Government constructed multiple-shed complexes where provisions were made for basic infrastructure. This attracted Pharma entrepreneurs to start their business.

During the **sixties** another industrial estate was started by the Industries Department of the government of Madhya Pradesh i.e. "Laxmi Bai Nagar Industrial Area", where some ayurvedic and allopathic industries a come up. In 1969 establishment of industrial area at "Sanwer Road" also boosted the growth of this cluster.

The real boom in the Pharmaceuticals industry happened only in the **seventies** due to the shift from product to process patent.

The **eighties** saw a period of consolidation as the number of manufacturing firms touched the hundred mark. By this time the cluster also witnessed the birth in active involvement in the area of marketing by the Government agency called Madhya Pradesh Laghu Udyog Nigam (MPLUN).

The period of early **nineties** saw tremendous growth due to establishment of another industrial estate near by Indore at Pithampur and that of "Dawa Bazar" where under one roof 200 Pharmaceuticals whole sellers established their offices.

In 2003 – 2004 there were around 350 pharmaceuticals manufacturers at Indore & surrounding areas. But due to implementation of "Schedule –M" certification, many of the units which were located at residential areas were closed or shifted. The main reason being lack of finance or non availability of sufficient floor area to adopt the GMP norms. As a result the number of units reduced to 256.

### **2.3.2 Overview of Past & Ongoing Interventions**

MSME-DI implemented a 3 year cluster development programme at Indore sponsored by the Office of the Development Commissioner, Ministry of MSME, Major activities under taken included

- Awareness seminars on Schedule – M
- Buyers Seller Meet
- Participation in Trade fairs and
- Workshop on Quality Up gradation.

The programme also planned to make a common testing laboratory in a PPP made for allopathic units. The project is approached. State of local association is yet to come.

#### **2.3.2.2**

GTZ launched a programme in this cluster to promote Business Development Services in the areas of technical assistance and financial services. The GTZ team implements the following activities in the cluster.

- Empanelled a consultant for doing energy audit.
- Empanelled a consultant for WHO – GMP certification .
- Financial linkages of Pharma SMEs for credit facilitation with Banks
- Organized training programmes for bankers for developing special financial package for Pharmaceuticals cluster to up-grade technology and quality.

As a result of those activities 2 units conducted energy audit and due to the long procedure of WHO-GMP no unit went for certification . State Bank of India developed a special financial package for Pharma units for adopting GMP norms. Scope exists for upscaling WHO-GMP, cGMP, ISO and energy audits.

### 2.3.2.3

Due to the WHO – GMP Norms, State Government is planning to providing suitable land and infrastructure facilities to the ayurvedic medicine manufacturers working in residential area. Government of M.P. has identified an area of 167 acres near 'Betma' at NH12, Indore - Ahmedabad Road for a Herbal Park.

## 2.4 Global, National Scenario and features of Benchmark Cluster:

### 2.4.1 Global Scenario

Global pharmaceutical industry is robust and steadily growing. The industry consists of large, medium and numerous small-scale units providing huge employment opportunities and producing large quantities of life saving and others drug. This market has provided growing opportunities for Indian pharmaceuticals industry too. The global pharmaceutical markets were estimated at US\$712 billion in the year 2007 growing at 6.4 percent. The market size of USA is estimated at US\$295-305bn (growing at 4-5 percent) followed by top five European countries (EU-5) with an estimated market size of US\$135-145bn (growing at 4-5%), Emerging markets, viz., Brazil, China, India, Mexico, Russia, South Korea & Turkey had an estimated market size of US\$85-90bn. (growing at 12-13%) and Japan with an estimated market size of US\$64-68bn (growing at 1-2%). Hence targeting emerging markets as export destination provide easier and better opportunities.

World market for patent expired molecules ( pure generics and branded generics) i valued at US\$ 102 billion in 2006 and is expected to grow to US\$ 160 billion by 2010. Market size for pure generics is estimate at US\$ 65 billion ( with growth 11% in 2008). World trade in APIs (bulk drug) and their intermediates is expected at US\$ 70 billion. Global market for Contract Research and Manufacturing Services (CRAMS) is estimated at US\$ 48 billion. It is expected to grow at a CAGR of 10%.

**Table 1: Global Pharmaceutical Market Size & Growth Rates (2001 to 07)**

Global Sales (US\$ bn.)/ Year	2002	2003	2004	2005	2006	2007
Total World market (current US\$)	428	499	560	605	649	712
Growth Over Previous year (constant US\$ Growth)	9.50%	10.30%	8.00%	7.30%	7.10%	6.40%

Source :IMS Health Market Prognosis (includes IMS Audited and Un-audited markets)  
All information current as of March 28, 2008

## 2.4.2.1 National Scenario

### (A) Overall

The pharmaceutical industry in India has made phenomenal progress in the last 10 years. The pharmaceutical industry comprises of formulation and bulk drugs (API) manufacturing units. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously. Thus the national industry is playing a significant role in improving the health standards of the people.

Bulk drug industry is the backbone of the self-reliant Pharmaceuticals industry in India. Today 90% of the domestic bulk drugs requirement is met by the Indian industry itself. A highly organized sector, the Indian Pharmaceutical industry is estimated to be worth US\$10.76 billion (2008), growing at about 8 to 9 percent annually. Around one-third of this estimated to be exported.

The pharmaceutical industry in India meets around 70% of the country's demand for bulk drugs, drug intermediates, pharmaceutical formulations, chemicals, tablets, capsules, oral and injectibles. There are about 250 large units and around 8000 SMEs, which form the core of the pharmaceutical industry in India (including 5 Central Public Sector Units).

**Table 2 :The Details of Pharma clusters in India (Turnovers & Employment):**

S. No.	State	Production value per annum (Rs in Crores)	Estimated Employment
1	Maharashtra (Mumbai ,Pune and Aurangabad)	12000 – 15000	65000
2	Gujarat (Ahmedabad and Baroda)	10000 – 12000	55000
3	Delhi , UP and Haryana	5000	25000
4	MP ( Indore Cluster)	2500	15000
5	Uttarakhand (Dehradun Cluster)	2000	20000
6	AP(Hyderabad cluster)	8186	20000

### Impact of product patent

In 2004 India shifted for process to product patent under the product patent regime, Indian companies cannot manufacture and market products under patent. Companies interested in the products have to get license from the innovator company( patent holder). Majority share of the profits will go to the patent holder. Thus Indian companies will not be able to produce or export new drugs.

The competition in the off patent products area will increase. The effect will be felt in 5 to 10 years time. During this period Indian companies have to get into the drug discovery area..

### 2.4.3 Benchmark Cluster

The Ahmedabad formulation cluster in Gujarat can be considered as a benchmark in parameters like technology, support institutions, association BDS provision etc.

Table 1: Learning from Benchmark cluster

Cluster	Ahmedabad Formulation	Indore Formulation	Agenda for intervention
<ul style="list-style-type: none"> <li>Local Raw Material Availability</li> </ul>	High	Low	Strengthening the Raw material suppliers
<ul style="list-style-type: none"> <li>Adherence of Current Good Manufacturing Practices (cGMP)</li> <li>WHO-GMP</li> </ul>	High (all 600 units)  600 units  160 out of 600	Low (50% of the 256 units)  256 units  05 out of 256	Strengthening BDS support for achieving current good manufacturing practices certification
<ul style="list-style-type: none"> <li>Availability of Manpower</li> </ul>	High	Medium	Improve the availability of trained manpower through training
Presence of Pharma manufacturers associations  <ul style="list-style-type: none"> <li>Knowledge Workshop</li> <li>Information Dissemination</li> <li>Own office infrastructure</li> <li>Weekly new bulletin</li> <li>Membership booklet</li> </ul>	High High  Yes  Yes Yes	Low Low  No  No No	Capacity building of Associations

• Availability of Testing Labs	14	06	Facilitate easy facilities improve testing
• local market	High	Low	Assist in creating network for market promotion
• Business Development Service providers	High	Low	Introduction of new BDSPs and Capacity building of potential local BDSPs to their services and availability
• Industry and Institutional linkages	High (PERD, NIPER, NIT, LMCP, MSRU etc)	Low	Assess requirements and facilitate linkage with institutions outside the cluster

### Conclusion:

Adoption of Quality control norms, good number of BDS providers, Industry linkages, presence of local market, good testing labs are the major advantages of Ahmedabad formulation cluster which are found lacking in Indore pharmaceutical cluster.

### 2.5 Vital Statistics of the Cluster:

**Table 3 : Number of Firms the Cluster**

Types of Firms	Allopathy	Ayurvedic
Micro	--	28
Small	135	57
Medium	15	13
Large	08	--
Total	158	98

\*As per field discussion

**Table 4 : Estimated Employment & Turnover the cluster :**

Firms	Micro				Small				Medium				Large
	A1	A2	A3	A4	A1	A2	A3	A4	A1	A2	A3	A4	
Areas													
No. of units	16	3	4	5	128	12	31	21	28				08
Employment	500				7200				5300				1000
Turn Over (Rs. In Crores)	10.00				900.00				550.00				1040.00

A1- Indore, A2- Dewas A3- Pithampur, A4- Ujjain.

**Table 5 : Concentration of Units :**

Majority of the manufacturing units are in Indore districts. The location wise details of units are given below:

Sr. No.	Location	No. of units in Allopathy	No. of units in Ayurvedic
1	Indore	102	75
2	Dewas	08	07
3	Pithampur	30	08
4	Ujjain	18	08
	<b>Total</b>	<b>158</b>	<b>98</b>

(Source: - food & Drug control office)

### 2.5.2 Business Development Service Providers (BDSPs):

Strategic Business Development Service (BDS) is provided by strategic and embedded BDSPs, Strategic BDSPs can be (a) Public, (b) Private organized and (c) Private unorganized, i.e. individuals

### BDS Providers

BDS Providers	
Generic BDS	Strategic BDS
<ul style="list-style-type: none"> <li>• CAs ( 70 )</li> <li>• Transporters ( 80 )</li> <li>• Banks/Financial Institutes ( 45 )</li> <li>• Packaging &amp; Printing firms ( 15 )</li> </ul>	<ul style="list-style-type: none"> <li>• Testing Labs ( 06 )</li> <li>• Technical Institutes ( 08 )</li> <li>• Energy Consultants(02)</li> <li>• HRD consultants(07)</li> <li>• Pharmacy Institutes( 08 )</li> </ul>

Embedded service providers are value chain partners, However not all value chain partners do provide embedded BDS. Some important value chain partners appears below

Embedded BDS	
Raw Material suppliers	( 24 )
Machinery suppliers	( 07 )
Buyers	(350)

### 2.5.3 Who Does Who Pays (WDWP) Matrix

BDS Function	Who does	Who pays	Payment mechanism
Finance : <ul style="list-style-type: none"> <li>Preparation of Business plan for Technology Up gradation</li> <li>Auditing &amp; Taxation</li> </ul>	CAs, External Consultants.	SMEs	Direct
Quality Control : <ul style="list-style-type: none"> <li>WHO – GMP certification</li> <li>ISO – Certification</li> <li>Quality Testing</li> </ul>	Technical Institutes, Consultants	SMEs, Support Institutions	Direct
Marketing : <ul style="list-style-type: none"> <li>Developing Web Portal</li> <li>Training on Export Procedures</li> </ul>	Marketing Consultants, IT consultants IIFT, New Delhi MPLUN	SMEs, Support Institutions	Direct
Training	H.R. & quality Consultant	SMEs, Support Institutions.	Direct
Technology	Technical Consultants	SMEs, Supportive institutes	Direct
Quality Testing	Common testing Lab	Supportive Institutes	Direct
Infrastructure	MPAKVN	SMEs	Direct

## Chapter –3

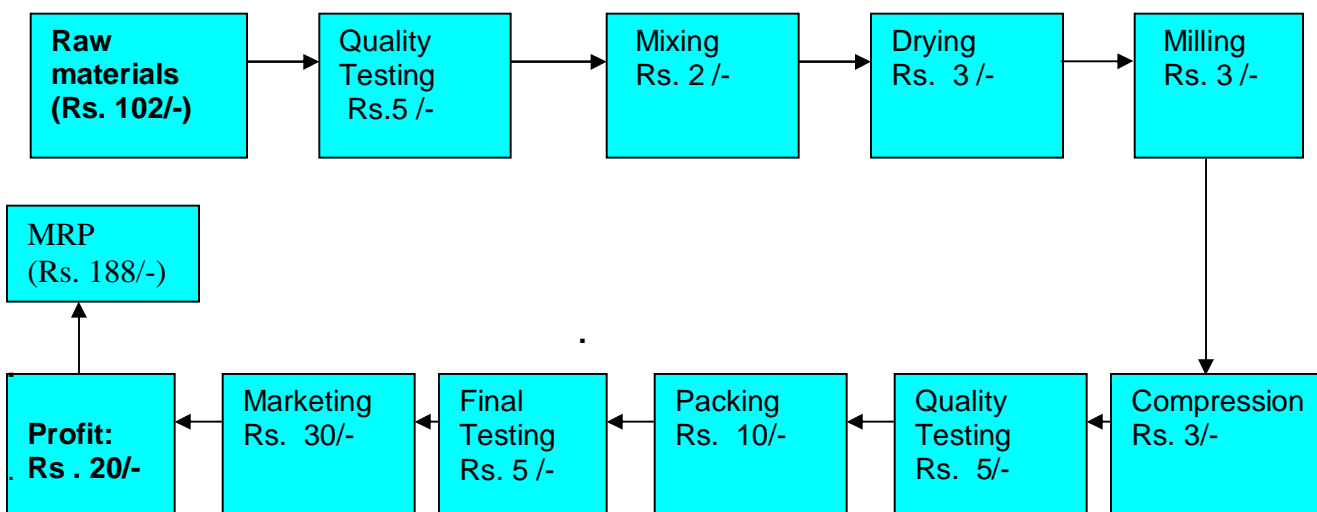
### ANALYSIS

#### 3.1 Comparative Value Chain Analysis

For a pharmaceutical firm, the level of technology and practices are often a direct function of the quality norms practiced, as quality standards are compulsory for these firms. Yet there are a good number of firms who do not have the requisite quality standard and suffer from non-regulated purchase, production and thereafter usage of training channels, rather than upfront sells. They also thus get excluded for profitable channels of sub- contractive exports and institutional sales. Here in what follows, we have made expansion of two firms; one having cGMP and other without even the basic quality certification.

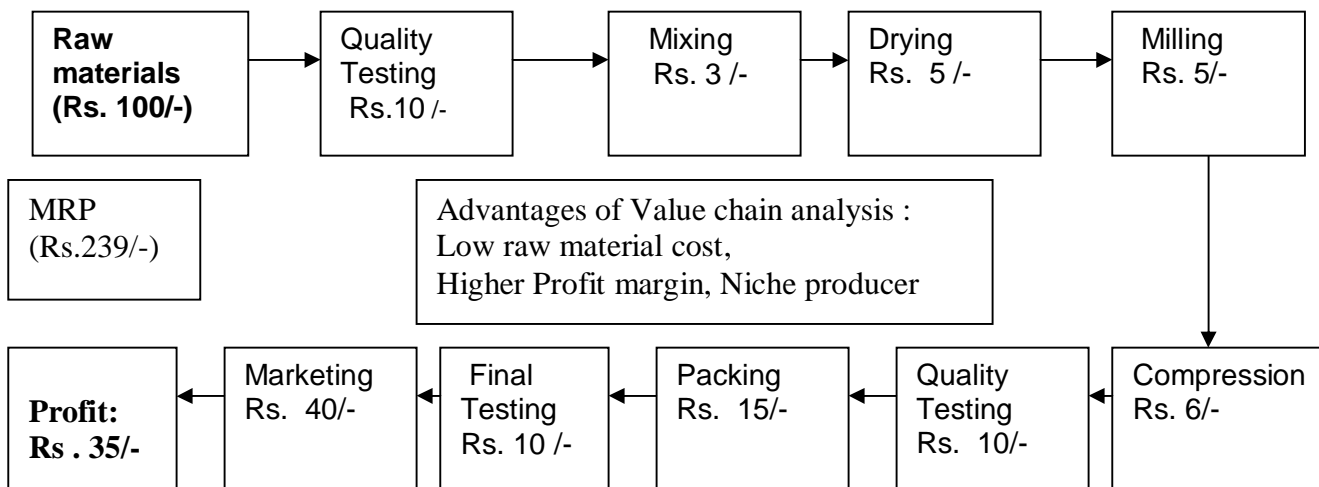
#### Value Chain Analysis of Tablet by a non-cGMP Unit (A)

(Cost of raw material for manufacturing of a product is assumed as Rs 102/-)



### Value Chain Analysis of Tablet by cGMP Unit (B)

(Cost of raw material for manufacturing of a product is assumed as Rs 100/-)



Out of the above two cluster firms one is not following Good Manufacturing Practices (firm A) as prescribed whereas the other (firm B) is following. Firm B procures raw materials from an approved vendor whereas Firm A is procured raw materials from open market, which normally is at higher price.

Firm B follows prescribed test methods to test the quality of their raw materials whereas Firm A does not follow prescribed methods. This provides some cost saving for GMP Firms A

However Firm B is able to sell its product through profitable mode, whereas Firm A needs to depend on local traders to market its product. This difference in market model leads to higher profit margins for Firm B as compared to the non compliant Firm A who sell through trader network.

Hence considering the overall situation, even though the firm who follows suggested norms is higher on production cost, the final profit realization is higher compared to a non-GMP unit. The former also commands better market respect. The chances of

product failure and product return are very less. Due to some reasons, if the product fails during its life time, the reasons for failure can be investigated very easily. The other firm who is not practicing the norms in full does not enjoy similar advantages. It also gets deprived of formal and good markets.

## **3.2 Analysis of BDS**

### **3.2.1 Overview of BDS Market**

As the regulatory requirements and technology of pharmaceuticals are fast changing on a regular basis, to understand and adopt the same is difficult for pharma SMEs as they can afford to employ qualified personnel exclusively for this purpose. Hence, the pharma SMEs has to depend on BDS service provider to meet some these requirement. By address these changing requirements, the pharma SMEs can improve their productivity, profitability and sustainability, some time even the existence.

As the demand for various categories of BDS providers are increasing due to presence of large base of small and medium enterprises in Pharma sector, the service providers are inadequate to the cater the industry. Due to short of service providers and high demand of available service providers, many a times these service providers are not in the reach of pharma SMEs. Therefore to make the BDS affordable by SMEs, it is suggested to empower existing BDS service providers

BDS market in the cluster is weak. Most of the manufacturers are availing BDS services from those who are located at Hyderabad, Ahmedabad, Mumbai, Baroda, Nasik etc. No BDS is locally available on quality compliance issues. CAs are available locally and they are providing services on taxation and preparing the financial proposals for credit requirements

### **3.2.2 Supply side assessment**

Supply side BDS providers are:-

- Public BDS providers
- Private BDS providers- formal and unorganized and
- Industry associations

### 3.2.2.1 Public BDS providers

#### (i) Small Industries Bank of India (SIDBI)

SIDBI has been assisting the entire spectrum of SMEs sector, through suitable schemes tailored to meet the requirement of setting up of new projects, expansion, diversification, modernization and rehabilitation of existing units. The local SIDBI office is located at Indore and headed by Assistant General Manager. So far 9 units of the cluster have availed the services of SIDBI.

#### (ii) District Trade and Industries Center (DTIC)

Department of Industries, Government of Madhya Pradesh and DTIC Indore provides guidance and help to potential entrepreneurs in establishing their enterprises. It also provides registration facilities, which in turn help entrepreneurs in accessing government facilities and concessions. It also provides support for ISO certification in the form of subsidy and creating awareness among the SMEs.

#### (iii) Banks & Financial Institutions

The following banks are providing working capital & term loans to pharma SMEs.

Name of the Bank
1. Allahabad Bank
2. Bank of Baroda
3. Bank of India*
4. Canara Bank
5. Central Bank of India
6. Corporation Bank
7. H.D.F.C Bank
8. ICICI Bank
9. IDBI Bank
10. Indian Bank
11. Indian Overseas Bank
12. Oriental Bank of Commerce
13. Punjab National Bank
14. State Bank of India
15. State Bank of Indore
16. Union Bank of India

Banks are not providing any special financial package, which meets requirement of Pharma SMEs need.

Bank of India is the lead bank of Indore. Madhya Pradesh State Financial Corporation (MPSFC) also provides term loans to Pharma SMEs.

**(iv) Micro, Small and Medium Enterprises Development Institute (MSME- DI)**

MSME – DI (Office of the Development Commissioner, MSME), has its regional office in Indore. It also provides guidance and counseling to potential and existing entrepreneurs on various managerial and technology related issues. The services offered by MSME-DI includes financial support for infrastructure development and common facility centers for testing labs & organized awareness workshops for ISO certification.

**(v) Food and Drug Administration (FDA) and Divisional Officer Ayurved:**

FDA office in the cluster issues license and does quality checking of the manufacturing units and products.

**(vi) Pollution Control Board (PCB)**

Madhya Pradesh pollution Control Board, control environment pollution. MPPCB is a statutory organization, which was constituted in 1974 and was entrusted with the responsibilities to implement the water (prevention and control of pollution) Act 1974. other measures which were under taken by MPPCB included

- The water (prevention and control of pollution) Act 1974
- The water (prevention and control of pollution) cess Act 1977
- The air (prevention and control of pollution) Act 1981
- The Environment (Protection ) Act 1986
- The Hazardous waste ( Management & Handling) Rules, 1989
- The manufacture, storage and import of Hazardous chemical Rules, 1989

**(vii) M.P. Audhyogik Kendra Vikas Nigam (MPAKVN)**

MPAKVN helps development of Industrial Estates. It provides basic infrastructure facilities to the entrepreneurs for development of industries.

**(viii) Center for Entrepreneurship Development of Madhya Pradesh (CEDMAP)**

The Center has been established by the Government of Madhya Pradesh to foster entrepreneurship through training interventions. Its mandate is to promote new entrepreneurs and strengthen the existing ones. It organizes short term programmes on various managerial themes like financial management and accounting, labor laws, HRD, etc., for the benefit of entrepreneurs.

### **(vii) Madhya Pradesh Laghu Udhog Nigam (MPLUN)**

MPLUN helps Pharma manufacturers in the area of marketing. All government supplies done through MPLUN. The whole process from the tender notice to finalization of tender is done by MPLUN.

### **(VIII) Industrial Training Institute (ITI)**

ITI provide training in the areas of machines maintenance, operation/ handling of Automatic/ semi automatic machines. Passed out students generally get services in the pharmaceutical cluster in course of time. Thus the ITI supply skilled manpower to the pharmaceutical cluster of Indore.

#### **3.2.2.2 Private BDS Providers**

Private BDS providers are providing services in the areas of GMP is negligible.

#### **(I) Financial Advisors / Chartered Accountants**

Financial Advisors are provides services in financial management, Taxation and auditing, preparing the account statement etc.

#### **(II) Testing Labs**

Testing of the raw material is the major factor of pharma industry, there are 6 numbers of Government approved laboratory and every unit has in house testing laboratory for testing and checking the parameters of every stages of the process. The list of the laboratories are given below -

- Alpa Laboratory
- Anusandhan Analytical Lab
- Choksi Analytical Service Limited
- MP Analytical Laboratory
- MP Laghu Udhog Nigam
- Standard Analytical and Research Lab

### **(III) Transporters**

Indore cluster is centrally located. There are 80 transporters and transport agencies operating in the cluster, connecting the cluster to the other parts of the country by roads.

### **(IV) Energy Consultants**

The cluster mainly produces formulation and consumption of energy is low. The energy consultants provide services in energy audit, which helps the industry in further reducing the cost of production.

### **(V) HRD**

HRD consultants provide skilled manpower to the cluster and also provide training on best management practices. There are 10 number of HR consultants .

#### **Pharmacy Institutions**

There are eight number of pharmacy Institutes , Students from these institute serves the Pharma cluster.

#### **Value chain Partner**

##### **(I) Raw Material Suppliers**

Raw Material suppliers play a pivot role in the cluster, Suppliers source raw material from nearby states and also from the bulk drugs units within the cluster. Price of raw materials like bulk drugs and excipients highly fluctuates in different times of the seasons with change in demand of the product.

##### **(II) Machinery Suppliers**

There are 7 number of machinery suppliers in the cluster , who supplies the machines to the units and also provide the maintenance services of machines. Machinery suppliers from outside the cluster also supplies machines to cluster.

Marketing – Marketing consultants are not available in the cluster, which

### 3.2.2.3 Associations

There are three associations dealing with Pharma industry in the cluster, which are:

- MPPMO
- MPSSDMA
- MPAMA

The major activities of the association are on advocacy related issues.

#### **Madhya Pradesh Pharmaceutical Manufacturers Organization (MPPMO)**

The MPPMO was formed and registered under the Societies Act during 1977 with the prime objective of regulatory affairs presentation with various Government organizations like FDA, MPLUN, PCB, etc. Normally the members of the association meet as and when there is a specific problem. Otherwise the Executive Body meeting is held once in a month to discuss general issues. This association publishes fortnightly newsletter that focuses mainly on Government related matters. During the year 2000, MPPMO organized a National Level Exposition "Pharma 2000" for the benefit of the Pharma units of Madhya Pradesh. MPPMO under the threat of WHO – GMP norms has proposed an Analytical and Research centre, a limited firm to be established as per the WHO – GMP norms. This centre would work as Common Testing Facility and R & D Centre on commercial Basis for the benefit of cluster firms. Presently 55 members are registered with MPPMO.

#### **Madhya Pradesh Small Scale Drugs Manufacturers Association (MPSSDMA)**

Due to the differences among the members, MPPMO paved for a split and this association came into existence in 1992. Association also deals with the common problems related to Government departments for members only. At presently 25 members are registered with MPSSDMA.

### Madhya Pradesh Ayurvedic Manufacturing Association (MPAMA)

Ayurvedic medicine manufacturers have their own Association with same the objectives and works in the was as MPPMO MPSSDMA. Recently due to the threat of WHO – GMP norms, this association has approached State Government for providing suitable land and infrastructure facilities for Ayurvedic Medicine Manufacturers working in residential area. Government of M.P. has identified an area of 167 acres near ‘Betma’ at NH12, Indore – Ahmedabad Road. The area is to be developed as ‘Herbal Park’.

**Conclusion:** As compared with Indian Drugs Manufacturers Association Gujarat State Board (GDMA) (GSB) who regularly organizing seminars & workshops on the subjects of exports, quality control, energy conversations and such other related subjects is and also does buyer seller meets and disseminated weekly information as well as maintain database of members with their supply capacity, these association do not provide any such services.

**Table No. 6 : Status of existing BMOs in the cluster**

	BMO	Members	Separate office	Staff for association activities	Proactivity
Manufacturers	MPPMO	55	No	No	Low
	MPSSDMA	25	No	No	Low
	MPAMA	40	No	No	Low

**Table No. 7 : Usage level of Strategic BDS Providers**

	Raw Material	Technology	Marketing	HRD	Finance	Energy	Logistics	Quality Compliance
<b>Public</b>								
Banks /FIs	0	0	0	0	2	0	0	0
ITI	0	0	0	1	0	0	0	0
MPLUN	0	0	2	0	0	0	0	0
<b>Private Organized</b>								
TPs	0	0	0	0	0	0	3	0
TLs	0	0	0	0	0	0	0	3
CAs	0	0	0	0	1	0	0	0
PIs	0	0	0	1	0	0	0	0
<b>BMOs</b>	0	0	0	0	0	0	0	0
<b>Private Unorganized</b>								
ECs	0	0	0	0	0	1	0	0
WGs	0	0	0	0	0	0	0	0

Note: 0: Not Applicable, 1: Very Less 2: Moderate 3: Good 4: Excellent of services by the firm

ITI – Industrial Training Institute

TPs – Transporters

TLs – Testing Labs

PIs – Pharmacy Institutions

BMOs – Business Members Organization

ECs – energy Consultants

WGs – WHO-GMP consultants

MCs – Marketing Consultants

MPLUN – Madhya Pradesh Laghu Udhyaog Nigam

The major behavioral problems on supply side based on the above discussions :

- Weak penetration of BDS providers Poor marketing techniques
- Information of services not known to the units as specially regarding individual consultants
- BDS providers preferred to cater to large & medium firms

**The issue wise demand side problems are given below:**

Demand Side
<ul style="list-style-type: none"> <li>➤ High Cost of Business Development Services</li> <li>➤ Poor networks among the firms resulting in lack of utilization of services</li> <li>➤ Fear of leak of technical know how</li> </ul>

**Private BDS providers:**

**Table No. 8 : Status of private BDS Providers**

Type of the Service Provider	Services Offered	Average service fees (in Rs.)	Estimated No's
CAs, Tax Consultants	<ul style="list-style-type: none"> <li>• Preparation of financial Proposals</li> <li>• Filing of Tax Returns &amp; Auditing</li> </ul>	1000 to 5000	70
HR consultants	<ul style="list-style-type: none"> <li>• Manpower training</li> </ul>	2000 to 5000	10
Environment & Energy	<ul style="list-style-type: none"> <li>• Energy Audit</li> </ul>	5000 to 10000	02
Marketing	<ul style="list-style-type: none"> <li>• Marketing domestic &amp; export</li> </ul>		Not Available locally
Testing Labs	<ul style="list-style-type: none"> <li>• Testing of various Parameters</li> <li>• Quality Certifications</li> </ul>	750 to 3000	06
Quality Compliances	<ul style="list-style-type: none"> <li>• WHO-GMP</li> <li>• cGMP</li> </ul>		Not Available Not Available Locally

## Demand Side Assessment

**Table No. 9 :**

S. No	Type of the Service provider	Services Offered	Type of units using the service	Present status of usage
1	Chartered Accountants	<ul style="list-style-type: none"> <li>Financial</li> <li>Taxation</li> <li>Audit</li> </ul>	Small & Medium Enterprises	Low
2	Testing Labs	<ul style="list-style-type: none"> <li>Quality Certification</li> </ul>	Micro, Small & Medium Enterprises	Medium
3	Quality compliance	<ul style="list-style-type: none"> <li>GMP</li> <li>ISO Certification</li> <li>DMF</li> </ul>	Small & Medium Enterprises	Low
4	Technology	<ul style="list-style-type: none"> <li>Technology Up gradation</li> </ul>	Small & Medium Enterprises	Low
5	HRD	<ul style="list-style-type: none"> <li>Recruitment of Skilled Man power to units</li> </ul>	Small & Medium Enterprises	Low
6	Marketing	<ul style="list-style-type: none"> <li>Domestic &amp; Export Marketing</li> </ul>	Micro, Small & Medium Enterprises	Medium
7	Energy Management	<ul style="list-style-type: none"> <li>Energy Audits</li> </ul>	Small & Medium Enterprises	Low

### Conclusions:

There is shortage of BDS supply in the form of testing laboratories, quality and marketing consultant, especially for export and institutional marketing. Energy consultants are also in short supply. The BDS facilitate agencies are also weak.

On the demand side BDS in reasonable demand are for testing and marketing. BDS in quality, which is a pre requisite in low. Hence BDS quality should be promoted and that for testing and marketing should be taken up for quick implementation.

### **3.3 Analysis of Business Operation (AOBO) and Pressure Points**

#### **3.3.1 Raw Material**

Raw Material suppliers play an important role in the cluster. Raw material suppliers source raw material from nearby states and also from the bulk drugs units within the cluster. Price of raw materials like bulk drugs and excipients highly fluctuates during different times of the seasons with changes in demand of the product. This destabilizes the profit model of the enterprises. The ayurvedic units also get affected due to supply of non-standard profits.

#### **3.3.2.1 Direct Marketing**

In this mode of marketing the pharma SMEs shall employ their own marketing personnel to promote their products. Sales personnel visit the doctors and provide product information. Sales will be based on Doctor's prescription. Product is distributed from the manufacturer to the stockiest and finally to the medical shops. This is a costly method of marketing especially for small & also for medium firms. Firms without quality ratification avoid such methods too.

#### **3.3.2.2 Dawa Bazar**

The Major benefit of the cluster is availability of local presence of 350 wholesale dealers of Pharmaceutical medicines and major C & F agencies of the country. Dawa Bazar, where nearly 350 wholesale dealers, C & F Agents, stockiest are operating and supplying the medicines. But during the survey and interaction with the association, it was found out that not more than 10 % to 15 % sales generated are for local market. Mostly products are supplied to other states. This is mainly because of lack of quality which may lead to true ability of product and the local manufactures do not target & local doctors for selling their products.

#### **3.3.2.3 Government Supply**

Manufacturers are supplying their products to government hospital through by MPLUN. However though there is huge scope for entering into other procurement channels, the drawbacks for the same are (a) lack of product basket, often a necessity of bulk purchase and (b) lack of requisite quality (cGMP and mostly WHO-GMP) certification.

### 3.3.2.4 Export

There is very limited export to African countries, through merchant exporters. Apart from quality; exports require documentation for as per country needs and also costs for registration and even storing foreign countries. Also required is cost for support for visit changes of quality regulation authorities from importing countries.

### 3.3.3 Finance

Here, major constraint for is lack of finance availability to adopt the GMP norms. The requirement of the cluster is to develop a special financial product to meet the requirements of Pharma SMEs, both for allopathic as well as ayurvedic products. Finance may be required for export marketing.

### Quality Compliance

Pharma industry world over is heavily controlled by regulatory bodies. In India the pharma industry is covered by Drug & Cosmetic act 1945. One of the chapters of the said act – Schedule 'M' governs the manufacturing and quality control practices of the industry. The schedule stipulates the requirements of facilities so that quality is inbuilt in to the systems. Any pharmaceutical manufacturers in any sector – micro, small or large are covered under this act, and any manufacturer without this certification cannot function

Good Manufacturing Practices (GMP) implementation has two fold – system and facilities. System implementation involves identification of all activities, writing down them in sequential manner, practicing them rigorously and documenting besides other activities. GMP implementation requires experienced personnel; small and medium enterprises are unable to afford such personnel to employ on a full time basis.

Some of the cluster firms have indicated that some soft loans by way of concessional interest and higher moratorium can help the industry. Also they have indicated that any special products / packages from financial institutions for GMP implementation and up gradation will help the industry in a big way. BDS providers in the area of equipments, for facility up gradation to meet requirements are not available in the cluster.

## **HRD**

As technology and regulations are continuously upgrading, the skilled manpower availability for pharma SMEs in Indore is one of the difficult task, due to high level employee turn over scarcity of skilled manpower is a major challenge for Pharma cluster. Such skilled man power includes chemists and laboratory analysts. Also the basic understanding of unskilled workers as issues related to quality is very low.

## **Quality Control Assurance**

Pharmaceutical manufacturers have to upgrade their quality testing facilities on a regular basis based on current regulatory requirements. To meet the basic criteria of safety, quality and efficacy, Quality testing for raw materials, in-process materials and final products besides packing materials is part of any regulatory requirements.

With increased conscious of patients, technology and regulatory requirements current challenge of cluster firm is not to estimate the purity of the active material, but to assess the content of impurities. To estimate this level of concentrations, the cost of analytical equipment will be very high and in many cases it is not in the reach of pharma SMEs. As per Schedule 'M' regulations it is expected that entrepreneur has to create all such facilities to test the quality of incoming, in-process and final product besides packing materials. Costs of such facilities are very high and number of laboratory giving. Such benefits are limits. Common testing laboratories on suitable packages to finance private laboratory promotion of the proposed common laboratory MPPMO may be done.

## **Energy**

Energy efficiency improvement is an important way to reduce these costs and to increase predictable earnings, especially in times of high energy price volatility. There are a variety of opportunities available at individual plants in the pharmaceutical industry to reduce energy consumption in a cost-effective manner .Heating, ventilation, and air conditioning (HVAC) is typically the most important energy end use in the pharmaceutical industry. Proper utilization of HVAC will save the energy consumption and reduce the production cost.

## Information and Communication Technology (ICT)

Most of the firms use software for accounting purpose. The employees of the firms do not use them fully due to lack of skills. Most of the CEOs of the firms spend much of their time raw material procurement, and inventory management and not on business development. ICT applications that will manage inventory, production, manpower, purchase and marketing, etc can be of minimize use here.

Based on the above discussion, the issues and suggested solutions are given below in Table No. 10

**Table 10: AOBO, Issues, and suggested Interventions**

BDS area	Issues	Suggestive intervention	Required providers	BDS
Raw material	<ul style="list-style-type: none"> <li>Price fluctuation</li> <li>Quality raw material (ayurvedic)</li> </ul>	<ul style="list-style-type: none"> <li>Sensitization workshop for formation of consortium for Raw material procurement</li> <li>Linkages with farmers</li> </ul>	<ul style="list-style-type: none"> <li>MSME-DI, material suppliers from Hyderabad, Ahmedabad, Associations</li> </ul>	Raw
Quality	<ul style="list-style-type: none"> <li>Poor adherence to quality compliance norms</li> </ul>	<ul style="list-style-type: none"> <li>Awareness Workshop on Quality Compliance</li> <li>Conducting pilot audit for implementation of cGMP/WHO-GMP/ISO in few firms</li> <li>Support voucher for quality up gradation.</li> </ul>	<ul style="list-style-type: none"> <li>External Consultants Association</li> <li>BDS meet</li> </ul>	

Marketing	<ul style="list-style-type: none"> <li>• Limited local market</li> <li>• Low level of exports</li> <li>• Low contract manufacturing</li> <li>• Low institutional marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Interactive meet with local Doctor's</li> <li>• Development of web portal for domestic as well as export market.</li> <li>• Sensitization workshop on export procedure and documentation</li> <li>• Active support in export promotion. Brand building by organizing national/ international event on pharmaceuticals</li> </ul>	<ul style="list-style-type: none"> <li>• Association</li> <li>• IIFT New Delhi, Marketing consultants, Web portal development</li> <li>• Networks of firms</li> </ul>
HRD	<ul style="list-style-type: none"> <li>• Scarcity of skilled manpower</li> </ul>	<ul style="list-style-type: none"> <li>• Organize Short term training programmes in the areas of quality assurance, quality control, production etc</li> <li>• Linkage with ITI / technical educational Institutions for regular source of human manpower</li> <li>• Creation of videos for in local language or various quality issues.</li> </ul>	<p>BMOs, MSME-DI, DIC,ITI, MPLUN Private Pharmacy Colleges</p>

Finance	<ul style="list-style-type: none"> <li>Limited encouragement of Banks for working capital</li> </ul>	<ul style="list-style-type: none"> <li>Organizing bankers Meet</li> <li>Create and popularize products for cGMP, WHO-GMP, testing and manpower training.</li> </ul>	Bank/FIs, DIC, MSME – DI, Management consultants, BMOs
Energy	<ul style="list-style-type: none"> <li>Improper utilization of energy</li> </ul>	<ul style="list-style-type: none"> <li>Conduct awareness workshop on energy management</li> <li>Conduct pilot energy audit in few firms</li> </ul>	Energy consultant
ICT	<ul style="list-style-type: none"> <li>Lack of awareness on advanced production management software</li> </ul>	<ul style="list-style-type: none"> <li>Sensitization workshops and training programme for production team</li> <li>Creation of cluster specific product for inventory, promotion ,etc.</li> </ul>	IT firms, External Consultants
BDS facilitation	<ul style="list-style-type: none"> <li>Lowly active association and institution.</li> <li>Lack of research institutions.</li> </ul>	<ul style="list-style-type: none"> <li>Organizing BDS meet.</li> <li>Link with national research institution of repute</li> </ul>	

### Pressure Points

The pressure points in the cluster, which influences as below:

- Quality compliance and certification
- Lack of finance
- Shortage of skilled manpower
- Lack of Marketing (Domestic & Export)

## Chapter – 4 DERIVATION

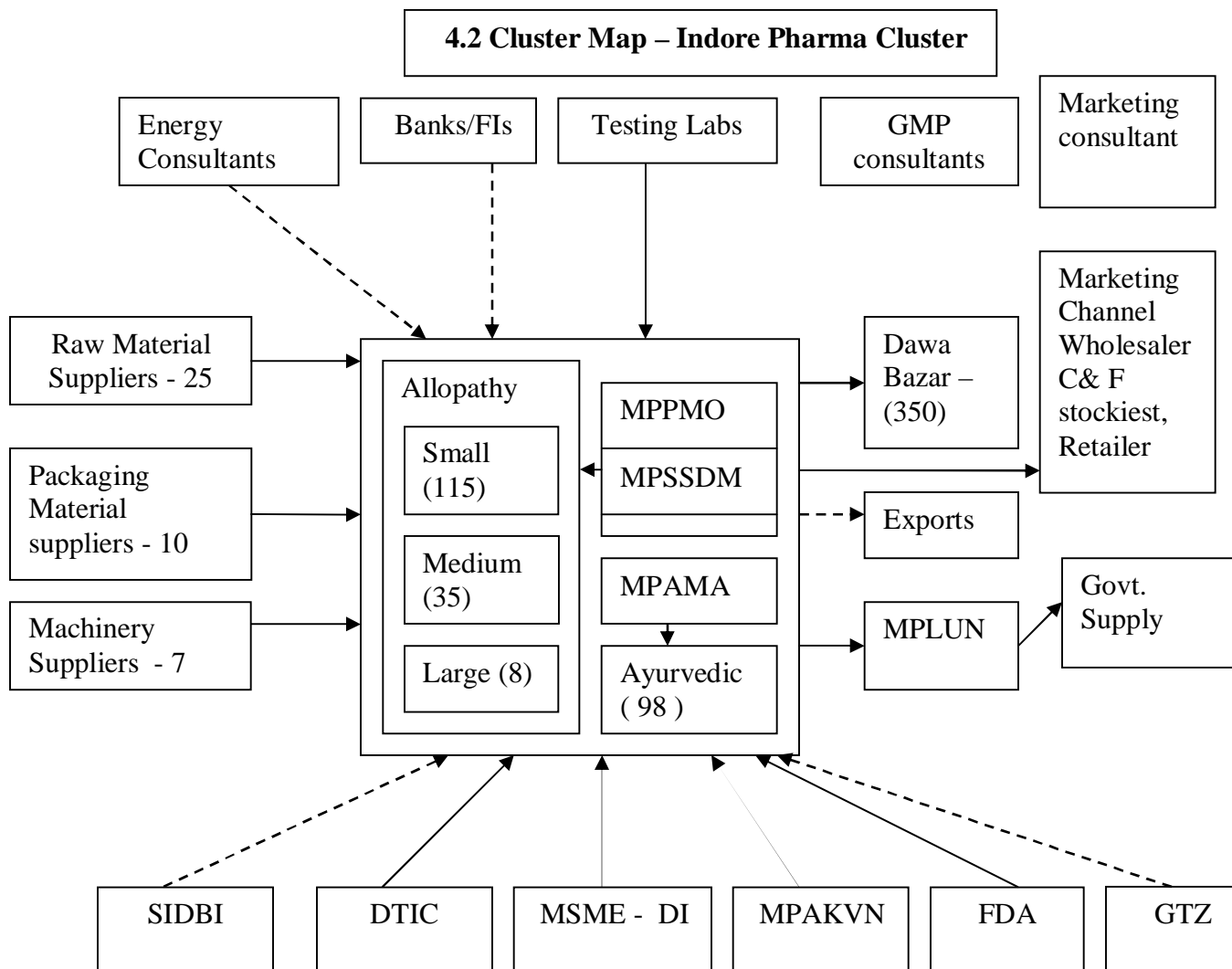
### 4.1 SWOT Analysis :

The following parameters are used in the SWOT analysis of the cluster:.

1. Raw Material
2. Quality Compliance
3. Marketing
4. HRD
5. Finance
6. Energy
7. ICT
8. BDS Facilitation

S. No.	Key Areas	Strengths	Weakness	Opportunities	Threats
1	Raw material		<ul style="list-style-type: none"> <li>• Price fluctuation</li> <li>• Sub-standard raw material for ayurvedic</li> <li>• High cost for open market</li> </ul>	<ul style="list-style-type: none"> <li>• Linkup with other state raw material suppliers</li> </ul>	
2	Quality Compliance		<ul style="list-style-type: none"> <li>• Poor adherence to quality compliance norms across the Value chain.</li> <li>• Lack of appropriate BDS providers</li> </ul>		
3	Marketing	<ul style="list-style-type: none"> <li>• Local Dawa Bazar for national market</li> </ul>	<ul style="list-style-type: none"> <li>• Limited local market</li> <li>• Low level of exports</li> <li>• Low contract manufacturing</li> <li>• Low institutional marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Good International market for formulations</li> </ul>	<p>Competition from policy induced low cost Dehradun cluster and high quality Ahmedabad cluster</p>

S. No.	Key Areas	Strengths	Weakness	Opportunities	Threats
4	HRD	<ul style="list-style-type: none"> <li>Private pharmacy of collage</li> </ul>	<ul style="list-style-type: none"> <li>Scarcity of skilled manpower</li> <li>Untrained workforce unaware about privacy quality norms.</li> </ul>	<ul style="list-style-type: none"> <li>Availability of related Govt. Scheme of DST &amp; DC-MSME</li> </ul>	High employ Turn Over in Pharma sector
5	Finance	<ul style="list-style-type: none"> <li>Presence of Nationalized and Private Banks</li> </ul>	<ul style="list-style-type: none"> <li>Lack of appropriate financial products for GMP, GLP and marketing</li> </ul>	<ul style="list-style-type: none"> <li>Availability of special financial packages for energy audit &amp; GMP norms by SBI</li> </ul>	
6	Energy		<ul style="list-style-type: none"> <li>Improper utilization of energy &amp; HVCA</li> </ul>		
7	ICT	Most of cluster entrepreneurs are computer illiterate	<ul style="list-style-type: none"> <li>Lack of awareness on advanced production management software</li> </ul>		
8.	BDS Facilitation		<ul style="list-style-type: none"> <li>Lowly active association and institution.</li> <li>Lack of research institutions.</li> </ul>		



**Abbreviations:**

- CAs – Chartered Accountants
- BMOs - Business Members Organization
- MPLUN – Madhya Pradesh Laghu Udhog Nigam
- FDA – Food & Drug Administration
- GTZ – Deutsche Gesselleschaft fur Technische Zusammenarbeit
- MPAKVN – Madhya Pradesh Audhyogik Kendra Vikas Nigam
- MSME-DI – Micro, Small & Medium Enterprise Development Institute
- DTIC – District Trade & Industries Center
- SIDBI – Small Industries Development Bank of India
- MPPMO – Madhya Pradesh Pharma Manufacturers Organization
- MPSSDMA – Madhya Pradesh Small Scale Drugs Manufacturers Association
- MPAMA – Madhya Pradesh Ayurvedic Manufacturers Association

**4.2 Vision of the Cluster:-**

***Position Indore Pharmaceuticals as a competitive cluster by infusing Appropriate BDS providers, facilities and linking to high value markets.***

### 4.3

#### 4.4 Long & short run objectives:-

#### 4.5 Long run objectives

- Enhance institutional and contract manufacturing sales by 10-15 percent of controller sample firm.
- Increase the number of BDS providers by 15% to 20%
- Quality testing laboratory on PPP mode
- Formation of export/local/institutional sales consortia of cGMP/WHO-GMP firms
- cGMP certification for 75% manufacturing firms
- WHO-GMP certification of 5 to 10% of firms
- Brand promotion of cluster through capacitated BMOs

#### Short – run objectives (First Year)

- Creation of interest on quality certification
- Enhance supply of BDS providers
- Create market linkages for quality certified firms
- Provide training for enhancing business ability and productivity.

### SUGGESTIVE ACTION PLAN – 2009 - 10

Sl. No	Activity	Required BDS Providers	Funding Agencies	Expected Outcome	Time Frame
1	Organizing 3 CCC meetings		SIDBI, Associations	Successful execution of action plan	M4,M7, M10
2	Creation of cluster Web Portal	Web portal developer	SIDBI	Brand promotion of cluster and increased awareness of BDS providers	M4-M5
3	Sensitization workshop on WHO-GMP	GMP/WHO-GMP, West Zone controller, FDA	SIDBI	Awareness about the implementation of GMP norms	M7/M8
4	BSM meet of BDS	BDS of GMP,WHO-GMP	SIDBI	Linkage with different type of BDS providers	M5/M6
5	5 visits to successful WHO-GMP units and associations		SIDBI/ Association	Exposure visits Of firms	M6-M12

Sl. No	Activity	Required BDS	Funding Agencies	Expected Outcome	Time Frame
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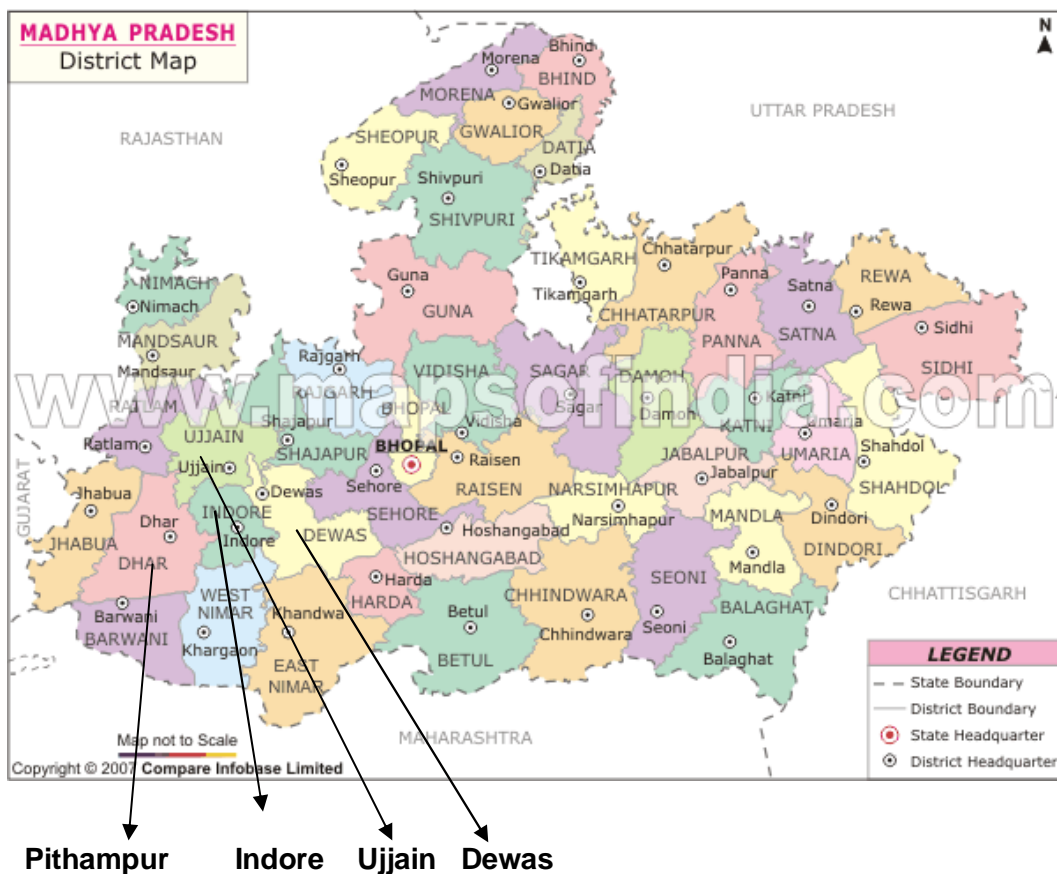
		<b>Providers</b>			
6	Conducting 5 pilot audits for implementation of WHO-GMP	WHO-GMP consultant , FDA, Drug Control Authority (West Zone)	SIDBI/Associations	Assessment in roadmap for achieving WHO-GMP	M8-M10
7	1st group of 5 firms for cGMP/ISO/WHO-GMP and joint export?institutional marketing	Quality Consultant	SIDBI/Associations		M8-M12
8	Creation and finalization of financial product for GMP and export promotion	LDM/MPSFC/Banks	SIDBI/Associations	Improved bank linkages with SMEs	M9-M12
9	Sensitization workshop for formation of consortia for common raw material procurement	Raw Material Suppliers	SIDBI/Associations/DTIC/MSME-DI		M10

<b>Sl. No</b>	<b>Activity</b>	<b>Required BDS Providers</b>	<b>Funding Agencies</b>	<b>Expected Outcome</b>	<b>Time Frame</b>
10	Organize 4 (10 days) short term training programmes of chemical analysis on quality control	Quality control consultant	SIDBI/Associations	Improved the quality of the product	M8-M12
11	Conduct workshop on export procedure & Documentation	IIFT/Marketing consultants/Export consultants	SIDBI/Associations	Improved export level from the cluster	M10
12	Creation of network for common laboratory Allopath/ Ayurved		SIDBI/Associations	Awareness about the local product	M10
13	Energy audit of 4 sample firms & workshop learning dissemination	Energy consultant	SIDBI/Associations		M11-M12

## Annexure 1:

### Geographical Location of Indore Pharmaceutical Cluster:

Indore located in Central India (approx.76o E, 23o N) , far from the sea and it is located around 200 kms away from the Bhopal state capital of Madhya Pradesh , Indore is known as a commercial capital of Madhya Pradesh. There are lots of industries in which pharmaceutical manufacturing is one of them. Indore is well connected with rails & roads.



**Annexure – 2**

**Proposed Intervention with Tentative Time Line**

S. No.	BDS Areas	Suggested Interventions	Tentative Time Line ( Quarter Wise )										
			1	2	3	4	5	6	7	8	9	10	
1	Web Portal	Creation of cluster web portal	█										
		Web portal own by associations				█							
2	CCC meetings	Proper execution of action plan	█	█	█	█	█	█	█	█	█	█	█
3	Quality Compliance	Sensitization workshop on WHO-GMP		█						█			
		Conducting 5 pilot audit for implementation of WHO-GMP			█								
		5 visits to successful WHO-GMP units at Ahmedabad		█		█							
		Creation of network for common laboratory allopath/ayurved			█	█							
4	Finance	Organizing Banker's meet with SMEs			█				█			█	
		Creation and finalization of financial product for GMP and export promotion			█	█				█			
		Product promotion			█	█	█	█	█	█	█	█	█
5	Energy	Workshop on Energy & Management				█				█			
		Conducting Pilot Audit in 4 sample firms				█							
		Workshop & Dissemination				█				█			
		BDS voucher programme				█				█			

S. No.	BDS Areas	Suggested Interventions	Tentative Time Line ( Quarter Wise )										
			1	2	3	4	5	6	7	8	9	10	
6	Raw Material	Sensitization workshop for formation of consortia for common raw material procurement											
7	HRD	Organize 4 (10 days) short term training programmes of chemical analysis on quality control											
8	Marketing	Conduct workshop on export procedure & Documentation											
		3/4 group of 5 firms for cGMP/ISO/WHO-GMP and joint export & institutional marketing											
		Interactive meet with local doctor's											
		Workshop on institutional marketing											
9	BDS facilitation	BSM meet of BDS											
10	ICT	Sensitization workshops and training programme for production team on Pharma software											

**Annexure - 3**

**List of Respondents**

**1. Pharma Manufacturing Units :-**

S.No.	Contact person	Name & Address of the Firm	Contact No.
1	Mr. Ramesh Shah	M/S Cyano Pharma Pvt. Ltd.115- c, Industrial Estate,Pologround,Indore	09993095960
2	Mr. Jaipal Nandwani	M/S Arya Pharmaceuticals,111 Industrial Estate,Pologround,Indore	09302102922
3	Mr. Himanshu Shah	M/S Vishal Pharmaceuticals Laboratories,101-A, Sector – E, Sanwer Road,Indore	09425060570
4	Mr. Shyam Kabra	M/S Kabra Drugs Limited, 26, Sector – A, Sanwer Road Industrial Area,Indore	09826041139
5	Mr. Jainesh Jain	M/S Unidrug Innovative Pharma Technologies Ltd., 84, Sector – E, Sanwer Road,Indore	0731-2720402
6	Mr. Sudhir Vora	M/S Zest Pharma 275, Sector – E, Sanwer Road, Indore	09827021834
7	Mr. Rajesh Bhatia	M/S Riemann Labs Pvt. Ltd. 69, Sector – E, Sanwer Road,Indore	09827015819
8	Mr. Kamal Karamchandani	M/S Sellwell Pharmaceuticals Ltd. 92, Sector – E, Sanwer Road,Indore	0731-2721718
9	Mr. Rajendra Sharma	Soft Medicaps Limited,274 –BG, scheme no. 54, Vijay Nagar,Indore	09993065611
10	Mr. Hari Kumar	Pioneer Drugs (IO Pvt. Ltd. 95 B & 96 A, Industrial Area No. 1, A.B.Road,Dewas	09926304171
11	Mr. Harish Gangwani	M/S Garima Healthcare Pvt. Ltd. 272, Sector – F, Sanwer Road, Indore	07312720161
12	Mr. Manoj Yadav	Syncom Formulation (I) Limited 256,257, Sector – 1, Pithampur, District Dhar	09827063023
13	Mr. Sanjay Jain	M/S Sanctus Drugs & Pharmaceuticals Pvt. Ltd. Pithampur Industrial Area – 3, Dhar	09893133306
14	Mr. Y.Srinivasa	M/S Harshvardhan’s Laboratories Pvt. Ltd. 162, Sector – 1, Pithampur, Dhar	09826623433
15	Mr. M. K. Pandey	M/S Amit Enetrprises 141, Industrial Area No. – 1, Pithampur, Dhar	09926901478
16	Dr. N.C.Jain	M/S Prad Pharma Products 16 E, Industrial Area,Maksi Road,Ujjain	09425195580
17	Mr. Kailash Jindal	25, Industrial Area No. 1, Pithampur, Dhar	09827030027
18	Mr. K.P.Gupta	M/S Pentagon Labs Ltd., Industrial Area No. 1, Dewas	0731-2518937
19	Mr. Pramod Jain	M/S Century Drugs 38, Sector – 3, Pithampur,Dhar	09329807501
20	Mr. Retesh	M/S Noble Drugs 309, Sector- E, Sanwer Road,Indore	09406240095

21	Mr. Subhash Soni	M/S Arrow Pharma Palia Road, Indore	09893283151
22	Mr. Anil Bhatia	M/S Schon Pharma Ltd. Hatod Road, Indore	09826031108
23	Dr. D. Kataria	M/S Vindas Chemicals Ind. Pvt. Ltd. Pithampur, Dhar	09425062295
24	Mr. Dheeraj Lulla	M/S Endolabs Ltd. A.B.Road, Rau	09893035222
25	Mr. Dinesh Jain	M/S Super Pharma Products 13 A, Industrial Area, Maksi Road, Indore	0734- 2517450
26	Mr. Neeraj	M/S Osmed Formulations P. Ltd. 56/57 Industrial Area Maksi Road, Ujjain	
27	Mr. Dinesh	Super Farmulations, Industrial Area, Ujjain	07342525359

## 2. BDS providers and support Institutions

S.No.	Contact person	Name & Address of the Firm	Contact No.
1	Mr. Mukeh Sanghawi	M/S Dhanshree Enterprises 11/13 A, Meera Path, Dhenu Market, Indore	09826075285
2	Mr. Anil Jha	Anju Pharmaceuticals 11, Alankar Chambers, Ratlam Kothi, A.B. Road, Indore	07312527415
3	Mr. Prateek Modi	M/S Pharmac enterprises 47 B, Laxmi Bai Nagar, Industrial Estate, Fort, Indore	09827041222
4	Mr. Faizl Ilahi Kothari	M/S Heva Elastica 55 U, Industrial Area, Maksi Road, Ujjain	09425091839
5	Mr. Navin Goyal	M/S Essen Energy Technologies P.Ltd. 109, Scheme - &4, Vijay Nagar, Indore	09425056286
6	Mr. Dinesh Khare	CEDMAP, 206, Swadesh Bhawan, A.B. Road, Indore	09827016501
7	Mr. Sanjay Rautela	NSIC, 10, Pologround, Indore	07312424408
8	Mr. J.K. Pancholia	LDM, Bank of India Yaswant Niwas Road, Indore	09907710519
9	Dr. D.S. Mandloi	Dy. Director, MSME-DI, 10 Pologround, Indore	09425124053
10	Mr. Arvind Gupta	Anusandhan Analytical & Biochemical Research Laboratory Pvt. Ltd., 435, M.G. Road, Rajwada, Indore	07314054924
11	Mr. Shishir Bashar	MPLUN, Quality Marking & Testing Laboratory, Industrial Estate, Pologround, Indore	09424594573
12	Mr. Shobhit	FDA, Near T.V. Hospital, Bhopal	
13	Mr. Jashan Gawalani	Western Art, 111 D, Pologround, Indore	07312421586
14	Mr. Jitesh Shadija	M/S Shiv Offset ( I ) Pvt. Ltd. 73, Pologround, Indore	09301399995
15	Mr. Yoges Jain	M/S Niche Quality Solutions Pvt. Ltd. Banarasi Bhawan, 20 Prince Yaswant Road, Indore	09303205440
16	Mr. M.L. Garg	M/S Garg Flaxo Packs B-19, Sector – C, Sanwer Road, Indore	09425063598
17	Mr. Pravin S. Seth	M/S Pravin Trading Co.	09302591942

		73,Dawa Bazar,RNT Marg,Indore	
18	Mr. Ashish Mehta	M/S Rhythm Healthcare, 41 – 42, 2 <sup>nd</sup> Floor,Dawa Bazar,Indore	09302103947
19	Mr. D.K.Chaudhary	Emerald Marketing 1st Floor, 300, Dawa Bazar,Indore	09826033851
20	Mr. Anil Nair	M/S Bureau Veritas (I) Pvt.Ltd. D.M.Tower,20/1/1, New Palasia, Indore	09926899248
21	Mr. Vijay Navlani	Vijay Agencies, 202, City Plaza,Indore	
22	Mr. Santosh Gawlani	64, 3 <sup>rd</sup> floor, Dawa Bazar,Indore	07315045266
23	Mr. Manish Motwani	348,1st Floor,Dawa Bazar,Indore	07312704415
24	Mr. Shubhas Chaturvedi	M/S A 2 Z Packaging Bazar Pvt.Ltd. 31, 4 <sup>th</sup> floor,Dawa Bazar,Indore	09425064343
25	Mr. Ranjan Kumar	GTZ,Scheme No. – 54, Vijay Nagar,Indore.	09303121925

### 3. BMOs

S.No.	Contact person	Name & Address of the Firm	Contact No.
1	Mr. Ramesh Shah, President	President, MPPMO, 115 c, Pologround Industrial Area,Indore	09993095960
2	Mr. Himanshu Shah	Secretary, MPSSDMA, 100 – B,Sector – E, Sanwer Road, Indore	09425060570
3	Mr. T.S. Bhandari	Secretary,MPAMA, Laxhmi Bai Nagar,Indore	0942565578

**Annexure – 4**

**Diagnostic Study Questionnaire – Pharmaceutical sub sector (for SME units)**

<b>PROJECT: SIDBI-BDS for MSMEs</b>	<b>DATE:</b>
Name of the CEO / MD / Partner / Proprietor	
Respondent Name	
Position	
Telephone No / Cell No	
Interviewer's Name	
Length of Interview	
Membership (Please name the Industry Association / Cluster / Export Promotion Council , Chamber Of Commerce / others of which your co is a member )	
Type of Industry: Bulk Drug Mfg. <input type="checkbox"/> Formulation <input type="checkbox"/> Others: _____	

**1. Enterprise Detail:**

**A. Office Address**

	Phone		Mobile	
	Fax		Email	

**B. Unit Address**

	Phone		Mobile	
	Fax		Email	

**C. Legal Status (Please tick)**

- a) Proprietorship  b) Partnership  Co-operative  d) Private Ltd.   
 e) Public Ltd.  Any other (Please specify)

D. Type of Enterprise: Micro / Small / Medium/ Large

E. Quality Certification(s):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

F. Nature of the Unit: (Please tick: a) Registered  b) Unregistered

G. Premises : a) Own b) Rented c) Floor area: \_\_\_\_\_ Sq. Feet

H. Year of establishment : \_\_\_\_\_

**2. Unit information at glance**

	2008-09		2007-08		2006-07	
Turnover						
Profit before tax						
Wages & Salary						
Total investment in Plant & Machinery						
Number of Employees	Permanent	Contractual	Permanent	Contractual	Permanent	Contractual
Existing Credit Facility	Type	Amount (Rs in lakh)	Bank & Branch		Name of CA / Financial consultant	
	Fund based					
	Non Fund Based					

**3. Employment:**

Type	Category				Average Salary / Wages
	Men	Women	SC/ST/Minority	General	
Managerial					
Supervisory					
Semi skilled Workers					
Contractual laborers					

**4. Products being Manufactured:**

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.....  
.....  
**5. Product wise Manufacturing Process with value chain details (add separate sheets)**

**6. Marketing**

Category / Type	Percentage of sales
Own Distribution network	
Supply to large Company	
Govt Institutions	
Direct Exports	
Indirect Export	
Others (Please specify)	

**6. Issues effecting growth of the Industry / Unit**

Area	Issues effecting the unit's growth	Consultant(s) / service provider(s) being presently being engaged
Quality compliances		
Technology Improvement / Up gradation		
Quality Testing Facilities		
Financial Services		
General Management		

Pollution & Waste Management		
HRD (Manpower Training)		
Marketing ( Domestic / Export)		
Raw material ( Procurement / Sourcing )		
Packaging & Branding		
Energy Management		
Safety Management		
CRAMS (Contract Research and Manufacturing Services)		

Information & communication Technology (ICT)		
Infrastructure development		
Industry and Institutional linkage		
Advocacy related issues		
Other(s)		

**6. Other Information**

a	What are the issues in the cluster received attention /focus in the last 5 years?	
b	What is currently driving or influencing the Growth/performance of the Cluster?	
c	What needs to be done in the cluster to improve the Productivity	

	& Profitability?	
d	What are the barriers keeping you from upgrading to the next level?	
e	What is the bargaining power of your suppliers?	
f	What is the bargaining power of your customers?	
g	What are the barriers to entry in to your sector?	
h	What is the nature of the competition and rivalry in this sector?	
i	What are the substitutes for your product or Industry?	
j	Major diversification into new products or markets in the past 3 years	
k	Other Businesses Owned or Partly-owned ( i.e., In manufacturing, or other sectors; specify sub-sectors as far as possible)	

L	Solutions you would like to suggest for overall growth of the sector?	

**8. Interviewer's Comments:**

Signature of the Interviewer

**Diagnostic Study Questionnaire – Pharmaceutical sub sector (for BDS Providers)**

<b>PROJECT: SIDBI-BDS for MSMEs</b>	<b>DATE:</b>
Name of the CEO / MD / Partner / Proprietor	
Enterprise Name	
Respondent Name	
Position	
Telephone No / Cell No	
Interviewer's Name	
Length of Interview	
Sectoral and Geographical Coverage:	
Membership (Please name the Industry Association / Export Promotion Council / Chamber Of Commerce / others of which your organization is a member)	

**1. Enterprise Details:**

**A. Office Address**

	Phone		Mobile	
	Fax		Email	

**B. Unit Address**

	Phone		Mobile	
	Fax		Email	

**C. Legal Status (Please tick)**

a) Proprietorship  b) Partnership  Private Ltd.  Public Ltd.

Any other (Please specify)

F. Nature of the Unit: (Please tick): a) Registered  b) Unregistered

G. Premises : a) Own b) Rented c) Floor area: \_\_\_\_\_ Sq. Feet

H. Year of establishment : \_\_\_\_\_

## 2. Service Provider's information at glance

(Amount at a glance)

	2008-09		2007-08		2006-07	
Turnover						
Profit before tax						
Wages & Salary						
Total investment in Plant & Machinery						
Number of Employees	Permanent	Contractual	Permanent	Contractual	Permanent	Contractual
Existing Credit Facility	Type	Amount (Rs in lakh)	Bank & Branch			Name of CA / Financial consultant
	Fund based					
	Non Fund Based					

## 3. Employment:

Designation	Category			Average Salary / Wages
	Men	Women	Total	

Interviewer Signature

## 4. BDS Provided to Pharmaceutical Industry

S.No	Area of Expertise	Services provided for Number of firms			Approximate Value ( in Lakhs)		
		2006-07	2007-08	2008-09	2006-07	2007-08	2008-09

(BDS Provider's credentials and List of firms to be obtained separately)

## 5. Other Information

a	What are the critical issues you visualize in the cluster?	
b	What is currently driving or influencing the Growth / performance of the Cluster?	
c	What needs to be done in the cluster to improve the Productivity & Profitability of the cluster firms?	
d	What is the bargaining power of Pharmaceutical industry clients?	
e	What is the nature of the competition and rivalry in this sector?	
f	What are the barriers obstructing the sector from upgrading to the next level?	
g	Major diversification into new products or markets in the past 3 years	
h	Solutions you would like to suggest for overall growth of the	

	sector?	
--	---------	--

**6. Interviewer's Comments:**

--

Signature of the Interviewer

### Diagnostic Study Questionnaire – Pharmaceutical sub sector (for BMOs)

<b>PROJECT: SIDBI-BDS for MSMEs</b>	<b>DATE:</b>				
Name of the CEO / MD / ED /President					
Name of the BMOs / Association					
Respondent Name					
Position					
Telephone No / Cell No					
Interviewer’s Name					
Length of Interview					
Membership (Please name the Industry Association / Export Promotion Council , Chamber Of Commerce / others of which your BMO is a member )					
No of MSME Members	Micro	Small	Medium	Large	Total
No. of Other Members					
No. of Paid Staff					
Approximate Annual Revenues					
No. of Unpaid but Active Officials					
Approximate Total Assets					

#### 1. A. Office Address

	Phone		Mobile	
	Fax		Email	

C. Legal Status (Please tick)

a) Co-operative  b) Private Ltd.  c) Public Ltd.

Any other (Please specify)

G. Premises : a) Own b) Rented c) Floor area: \_\_\_\_\_ Sq. Feet

H. Facilities available:

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H. Year of establishment : \_\_\_\_\_

**2. Issues effecting growth of the Pharmaceutical Industry**

Area	Issues	Consultant(s) / service provider(s) being presently being engaged
Quality compliances		
Technology Improvement / Up gradation		
Quality Testing Facilities		
Financial Services		
General Management		
Pollution & Waste Management		

HRD (Manpower Training)		
Marketing ( Domestic / Export)		
Raw material ( Procurement / Sourcing )		
Packaging & Branding		
Energy Management		
Safety Management		
CRAMS (Contract Research and Manufacturing Services)		
Information & communication Technology (ICT)		
Infrastructure development		

Industry and Institutional linkage		
Advocacy related issues		
Other(s)		

**3. Other Information**

A	What are the issues in the cluster received attention / focus in the last 5 years?	
b	What is currently driving or influencing the Growth/performance of the Cluster?	
c	What needs to be done in the cluster to improve the Productivity & Profitability of the industry?	
d	What is the bargaining power of your suppliers?	

e	What is the bargaining power of your customers?	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					
f	What are the barriers to entry in to Pharmaceutical sector?	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					
g	What is the nature of the competition and rivalry in this sector?	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					
h	Solutions you would like to suggest for overall growth of the sector?	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					

**4. Interviewer’s Comments:**

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Signature of the Interviewer