Fostering Business Responsibility in MSME Clusters

Volume III

Role of Cluster Development Agents

Indian Institute of Corporate Affairs
Partners in Knowledge. Governance. Transformation.

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Fostering Business Responsibility in MSME Clusters – Volume III

Role of Cluster Development Agents

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'Fostering Business Responsibility in MSME Clusters' is in three volumes – Volume I is for Policy Makers, Volume II for Implementing Agencies (IAs) and Volume III for Cluster Development Agents (CDAs). These volumes are a guide to the varied roles and responsibilities all three have in encouraging Business Responsibility among Micro, Small and Medium Enterprises (MSMEs) through a cluster development approach.

Each volume is divided into two sections. The first section explains the basic concepts of clusters, their development, responsible business and the link between clusters and responsible business. The second section describes the roles and responsibilities of Policy Makers (Volume I), Implementing Agencies (Volume II) and Cluster Development Agents (Volume III), in fostering responsible behaviour in MSMEs through the cluster development approach.

	Policy Makers	IA	CDA
Section I	✓	✓	✓
Section II			
Engaging Stakeholders/Institutional Linkages	National Level	State and Local	Local Level
Mapping of Clusters	✓	✓	✗
Selection of Clusters	✓	✓	✗
Selection of Implementing Agencies/ Programme Management Units (PMUs)	✓	✗	✗
Incentivising Enterprise Social Responsibility (ESR) Agenda	✓	✗	✗
Strengthening the National Resource Base	✗	✗	✗
Identifying CDAs	✗	✓	
Formulating a Cluster Action Plan	✗	✓	✓
Resource Mobilisation and Implementation	✗	✓	✓
Trust Building and Social Capital	✗	✗	✓
Diagnostic Study	✗	✗	✓
Documentation	✓	✓	✓
Monitoring and Evaluation (M&E)	✓	✓	✓

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Foreword – IICA

The role of MSMEs in powering India's sustainable growth agenda cannot be emphasised enough. However, the MSMEs continue to be ill equipped to rise to the challenge of shouldering India's growth which is both sustainable and inclusive. To unlock the real potential of this sector it is important to adopt a holistic approach, which includes socially, environmentally and economically responsible conduct to gain competitiveness both domestically and globally.

The study focuses on the roles each stakeholder can play in enabling the MSMEs to become the engines of growth in the true sense. It elucidates the role of policy makers and implementers in mainstreaming Business Responsibility among the MSMEs, so that they are better equipped to meet the emerging global challenges with regard to sustainability.

The IICA has been a strong proponent of encouraging businesses to integrate responsible business practices especially the MSMEs. The release of the National Voluntary Guidelines on Social, Environment and Economic Responsibilities of Business by the Ministry of Corporate Affairs under the aegis of the IICA-GIZ Business Responsibility Initiative, is a testimony of its efforts in this direction.

The IICA is happy to have contributed to the study and is optimistic that the study will go a long way in fostering responsible business practices in MSME clusters.

Dr. Bhaskar Chatterjee
DG and CEO
Indian Institute of Corporate Affairs

Foreword – GIZ

India's vision, as articulated in the 12th Five Year Plan, of inclusive and sustainable growth will remain a distant dream unless its 26 million strong MSMEs are made more competitive. The MSME sector today grapples with issues such as negative environmental footprint, adverse social impacts, resource inefficiency, and weak compliance with social standards. These bottlenecks are making the MSMEs less competitive thereby posing an imminent threat to their growth. At an aggregated level this means the industrial base of India is beset with unsustainable growth.

It is increasingly being seen that markets, including investors and multi-national companies (of whose supply chain MSMEs form a part), are placing significant importance on enterprises sustainability performance. The focus therefore is to make the MSMEs more competitive. This will happen only when the MSMEs operate in a socially, economically and environmentally responsible manner as enunciated in the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs), released by the Ministry of Corporate Affairs in July 2011.

The IICA-GIZ Business Responsibility Initiative, a bilateral cooperation Project between IICA and the Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), recognises the importance of embedding responsible business practices among the MSMEs through the creation of a conducive ecosystem, including an enabling policy framework and implementation guidance to the stakeholder involved. This study is an endeavour in this direction. It proposes a framework on how Business Responsibility (BR) issues of MSMEs in clusters can be addressed through a 'MSME cluster development approach' with a BR focus. It outlines a methodology that policy makers, implementing agencies (such as business member organisations) and individual cluster development agents can adopt to guide MSMEs towards sustainability and competitiveness.

I congratulate IICA, GIZ and FMC for their efforts in addressing such imminent issues within the Indian MSME sector.

Preface

There is no denying that the MSMEs play a critical role, not just from the economic growth perspective but also from the standpoint of social and environment impact they create given their geographical spread. However, it is often reported that MSMEs tend not to adhere to statutory measures while using contract labour, avoid payment of statutory dues, flout environmental norms, display corrupt behaviour, provide a sub-optimal working environment, and hire child labour among several other social and environmental concerns. There is undue attention on short term profit making and lack of a comprehensive and integrated approach towards achieving sustainability and competitiveness in the long run. An initiative to test the Business Responsibility dimensions in select clusters was undertaken during 2005–08 in a collaborative project named 'Thematic Cooperation between UNIDO and SDC in the Field of SME Cluster/Network Development'. The suggested methodology outlined in the study builds on the work done under the above mentioned project. It examines multiple areas and diverse sectoral issues among MSMEs through the BR lens. The study also endeavours to establish a business case for embedding BR among MSMEs and proposes a corresponding methodology that different stakeholders can adopt in this direction. It concludes that there is a need to enrich the methodology with additional concepts, tools and many more examples and contexts.

This project has been commissioned to the 'Foundation for MSME Clusters' by the IICA-GIZ Business Responsibility Initiative. The project is part of an agreement between GIZ and Ministry of Corporate Affairs, Government of India, under the Indo-German Bilateral Development Cooperation Programme to 'Strengthen the Businesses Social, Environmental and Economic Responsibility Movement in India' which has the key objective of fostering an enabling environment in India for the uptake of responsible business practices in pursuit of sustainable economic development.

Acknowledgements

The objective of this study is to conceptualise and put in place a methodology that will support cluster development agents in their efforts to make MSMEs in clusters become more responsible in how they conduct their businesses. The document provides an input on how to blend social, environmental and energy (SEE) related factors with the traditional cluster development programmes, which were structured towards addressing economic issues prevalent in clusters. This methodology document is meant for Cluster Development Agents.

The document draws from the study, 'UNIDO-Methodology – Fostering Responsible Behaviour in MSMEs in Clusters' by Mr. Sudhir Rana, National Expert, UNIDO-CDP, and several case studies which provided a rich source of input. We are grateful to all the authors of the case studies for providing such informative material, especially Ms. Asha Sharma for listing the social schemes available from various Ministries of the Government of India. We thank Dr Tamal Sarkar, Director, Foundation for MSME Clusters, for providing his inputs towards completion of the study. We also acknowledge the contribution of Dr. Megha Shenoy, Research Director, Resource Optimization and Innovation (ROI) for providing valuable inputs on Industrial Ecology and Life Cycle Assessment to enrich the document. Lastly, we thank Mr. Mukesh Gulati, Executive Director, Foundation for MSME Clusters, for providing valuable inputs and guidance.

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We congratulate the authors of the study Dr. B.P. Murali, MSME Development Consultant, and Mrs. Sukanya Banerjee, Deputy General Manager, Foundation for MSME Clusters for putting together an insightful study.

We acknowledge the contribution of the IICA-GIZ Business Responsibility Initiative, in commissioning the study. We would especially like to extend our gratitude to Mr. Manoj Arora, Former Director, Ministry of Corporate Affairs, Mr. Manfred Haebig, Director Private Sector Development, GIZ India, Ms. Neha Kumar, Senior Technical Expert, GIZ India and Ms. Nandini Sharma, Project Advisor, GIZ India for their conceptual guidance and support.

The authors bear all responsibility for facts presented, errors and omissions as well as value judgments passed, if any.

Abbreviations

AICTE	All India Council for Technical Education
AIDS	Acquired Immune Deficiency Syndrome
AIMA	All India Management Association
ASSOCHAM	Associated Chambers of Commerce and Industry of India
BCCI	Bombay Chamber of Commerce and Industry
BDS	Business Development Service
BMOs	Business Membership Organisations
BR	Business Responsibility
BVS	Bunkar Vikas Sanstha
CD	Cluster Development
CDA	Cluster Development Agent
CDE	Cluster Development Executive
CDP	Cluster Development Programme
CDS	Cluster Development Service
CEPI	Comprehensive Environmental Pollution Index
CFC	Common Facility Centre
CFP	Cluster Focal Point
CII	Confederation of Indian Industry
CNG	Compressed Natural Gas
CPCB	Central Pollution Control Board
CRPBSC	Cluster Responsibility Perception Based Score Card
CSO	Civil Society Organisation
CSR	Corporate Social Responsibility
EDI	Entrepreneurship Development Institute of India
EDS	Exploratory-cum-desk study
EPR	End of Project Report
ESR	Enterprise Social Responsibility

FICCI	Federation of Indian Chambers of Commerce and Industry
GRI	Global Reporting Initiative
HIV	Human Immunodeficiency Virus
HRD	Human Resource Development
IA	Implementing Agency
ICT	Information and Communication Technology
IL&FS	Infrastructure Leasing & Financial Services Limited
IMTMA	Indian Machine Tools Manufacturers' Association
IT	Information Technology
KBK	Kalahandi Balangir Koraput
KVIC	Khadi and Village Industries Commission
LBIPDS	Lathikata Block Industries Periphery Development Society
M&E	Monitoring and Evaluation
MSME	Micro, Small and Medium Enterprises
NABARD	National Bank for Agriculture and Rural Development
NFP	National Focal Point
NGOs	Non-Governmental Organisations
NRHM	National Rural Health Mission
OBC	Other Backward Classes
PMU	Programme Management Units
PRIs	Panchayati Raj Institutions
S&T	Science and Technology
SC	Scheduled Caste
SEE	Social, Environmental and Energy
SEZ	Special Economic Zone
SFP	State Focal Point
SGFI	Sports Goods Foundation of India
SGMEA	Sports Goods Manufacturers and Exporters Association
SHG	Self-Help Group
SIDBI	Small Industries Development Bank of India
SME	Small and Medium Enterprise
SPV	Special Purpose Vehicle

ST	Scheduled Tribe
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UDE	Undesirable effect
UGC	University Grants Commission
UN	United Nations
UNIDO	United Nations Industrial Development Organization
WG	Working Group

Section I

Understanding Cluster Development and Business Responsibility

1. Understanding clusters

Clusters are being acknowledged worldwide as a strategic mechanism through which regions and nations can attain a higher level of industrial development. Broadly, a cluster of enterprises may be defined as a typical geographical concentration of micro, small, medium and large firms producing the same or a similar range of products[1] and encountering common opportunities (e.g., increasing turnover through quality upgradation or introduction of new products or markets, etc.) and threats[2] (e.g., product obsolescence, lack of markets, etc.). The firms producing 'the product' by which a cluster is known are called principle firms, core firms or principle stakeholders of the cluster. The principle firms obtain inputs from a range of supporting firms through backward and forward linkages. These include raw material suppliers and manufacturers of parts and machinery; intermediary buyers like traders, exporters and import agents; and technical and financial service providers like banks, technical institutions, private Business Development Service (BDS) providers on quality, environment, design, energy, capital investment, etc. Various interest groups such as product and umbrella associations/forums of firms also contribute towards the dynamics of the cluster. All these – principle firms, support firms and service providers, technical and financial institutions, and interest groups are a part of the cluster and are called cluster stakeholders.

Clustering of Micro, Small and Medium Enterprises (MSMEs) can lead to several positive outcomes such as:

- Providing the impetus for the creation of external economies like specialised suppliers of raw materials, components and machinery; sector-specific skills, etc.
- Leading to the emergence of specialised technical, administrative and financial services.
- Creating conducive conditions for the development of inter-firm cooperation as well as cooperation among public and private institutions to promote local production, innovation and collective learning.
- Leading to conditions that are conducive for collectively addressing the social and environmental issues that are prevalent in the cluster.

The growth of one set of stakeholders in a cluster could drive the growth of other stakeholders. For instance, the presence and growth of a group of knitwear firms in a particular region is strengthened by the growth of various firms involved in related activities such as dyeing, spinning, designing, trading, exporting, etc. The supporting units provide vital backward and forward linkages to the firms at the core of the cluster – the knitwear units are also part of the knitwear cluster. They form a part of the value chain of the end product (that reaches the final user) and the opportunities/threats faced by any actor in the value chain immediately leads to a corresponding impact to the other constituents of the value chain.

While too narrow a definition of a cluster could have implications on development policies, not every agglomeration of firms can be labelled as a cluster as explained:

1 'Product' in this document implies both goods and services.
2 'Policy and status paper on cluster development in India', Foundation for MSME Clusters, New Delhi, 2007

Table 1.1 Agglomerations of firms that are not clusters

S.No.	Not a Cluster	Reason
1	A 'sector' that is present in various places all over a state or a country.	Too large a geographical area deprives the units across the area to exploit advantages of proactive joint action.
2	An industrial estate or an industrial park having multiple products.	Too wide a product range means no common opportunities and threats. Hence, little scope of joint action.
3	A network (small group) of enterprises producing similar products.	Too small a number for enabling significant and variety of joint actions. These are often part of a cluster.
4	A cooperative, which promotes cooperation among a number of enterprises under some norm, rule or a public scheme of assistance.	A central feature of dynamic clusters is 'competitive cooperation'. In case of a cooperative, competition does not exist. It is often a part of a cluster.
5	A group of villages, town or city consisting of enterprises producing a diverse range of products or services.	These are clusters in a different sense and are not enterprise based clusters, which are being discussed in this document.

Source: Policy and Status Paper on Cluster Development in India, FMC, 2007.

Although attempts have been made to recognise a cluster by specifying the minimum number of units in a given measured location, these conditions are difficult to generalise across activities/products. In India a number of agencies have come up with a range of definitions, tailored to suit the typology of clusters, which an agency decides/is mandated to cater to, by specifying a certain minimum number of units in a given measured location.

Table 1.2 Defining clusters in India

Institution	Definition
Integrated Handloom Cluster Development Programme (IHCDP), Ministry of Textiles	A handloom cluster has been defined as one having a minimum of 500 looms.
National Minority Development Finance Corporation (NMDFC)	Handloom cluster, which has more than 75 per cent of the population as 'minorities'.
Scheme of Fund for Regeneration of Traditional Industries (SFURTI), Ministry of MSME	A micro village industry cluster having 500 beneficiary families of artisans/micro enterprises, suppliers of raw materials, traders, service providers, etc., located within one or two revenue sub-divisions in a district (or in contiguous districts).

Institution	Definition
Development Commissioner (Handicrafts), Ministry of Textiles	Agglomerations having 100 artisans. In case of North East Region, Jammu & Kashmir and other hilly terrains, the clusters will have a minimum of 50 artisans.
National Bank for Agriculture and Rural Development (NABARD), Cluster Development Programme	Micro enterprises and household units functioning in Self-Help Group (SHG) mode and having a minimum of 50 beneficiaries up to a maximum of 200. In intensive clusters, the number of beneficiaries may go up to 500–700 and can even extend over a block or taluka.
Government of Gujarat	A minimum of 50 industrial units, indulging in the manufacture of the same or related products and located within a radius of 10 km in a particular location.
Government of Orissa Handicraft Cluster	At least 100 traditional artisans practicing the same craft for non-KBK (Kalahandi Balangir Koraput) districts and at least 50 traditional artisans in KBK districts and situated within a radius of 3–5 km.
United Nations Industrial Development Organization (UNIDO) Cluster Development Programme	At least 100 Small And Medium Enterprise (SME) units or 50 handicraft units in a town/city or few villages and their surrounding areas for an industrial (traditional manufacturing) or an artisanal cluster respectively. Further a minimum of 500 handlooms for a handloom cluster.

Source: Policy and Status Paper on Cluster Development in India, FMC 2007.

2. Understanding business responsibility

In the changing context of globalisation, enterprises are increasingly expected to pursue their business keeping in mind the stakeholders' interests and well-being, which depends on the way the enterprises manage their business processes. The enterprises are also realising the fact that they cannot succeed in a society that fails. Businesses, particularly those in the private sector, are repeatedly being asked to rise to the challenge of making the growth process more inclusive. Given their financial strength, they can be major partners in making society more humane and just. This initiative is synonymous to corporate enterprises – therefore the terms Corporate Social Responsibility (CSR) and Business Responsibility (BR) to emphasise inclusivity of Social, Environmental and Energy (SEE) drives of both large corporates and MSMEs.

BR can be defined as:

- 'The continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well

as of the local community and society at large.' (World Business Council for Sustainable Development)

- 'Being socially responsible means not only fulfilling legal expectations, but also going beyond compliance and investing more into human capital, the environment and relations with stakeholders.' (The European Commission)
- 'Operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business.' (Business for Social Responsibility)

BR refers to a contemporary concept, where companies commit to be sensitive to all stakeholder demands in the scope of their business operations, beyond what is regulated and expected by the community, and beyond the industry norm. BR could manifest itself in initiatives related to tackling SEE related issues.

The facets of BR are illustrated in Figure 1.1:

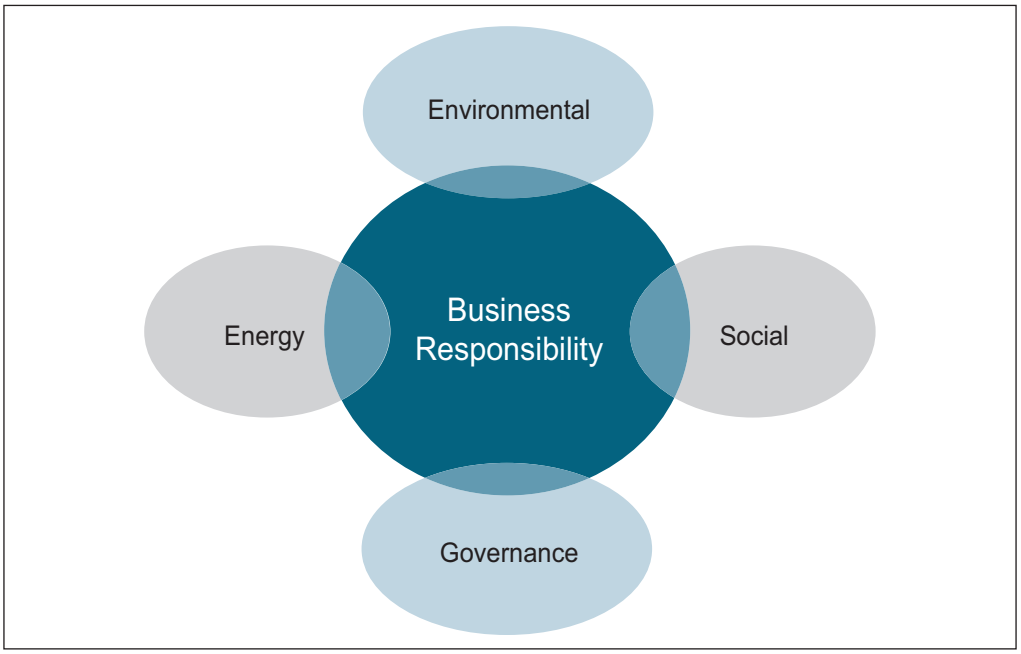


Figure 1.1 Facets of business responsibility

The corporate sector across the world has started realising that competitiveness of a given business can be severely threatened by unsustainable environmental and unviable social structures. Global initiatives such as UN Global Compact, GRI Reporting, SA 8000, ISO 26000, carbon credit trading mechanisms, etc., are some examples towards this new way of thinking. In India, BR platforms have been set up by national level membership organisations such as the Confederation of Indian Industry (CII), Federation of Indian Chambers of Commerce & Industry (FICCI), Associated Chambers of Commerce & Industry of India (ASSOCHAM) and Bombay Chamber of Commerce & Industry (BCCI). At the corporate level some of the well known

initiatives are the TATA CSR Initiative, Microsoft's Project Jyoti, Intel's Outreach Programme, IBM's Computer Literacy Programme, Pepsico's alliance with Basix (a micro-finance firm), etc., which are said to have made major contributions in this field. The actual impact of these initiatives and the relationship of BR with their core business processes may be debatable but it is undeniable that initial steps have been taken towards ensuring responsible behaviour among large corporate enterprises.

On the other hand, there is very little known about the MSMEs and their approach to business responsibility. The available literature about social and ethical behaviour about MSMEs is more critical than positive. Little is stated and known about the positive side of MSMEs and their social responsibility, whatever be its nature and volume.

3. The relation between clusters and business responsibility

Cluster development efforts have primarily focused on the issues of growth and competitiveness as follows[3]:

- Collective efficiency – namely local agglomeration economies and joint action gains.
- Role of local institutions such as business associations, chambers of commerce, enterprise clubs, technical and research bodies, universities, business development service providers, etc.
- Promoting joint initiatives.
- Influence of stakeholders external to the cluster, such as global buyers and global lead firms, who not only link local producers to global markets but also provide a framework for understanding how local clusters are inserted into global value chains, and what implications this has for local clusters to upgrade.
- Promoting Business Development Service (BDS) market.
- Creation of common infrastructure.

This focus is understandable given the relative success of small firm industrial districts in many parts of the developed and the developing world in competing with larger enterprises in local and global markets.

The conventional approach to cluster development efforts in particular and economic development in general could indicate that 'social' considerations might not be in sync with 'economic' development. It is one thing to suggest that business ought to elevate considerations of social well-being of the workforce and community at large, however, if the cluster firms are to

3 Interventions in some clusters are focused on poverty alleviation, i.e., Cluster Development Programme with a focus on poverty alleviation supported by UNIDO.

be engaged in linking their competitiveness with social cohesion or fairness, they must first be convinced that the argument is sound.

Box 1.1 The Samalkha experience – economic benefits elevate social well-being of the community

Samalkha, a small town in the district of Panipat (Haryana), has been well known for its metal casting industry since the 1960s. Currently, there are around 30 foundry units (metal casting also termed as foundry) that are operational in the cluster with an average turnover of Rs. 90-95 crores per annum. The production process adopted by these units is traditional, which means that there is a lack of mechanisation and quality control/assurance systems.

Highly energy intensive: The most energy intensive operation in a foundry unit is the melting of metal (70 per cent of the total energy consumed in the production process) in furnaces known as cupolas. The foundry units used the conventional single blast cupolas, wherein the coke feed ratio was as low as 1:4, i.e., 1 tonne of coke melts 4 tonnes of metal.

To address the issue of high energy consumption, the units had to upgrade the single blast cupolas to double blast cupolas (DBCs). Under a project funded by Department of Science and Technology (DST) for Promoting Innovative Clusters and implemented by Foundation for MSME Clusters (FMC), the Samalkha Foundry Cluster was chosen to promote innovative techniques in enhancing the competitiveness of the cluster through strengthening of local ecosystem and institutional linkages.

For upgrading the cupolas, FMC (the implementing agency) identified an expert who designed the DBC and supervised the local fabricator who was implementing the design. The cost of installation of this customised DBC is only Rs. 3–5 lakhs (without mechanised charger), which is significantly low as compared to DBCs designed by other institutions.

The outcome: At the time this study was conducted, 11 units had upgraded their cupolas to DBC and 18 units had upgraded their operational practices. The coke feed ratio had improved by 10–30 per cent depending on the duration of the cupola run and the size of cupola. The estimated coke savings in these 11 units was 152.79 tons per annum (taking average coke savings of 13.89 tons per unit). Also by improving cupola operational practices in 18 units the coke savings was 590.15 tons per annum (average coke savings of 32.79 tons per unit). Thus total coke savings per annum from the actions taken in the 29 units in Samalkha was 742.93 tons which is equivalent to Rs. 89,15,200 per annum (Rs. 12 per kg coke). Importantly, the economic benefits of the cluster, i.e., reduction of production cost through reduction of coke consumption, also resulted in the social well-being of the community at large through reduction of carbon emissions.

An important issue which tends to get neglected in developmental policy, programmes and research on competitiveness-upgrading is the fact that small firm clusters usually cater to the social development agenda by providing employment for the poor. Several industrial clusters have their supply chain extended to household workers spread over several villages and districts from where the materials and services are sourced, providing livelihood to the economically backward sections of the community. One needs to understand that, 'competitiveness' and 'inclusive growth' are not stand-alone strategies but are interlinked, as a cluster needs a healthy society for successful functioning and vice versa. For example, education, health care and equal opportunity are essential to a productive workforce in clusters and similarly, society cannot compete with the business sector when it comes to job creation, wealth generation and innovations that improve standards of living and socio-environmental conditions over time.

In other words, we have to consider how cluster-based activities, including joint action and linkages with stakeholders within the global value chain, can influence the ability of clusters to address wider poverty and social concerns. This includes local joint action articulated through Self-Help Groups (SHGs), cooperative networks, and locally based multi-stakeholder initiatives. As the emerging evidence indicates, such different forms of 'collectivities' are driven forward through distinct local institutional forms within clusters and such networks can potentially lead to positive pro-poor and sustainable outcomes. These outcomes not only address how clusters or networks may positively impact the more marginalised segments of the community or labour force (especially women workers) but addresses wider concerns of social sector provisioning, such as health, gender issues and education, as well as infrastructure provisioning. In some cases, initiatives of this kind can enhance the nature of local territorial advantage, and provide a strong boost to territorial competitiveness. In particular it is felt that there is a need for 'shift in focus' from economic to social and poverty concerns for policy makers, stakeholders and implementers involved in enterprise development and cluster promotion.

Box 1.2 Developmental initiatives by women weavers in the Barpali Ikat Handloom Weaving Cluster

Maitree, was conceived by a few women following their UNIDO facilitated exposure visit to the Ahmedabad-based SEWA. Maitree was instituted as an organisation of women with the objective of socio-economic development of women weavers in the Ikat Handloom Cluster of Barpali. The Barpali Handloom Cluster comprises 1,567 looms and has a turnover of Rs. 15 crore per annum. Maitree started by creating a network of home based weavers in the entire cluster of Barpali and later increased its spread beyond Barpali. Institutionalisation of such an organisation was needed, given the social status of women in the cluster. Though women in the Barpali Handloom cluster were engaged in various economic activities like bleaching and dyeing, opening of yarn and winding, the condition of women in the weaver community is no different from any other community in the country.

MAITREE started with 15 members and now has around 300 members from Barpali and five nearby weaving villages. Each member sets aside Re. 1 every day as savings and deposits the same with Maitree every month during their monthly meeting. The organisation now has a pool of more than Rs. 1 lakh as savings, utilised for internal lending to help out women in distress and to avoid their going to moneylenders. A part of these savings are also used for social causes.

Maitree gradually tried putting focused efforts on capacity building of SHGs and its members especially in the area of self-management, leadership development, financial management, etc. With UNIDO's facilitation, it got a project from Department of Planning and Coordination to organise training on financial counselling and skill upgradation for its members and other poor weavers in the village. Maitree has helped alleviate economic and social concerns in the following ways:

- Works with support agencies like Child and Women Welfare Department it organises health awareness camp for rural women and informs villagers about the different government schemes available to them.
- Motivates the villagers to avail the total sanitation scheme; to construct sanitary latrines to reduce instances of various diseases, snake bite, etc.
- Operates a Gyan-Bigyan Kendra, a library cum personality development centre for school going children.
- Organises computer training for women in the local area to teach how to make graphs and designs that can help them in tie and dye yarn preparation for weaving.
- Creates awareness about the need of health insurance. Currently more than 1,950 weavers have enrolled under the health insurance scheme and 860 weavers are covered under the life insurance scheme offered by ICICI Lombard.

With Maitree's initiatives, not only were socio-economic issues of the area tackled but the confidence level of women also rose substantially. The process changed the man-woman equation in both social and economic areas in the family and in society as a whole. Major issues, which had gone unnoticed by society and the government authorities since long, found place in the development agenda of these marginalised women entrepreneurs.

4. Typology of business responsibility initiatives in clusters

UNIDO conducted a study[4] in 11 clusters on how cluster stakeholders perceive business responsibility and based on their observations, BR can be categorised as internal or external and individual or collective, as shown below in Table 1.3.

Table 1.3 Typology of BR activities in clusters

	Individual	Collective
Internal	Labour Welfare Cleaner Production	Waste water treatment
External	Charity	Education – Setting up of school

4.1 Internal vs. external BR

Internal and external BR seeks to improve business performance such as lock-in orders with international buyers. As per the UNIDO study, the following can be termed as internal and external BR activities:

4.1.1 Internal BR activities

Activities focusing on labour welfare, account for 19 per cent to 97 per cent of total expenditures on BR. These include fair and timely payment to workers, bonus and gifts and monetary aids for family events, financial saving schemes and interest-free loans, provision of food and accommodation to residential employees, and last but not least, uniforms and protective gear. Particularly in terms of labour welfare, medium-sized enterprises, fine-tune their services such as provision of job contracts in local languages, job security guarantees, display of all policies in a visible area to all, respect of gender-related issues; fixed working hours and leave encashment as an internal BR strategy.

- In terms of contributions to health care, 1 to 27 per cent of total annual BR resources are spent on free medical help, subsidised private health insurance, maternity benefits, healthy work environment, protective gear and accessibility to first aid kits, health club memberships, substance abuse counselling, and information on health related issues.

- Expenditures with respect to environment such as cleaner production and recycling are nominal particularly across Indian clusters, ranging from 1 to 7 per cent of total yearly BR resources.

4 Study conducted by Foundation for MSME Clusters under the UNIDO-CDP & CSR Project – A thematic cooperation between United Nations Industrial Development Organization (UNIDO) and Swiss Agency for Development and Cooperation (SDC)'.

4.1.2. External BR activities

Across clusters, external BR activities are dominated by:

- Outward looking BR focused on activities directed towards the overall benefit of the community in which the enterprise operates.
- Charity donations are strongly influenced by religious sentiment and these contributions can take various forms. External charity driven BR activities seek emotional returns.
- Entrepreneurs are the key drivers and thus want to express their larger responsibility towards the community where 'everyone knows each other, and we, the more fortunate cannot deny the help'.

4.2 Individual vs. collective BR

- Individual BR activities: These are activities planned and implemented by an individual firm in a cluster.
- Collective BR activities: These are activities conducted jointly with either cluster firms or support organisations.

4.3 Generic social issues[5] vs. 'economic' social issues

Further, BR issues can be categorised as socio-generic or socio-economic, based on their impact on the cluster operations.

- Cluster socio-generic BR issues: These issues may be related to religion, education, public health, disability, poverty, women and children, underprivileged sections of society, animal welfare, old age, etc. These issues may be important to society but their relationship with cluster operations needs to be analysed. Such issues could also be labelled as 'generic' social issues.
- Cluster socio-economic BR issues[6]: These BR issues are significantly affected by cluster value chain operation activities and can be related to cluster competitiveness. These issues may be related to product innovation, technology, raw material, wastage, occupational hazards, health and safety, pollution, productivity, unfair labour practices, child labour, corruption, infrastructure, skill development and trainings, bad practices in marketing and after sales services, transparent and truthful marketing and advertisements, proper and optimum utilisation of natural resources, non-use of restricted items and materials, and other value chain steps.

5 The issues that are independent of the cluster are termed as generic social issues. e.g., prevalence of HIV AIDS, alcoholism etc.

6 Issues which are taken care of, having a positive impact on the competitiveness of the cluster are termed socio-economic issues. For example, abolition of child labour may make a cluster a preferred source for international buyers.

Thus, in the context of the MSME sector, BR refers to 'responsible behaviour' on the part of the businesses in the following areas:

- Facilitating well-being of the workforce.
- Avoiding actions that could have a negative impact on the natural environment.
- As a corollary to the above, initiating and/or supporting interventions that reduce or prevent pollution (air, water, noise) and those that promote preservation of natural flora and fauna.
- Contributing to or being engaged in initiatives (health care, literacy campaign, etc.) that benefit the community in the immediate vicinity of the business and the society at large as well.
- Complying with legal and 'moral' obligations expected of any business establishment.
- Preserving and promoting social values.

5. The economic and non-economic dimensions of a cluster

5.1 Economic dimension

Given the 'economic' focus of cluster development efforts and looking at this aspect from a policy perspective, it would be useful to follow a three-way classification of clusters based on technology intensity as given below:

- High-tech clusters such as those in the IT and IT-enabled services, computers, biotechnology and related services, precision instrumentation or avionics, etc.
- Traditional manufacturing clusters (non high-tech and non-micro clusters).
- Low-tech poverty-intensive micro enterprise (handloom, handicraft and other micro enterprises) clusters. The traditional manufacturing and micro enterprises' clusters may also be termed as natural enterprises' clusters[7].

Another approach is[8] to typify a cluster by its' market and production structure as shown in Figure 1.2 below, where 'L' stands for local, 'N' for national and ' I ' for international. The framework suggests that a cluster, or at least the majority of its firms, can at least theoretically have any of these nine combinations. While local, national or international markets are self-explanatory; the local production system is mainly based on local resources, whereas national or international production system depends mostly on national and international resources. Such resources

7 As stated by Mr. Jawhar Sircar, Additional Secretary and Development Commissioner (MSME), at the second Workshop on 'Policy and Status Paper on Cluster Development in India' held on 5 October 2007 in New Delhi (organised by Foundation for MSME Clusters).

8 Bianchi, P. and Tommaso (1997), The role of Small & Medium Enterprises in a changing global scenario: Towards a new Policy approach, Consorzio Ferrare Ricerche.

include sourcing of raw materials, technology, sub-contracting, HRD, etc. A micro enterprise cluster faces challenges such as moving from local production resources and local markets (LL) to local production resources and a national market (LN) and then to national production resources for national markets (NN). This naturally makes the cluster product most efficient. Similarly, the challenge for a traditional manufacturing cluster is to move from an 'LN' to 'NN' to 'NI' and ultimately to 'II' framework.

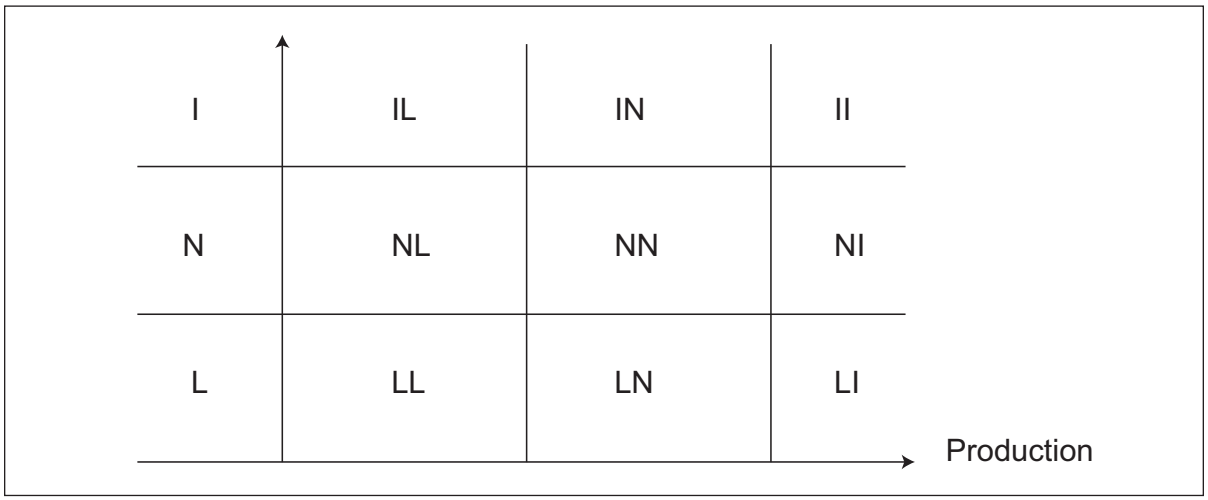


Figure 1.2 Market-production framework

5.2 Non-economic dimensions

As an essential prerequisite to promoting responsible business behaviour, it is important that we understand clusters based on the major BR issues confronting them. Accordingly, a cluster could be typified based on one or more of the following BR issues:

- Labour related issues including child labour, social security, working conditions and occupational safety.
- Environment and energy related issues including effluent discharge, air pollution and use of non-renewable energy.
- Community health including the impact of the cluster firm's operations on health and access to health care.
- Social issues not directly linked to cluster operations: Alcoholism and drugs abuse, HIV, female feticide; Welfare of minorities and other underprivileged sections.

While one could argue that such issues are omnipresent, it is important to consider the intensity of the issue and the level of engagement of the cluster stakeholders in tackling them. Using this dimension, clusters can be classified as given below:

Table 1.4 Classification of clusters from the BR angle

Level of engagement / BR issues	Blind	Aware	Engaged		
			Low	Moderate	High
1. Labour related issues	1B	1A	1EL	1EM	1EH
2. Environment and energy	2B	2A	2EL	2EM	2EH
3. Community health	3B	3A	3EL	3EM	3EH
4. Social issues	4B	4A	4EL	4EM	4EH

Note:

B – Clusters that are 'Blind' on the SEE issue.
A – Clusters that are 'Aware' of the SEE issues but not taking any initiative to address the prevailing issues.
EL – Clusters that exhibit low level of engagement – taking few isolated initiatives to address SEE issue.
EM – Clusters that exhibit moderate level of engagement – taking sustainable initiative to address a few SEE issues.
EH – Clusters that exhibit high level of engagement – taking initiative to address most of the critical SEE issues.

The above classification has implications when clusters are being selected for interventions.

Ministries that are targeting a specific BR issue may support those clusters where that issue is prevalent. For instance, the ministry dealing with labour affairs will support interventions in clusters that fall under the categories of 1B and 1A.

A public financial institution supporting cluster development and looking for demonstration effect may opt to choose clusters where there is sufficient awareness and some visible signs of engagement to address the relevant issues, i.e., clusters falling under category nEL or nEM, n=1,2,3 and 4.

Thus, from a policy standpoint, it will be useful to classify the clusters as above, right at the stage of mapping them out at the regional/state level.

6. Stakeholders in a cluster

Any effort to promote responsible business behaviour in a cluster must involve a variety of institutions/entities. An understanding of the potential contribution that each such stakeholder can make and the linkages among them is an essential part of the development process. The ability of the cluster to address BR issues depends to a great extent on the strength of relationships among various stakeholders who have learned to communicate effectively to address the ever-emerging set of problems/opportunities in the cluster.

Table 1.5 gives an illustrative list of institutions, their roles and potential contribution to the process of tackling the BR issues.

Table 1.5 List of institutions and their potential contribution to business responsibility

Sl. #	Nature of Institutions	Potential Contribution
	Core firms	• Adopting eco-friendly technology. • Compliance with labour standards. • Support community welfare.
	Public Institutions such as: • Ministries dealing with industry, social welfare, environment protection, and the like. • Regulatory bodies engaged in pollution control and labour welfare department. • Other local offices of Government social welfare and environmental departments.	• Affirmative action: Relevant ministries could incentivise clusters to follow socially responsible behaviour. • Regulatory ones could monitor such behaviour.
	Technical institutions such as: • R&D institutions and laboratories • Training institutes • Educational institutions • Vocational institutions	• Provide HRD and technical support to cluster firms (adopting cleaner technologies and training of workers in occupational safety, for instance).

Sl. #	Nature of Institutions	Potential Contribution
	Industry associations/networks	• Most appropriate entity to generate awareness, arouse interest and initiate action to tackle SEE issues. • Can act as a pressure group for unwilling or non-conforming firms.
	Voluntary organisations	• Form networks that could tackle SEE issues. • Provide technical and management advisory services to cluster stakeholders on issues related to their BR agenda. • Act as an intermediary for some government financing schemes related to social and environmental issues.
	Financial institutions	• Financial support.
	BDS providers	• Offer specialised services to cluster firms for tackling SEE issues. • Provide material and financial support to BR initiatives.
	Trade unions and workers groups	• A good 'entry point' to consensus building on tackling SEE issues.
	Other enterprises in the cluster (large manufacturers, large buyers, suppliers firms dealing in equipment, etc.)	• Offer specialised services to cluster firms for tackling SEE issues. • Provide material and financial support to BR initiatives. • Act as a pressure group to enthuse unwilling/inactive cluster firms.
	Local community	• Act as pressure group to address SEE issues. • Supplement the efforts of core firms in BR initiatives.
	Opinion leaders	• Sensitise core firms on BR issues. • Use 'social power' or position to propel core firms to act responsibly.

Table 1.6 illustrates how a cluster actor can address a particular BR issue.

Table 1.6 Cluster stakeholders and potential role in addressing business responsibility

SEE Issues / Stakeholders	Labour	Environment and Energy	Health	Generic Social Issues
Core firms	Fare wages. Occupational health and safety.	Clean technology. Use of renewable energy.	Health awareness camps.	Non-formal education. Home for senior citizens. De-addiction centre. Education for girl child Livelihood means for differently-abled persons.
Other enterprises (Buyers, raw material/ machinery suppliers, etc.)	Buyers' insistence on labour standards. Improved standards of safety in equipment.	Energy efficient machines. Bio degradable packaging options.	Health awareness camps.	
Private and public service providers	Skill training. Consultancy on safe working conditions.	Energy audit. Recycling technology.	Diagnostic facility.	
R&D institutions	Reduce drudgery through innovative technology.	Emission reduction technology.	Emission reduction technology.	
SBMOs (Small Business Membership Organisations)	Support skill upgradation. Form SHGs and link to micro-finance.	Common effluent treatment plant.	Health care centres.	
Financial institutions and banks	Linking access to firms with labour practices.	Better access to funding for clean technologies.	–	
Voluntary organisations (VO)	Advocacy. Monitoring child labour.	Act as pressure group.	Organise health camps.	
Regulatory authorities	Monitoring child labour.	System of sanction based on emission, effluents and solid waste.	Monitor compliance to health related regulations.	
Labour union	Advocacy.	–	–	
National and provincial governments	Support to pension fund.	Infrastructure for use of alternate fuel.	Provide health infrastructure.	
Local community	–	Act as pressure group.	–	
Opinion leaders	Sensitise core firms on labour practices.	Mobilise support for collective action.	Mobilise opinion on preventive health care.	
Educational/training institutions	Vocational training for unskilled labour.	Training of workforce to use eco-friendly or energy efficient technology.	–	

7. Why focus on cluster development

Cluster-based development has gained acceptance worldwide, due to its innovative approach of looking at enterprises as a part of the local system that influences the growth and competitiveness of all the stakeholders who are a part of the cluster. More than 50 countries (both developed and developing) are known to have undertaken cluster-based development initiatives. Some of the known organisations that have fostered cluster development initiatives are United Nations Industrial Development Organization (UNIDO), International Labour Organisation (ILO), International Finance Corporation (IFC), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), etc. UNIDO has been the front-runner in developing cluster-based development approaches that have now been replicated in several developing countries across the world.

7.1 Who benefits from cluster development?

The benefits in terms of higher productivity and increased innovation can be felt by all firms in the cluster. The implications for the existing firms are to examine the relationships that they have with other firms in the cluster and consider the services they offer.

- Are professional services firms specialised enough to cater to the particular needs of firms in the cluster or do the latter need to go elsewhere for specialised advice?
- Can manufacturing firms fit into the supply chain of firms located in the cluster, thereby reducing the need for their customers to go elsewhere to source their inputs?
- Are universities and other higher education establishments providing people with the required skills for the firms in the cluster?
- Are public bodies providing the infrastructure which firms need if they are to be competitive?

The whole point of cluster policy is to examine all of the cluster's needs and encourage other partners to examine how they can link up with firms in the cluster either through standard commercial trading relationships or through non-trading relationships. All firms, public bodies, educational institutions, etc., need to consider what linkages they could forge with the cluster.

While the economic development of a cluster is an important goal of any planned intervention, it is important to note the 'BR agenda' in the process. Helping a cluster exhibit 'responsible behaviour' has to form a part of the agenda. Thus, the development process is to be tuned accordingly. This leads to advantages to the workforce in the cluster in terms of improved 'quality of life' (through access to health care and clean/safe working conditions, for instance); to the community around the cluster (in terms of improved quality of ground water, for instance) and to society at large (safer natural environment, for instance). More on promoting 'responsible business behaviour' is deliberated on in the subsection below.

7.2 The 'economic' benefits of cluster development

Though 'social' benefits and 'economic' benefits need not be mutually exclusive, the outcome of cluster development efforts has to be the 'development of humans'. This section deals with 'economic benefits', which are:

- Facilitating 'specialisation'
- Promoting brand equity
- Attracting investment in peripheral activities
- Attracting investment in core activities
- Synergic effects leading to enhanced competitiveness
- Promoting mutually beneficial 'learning'

7.2.1 Facilitating 'specialisation'

Being engaged in a given manufacturing or service activity, clustering leads to 'specialisation' with attendant benefits such as improved quality and cost-efficiency and thereby competitiveness.

7.2.2 Promoting brand equity

Specialisation could lead to building 'brand equity' and therefore emerging as a preferred supplier of a given range of products – another instance of a factor that contributes to competitiveness.

Box 1.3 Brand equity of the Chanderi Handloom Cluster

Among the handloom clusters in India, the Chanderi Handloom Cluster, Madhya Pradesh, had dressed royalty in the past and still enjoys its elite status because of its centuries old weaving specialty of a finely textured fabric which is a mix of silk and cotton, embellished with exquisite gold woven work. It is one of the easily recognised handloom fabrics produced in the country by virtue of it being light weight with intricate motifs. Over the centuries, Chanderi has evolved as a centre of excellence for weaving gold embellished fabrics, mainly saris, known as Chanderi saris. The salient features in relation to designing are fine cotton counts and deniers and a combination of strong colours as well as muted tones.

7.2.3 Attracting investment in peripheral activities

The existence of a cluster of several enterprises that draws on common inputs, skills, and infrastructure also stimulates government bodies and private firms to invest in peripheral activities supporting the core activity of the cluster.

7.2.4 Attracting investment in core activities

Availability of skilled human resources, support services, including scope for subcontracting, prompts investors to choose a cluster as a preferred investment destination.

In Bengaluru (India), the presence of a large number of SMEs (apart from large Indian corporates) in the software sector, has lead to investments by multinationals as well as Indian investors.

7.2.5 Synergic effects leading to enhanced competitiveness

SMEs can significantly increase their comparative advantages by cooperating with one another and building linkages with private or public service providers. The small firms can thus build their competitive strength through cost reduction, value chain upgradation, and exploitation of collective economies of scale. Cluster development therefore implies reducing SME isolation by strengthening linkages among all stakeholders of the cluster (SMEs, larger enterprises, and support institutions) in order to coordinate their actions and pool their resources for a common development goal.

The success factor has been more scientifically analysed in terms of a 'Triple C' approach which explains this improved performance and competitiveness by means of a customer-oriented, collective and cumulative approach[9]. Customer orientation focuses on the bottom line of success and successful policy interventions guide SMEs to learn about the needs of the customer and also provide technical support to achieve the same. A collective approach lowers transaction cost and encourages knowledge sharing and mutual learning. These in turn work towards building the cumulative capacity of firms to upgrade and become less dependent on external support, thus creating the capacity to remain competitive in changing environments.

Box 1.4 Synergic effect of the Tirupur Knitwear Cluster

The Tirupur Knitwear Cluster comprising of some 7,010 units – most of which are quite small, compared to national and international standards – is interwoven through several commercial and non-commercial linkages. There is a high degree of subcontracting relationship among them due to the nature of operations. Almost 80 per cent of the firms are exclusively working as subcontracting units, particularly for manufacturing hosiery cloth. The cluster reflects a high degree of specialisation in most areas including machinery supply, besides every area of the manufacturing operation. Innovative services such as pre-production checks, initial and during production checks, product consultancy, laboratory testing and sourcing assistance are provided by several enthusiastic entrepreneurs that helps galvanise the industry.

7.2.6 Promoting mutually beneficial 'learning'

The uniqueness of cluster dynamics – the real relationship phenomenon between a number of business entities – leads to easy dissemination of technical information. The dynamics lead to

9 Humphrey, J. & Schmitz, H., Principles for Promoting Clusters & Networks of SMEs. Institute of Development Studies, University of Sussex, U.K., 1995.

accelerated technical learning. This has been witnessed as a 'reverse engineering' phenomenon in the Ludhiana Knitwear Cluster (Punjab, India).

7.3 The SEE benefits of cluster development

7.3.1 Finding and keeping skilled workers

Considering that paucity of skilled labour is an emerging phenomenon, the ability to find and retain a qualified and 'quality workforce' is turning out to be a major challenge for sustenance and growth of businesses, especially for MSMEs. Thus, clusters have to look deeper into the labour pool from non-traditional sources they may have ignored in the past. To attract such skilled human resources, it is essential to invest in training the workforce and provide facilities (education for children, for instance). This is considered an internal BR activity.

Box 1.5 Skill training initiative of the Okhla Garment Textile Cluster

The Okhla Garment and Textile Cluster (OGTC) is an amalgamation of 26 garment manufacturers spread all over the city, working towards initiating joint efforts for accomplishing results which will improve their ranking in the Garment Industry. OGTC has signed a MoU with IL&FS for setting up a chain of training centres in OGTC members' units under a scheme introduced by the Ministry of Rural Development, whereby IL&FS is the nodal agency. This scheme provides Below Poverty Line (BPL) youth the opportunity to undergo training and develop skills so that they can find work in the mainstream garment industry. A model Tailors Training Centre has been set up in Pee Empro Exports, Faridabad, in 2010, where 25 fresh BPL candidates were selected from rural areas. However, OGTC had already initiated training in 2007 when a group of trainers were trained and training centres were set up. Around 350 tailors undertook tailor training, of which 240 were employed and are still working in the unit. This is a fairly good retention percentage. Under the initiative of training and providing employment to physically handicapped persons by OGTC, around 97 workers have been provided employment.

7.3.2 Branded as caring

Another kind of pay-off is in using social responsibility to create brand loyalty. There is evidence that some corporations, and particularly those locally owned, will operate differently where socially conscious actions create a differentiated image that commands customer loyalties, essential in a highly competitive environment. Good deeds can be converted into profits with the right marketing strategies and business responsibility 'pays off' if consumers value it.

7.3.3 Need for compliance

As a cluster becomes increasingly competitive, 'visible', social accountability is considered important. For instance, the position of foundry clusters in Agra was threatened due to their impact of pollutants on the Taj Mahal. The firms were required to take corrective measures out of compulsion.

The requirement of large buyers could be another reason for clusters to respond to BR issues. The instance of carpet exports from India being affected due to child labour issues is widely known. Given below is a case of the Jalandhar Sports Goods Cluster wherein child labour was eradicated to retain international clients.

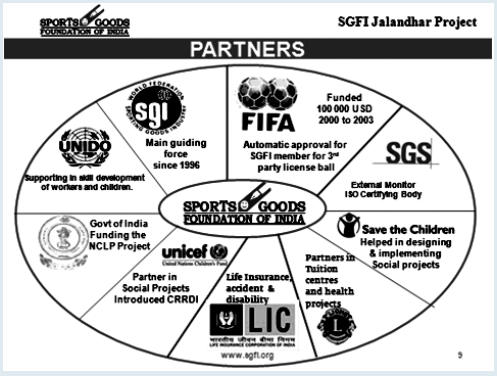
Box 1.6 Tackling child labour issues in the Jalandhar Sports Goods Cluster

The Jalandhar Sports Goods Cluster exports 85 per cent of its products. Thus there were serious repercussions when foreign brands such as Nike, Adidas, Reebok and Mitre amongst others, withdrew their business to save their brand image being tarnished by the incidence of child labour. The child labour issue was not only a national issue but also an international one, as various global organisations were involved with the cluster.

The Sports Goods Foundation of India (SGFI), a joint effort of 25 exporters of sports goods, went ahead with a programme to prevent and rehabilitate child labour employed in the cluster. SGFI is registered under Societies Registration Act XXI of 1860 vide Registration No. 1681 of 1998-99 dated 25th January 1999 as an NGO. It is a non-profit organisation committed to the prevention and rehabilitation of child labour in the sporting goods industry. The objective of the organisation is:

- To prevent and progressively eliminate child labour in the manufacture or stitching of soccer balls.
- To facilitate an attitudinal change in the community as well as the workers' families regarding the importance of education and evils of child labour.
- To promote education in the inflatable balls stitching community.

In the process the Foundation partnered with various technical and donor organisations to fulfil its objectives. This can be seen in the diagram below.



To tackle the child labour issue, the Foundation has put in place a proper mechanism of external monitoring and a unique location number is provided to the locations where stitching takes place. SGFI under its ongoing education programme is running eight special schools under the National Child Labour project which is funded by the Government of India and takes care of 400 children from the stitchers' community.

SGFI is also running 30 MUSKAAN (Smile) centres that are basically supplementary education centres helping rural children who lack family support for education to cope up with their studies.

Through such initiatives SGFI was successful in tackling the child labour issue and retaining its international clients like Walmart, Coca Cola, Reebok, Nike, ADIDAS, Gilbert, Mitre, etc.

8. Cluster development approach – redefined

Cluster development programmes tend to concentrate on the growth and competitiveness of firms. Given the need for promoting socially responsible behaviour and the associated 'development dilemma', should policy makers focus on appealing to the 'emotional' side of the cluster stakeholders as well? Or, should the cluster stakeholders be encouraged to see the 'economic' benefits of following responsible behaviour? The issue of social responsibility cannot be viewed in isolation to business competitiveness. It is strongly suggested that the development interventions be, at least initially, focused on those BR issues that could be linked to economic benefits for cluster firms. This could act as a prelude to wider and deeper engagement of cluster stakeholders with 'social' benefits. Figure 1.3 below provides clues to this effect.

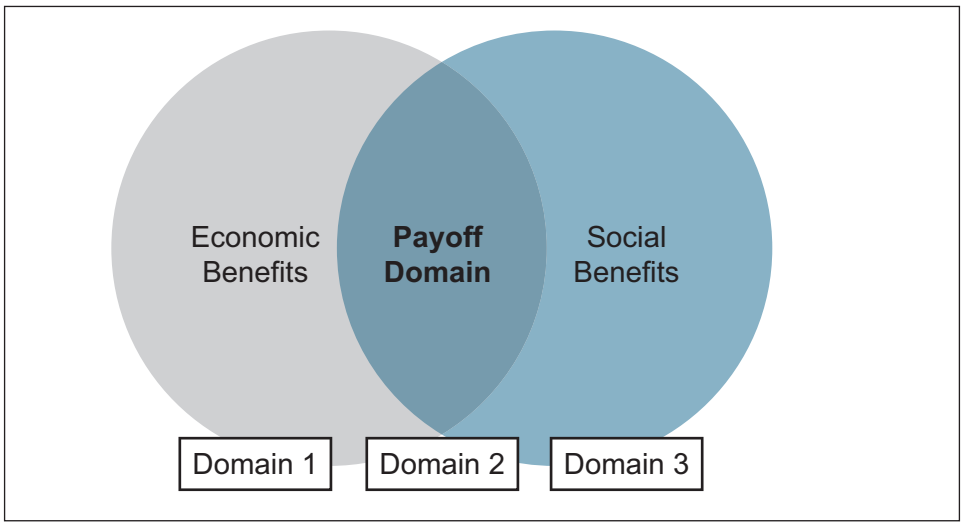


Figure 1.3 Illustration of the pay-off domain

Interventions to promote joint actions among cluster stakeholders leading to economic benefits fall in the first domain. This has been the main stay in cluster development programmes (CDP). Actions related to the third domain amount to pure philanthropy that are difficult to promote given the economic realities of business. However, there is an area of overlap – domain 2, where economic interests are served in the process of tackling BR issues. For instance, avoidance of child labour, social security net for the workforce and use of 'greener' technologies. These will provide a competitive edge to the cluster operating in highly competitive export markets. Thus, taking note of what is 'doable', the policy makers can consider incorporating the CDP to tackle BR issues with inherent economic benefits. An approach based on the UNIDO methodology is discussed below.

8.1. Steps involved in cluster development – An overview

8.1.1 Introduction

The first priority for any business, whether it is small or large, is its survival. For this reason, and even more so for SMEs in developing countries, improving technology, management and marketing practices remain key concerns that need to be addressed simultaneously with social and environmental impact, if they are to compete in global markets[10]. The development process facilitates functional and sustainable linkages among various stakeholders and promotes 'coopetition' – a situation where the core firms are encouraged to take joint actions while they compete with each other in the market place. This, in turn, helps the stakeholders develop a consensus-based vision that each of them shares and which strengthens their capacity to act upon such a vision.

The pillars of UNIDO's cluster development approach are based on the following facts:

- It is need-based, i.e., it is beneficiary-led and managed.
- It is flexible, i.e., it matches the requirements of the local dynamics.
- It is focused on groups of cluster stakeholders, and not on individual firms.
- The approach blends economic development of the cluster with social consciousness, accountability and actions to tackle BR issues.

8.1.2 UNIDO methodology

The key elements of the UNIDO methodology are:

a. Selection of clusters

This is a critical determinant of the success of the programme. A judicious selection framework based on the cluster's importance, promotability, viability and sustainability helps to ensure:

- An effective and wide reaching impact.
- Available resources are used on clusters where the approach has the greatest likelihood to be a success, in terms of:
  - Contributing to economic success of MSMEs.
  - Revitalising systemic interactions.
  - Tackling BR issues and consequently, producing a demonstration effect.

10 Ashima Sachdeva, 'Dynamics of Social Responsibility in Small and Medium Enterprises (SMEs) & SME Clusters', A Preliminary Research Note, New Delhi, May 2006.

While economic interests are taken into consideration, it is important to note that the BR angle – the impact of promoting 'business responsible behaviour' on the firms in the cluster, the immediate community and society at large – has to be given its due place in the selection criteria. Thus, the selection is to be based on the intensity of BR issues confronting a given cluster and the associated economic benefits accruing to the cluster firms in the process.

b. Diagnostic study

The implementation of the Cluster Development Programme starts by gathering dispersed knowledge through a participatory study, not only about its constraints and potential but also about local linkages and support mechanisms. This is an attempt to identify the obstacles faced by the cluster and opportunities that would become available if barriers to collaboration are dismantled in the selected clusters and if systemic interactions are revitalised.

Understanding socio-economic BR behaviour of the cluster forms a crucial component of diagnostic study. In other words, it requires understanding of SEE issues such as education, public health, health care, poverty, women and child development, underprivileged section of the society, local environment, child-labour, energy consumption, etc. Ideally, the process can start with a meeting with leaders in the field who have proved themselves in economic development and are philanthropists. Feedback received from these experts can provide general insights of the different types of socio-economic issues being faced by the cluster and this information complements the facts received from secondary sources gathered in the first phase.

This participatory process helps to build initial trust among the possible partners and secure the positive involvement of diverse stakeholders.

c. Trust building

Establishing an atmosphere of trust within a cluster is an essential prerequisite for building a realistic action plan for the cluster which will have support from clients, service providers and support agencies.

d. Visioning and action plan formulation

The drafting of an action plan for the cluster as a whole is more than just the sum total of the demands set out by individual cluster stakeholders. It is a roadmap that will help to develop and foster lasting relationships among the cluster stakeholders while at the same time delivering visible results. This is an attempt to embody the vision of the cluster as a whole into a set of activities that can be implemented in collaboration by the various cluster stakeholders leading to 'economic' advantages in a 'socially responsible' manner.

e. Implementation

The implementation of the action plan is not simply the realisation of the targets set therein, but more ambitiously, a radical change in the way the cluster stakeholders interact with each other and conduct their business. The responsibility for implementation of various activities is progressively shifted to the private sector with support drawn from local institutions. It is in the implementation of the action plan that the advantages to be derived from closer cooperation and greater systemic interaction are disclosed and experienced by the cluster stakeholders. Such a positive experience leads to sustainability of the development process and more importantly, to creation of social capital.

f. Monitoring and evaluation

Monitoring of quantifiable outputs as a result of implementation is an important component of cluster development as it helps disseminating best practices and strengthening trust. In comparison to conventional MSME development programmes, the M&E of cluster development is difficult given the need to:

- Identify subtle and slowly emerging changes in the relationships among cluster stakeholders.
- Define parameters for quantifying 'socially responsible behaviour'.

The process of cluster development as a whole after its selection is schematically represented in Figure 1.4.

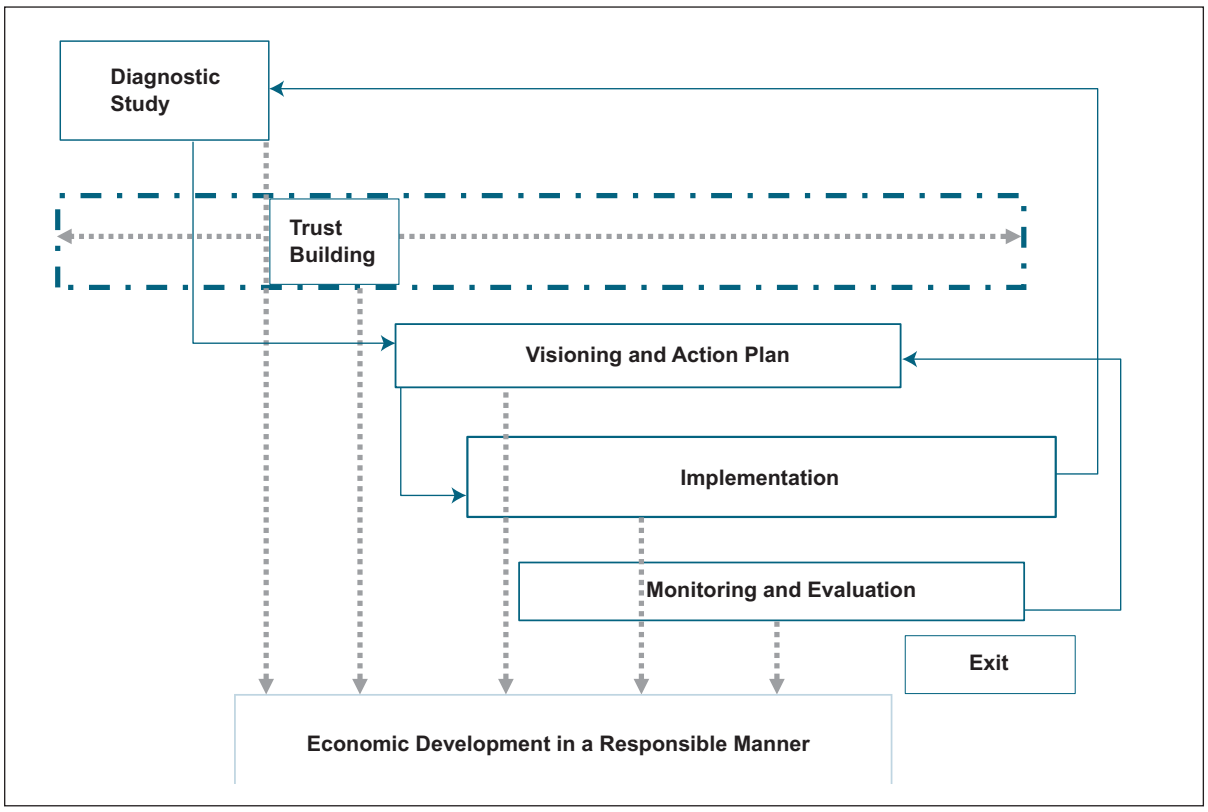


Figure 1.4 Steps of cluster development approach

The next section draws a parallel between M&E focused development orientation and the standard 'economic' orientation to cluster development.

8.2 BR focus in cluster development – the difference

This section attempts to draw a parallel between:

- Planned interventions for cluster development focusing on inducing dynamism in the cluster from an economic angle.
- Promoting 'business responsible behaviour'.

By and large, enhancing competitiveness has been the mainstay of cluster development initiatives. The need to lend a 'human face' to the process and the realisation, that in the long run, sustainability could be achieved through socially responsible behaviour has prompted modifications in the approach to development interventions. The differences between the cluster development approach which focuses purely on 'economic' aspects and the one that goes a step further to include 'social' aspects are depicted below:

Table 1.7 SEE[11] focus in cluster development

Stages in Cluster Development	Focus on 'Enhancing Competitiveness'	Focus on Promoting 'Socially Responsible Behaviour'
Overall development strategy	Promoting 'joint initiatives' leading to 'commercial benefits' to the 'core firms'.	Promoting 'joint initiatives' leading to 'SEE benefits' to the community including the workforce.
Selection of clusters	Based mainly on: Economic importance: Development potential of the cluster from a commercial angle. Availability of 'critical mass' of 'core firms'.	Based mainly on: SEE importance: Potential 'SEE benefits' to the cluster stakeholders, immediate community and society at large. Availability of 'critical mass' of 'core firms'.
Diagnostic study	Focus is on understanding: Business processes among core firms. 'Collective capabilities' of cluster stakeholders for 'joint action' for commercial benefits. Common challenges faced and opportunities available in the cluster. The SMEs in the cluster in their pursuit of enhanced competitiveness. SWOT analysis focusing on the ability of the cluster stakeholders to respond to the challenges and opportunities for enhancing competitiveness.	Focus is on understanding: SEE issues confronting the cluster. Vulnerability nodes in the clusters impacting the social well-being of the community. Socio-cultural behaviour in terms of response of the cluster stakeholders to social and environmental issues. SWOT analysis focusing on the ability of the cluster stakeholders to respond to the challenges and opportunities for enhancing competitiveness. Criticality of SEE issues.

11 SEE implies Social, Environmental and Energy issues.

Stages in Cluster Development	Focus on 'Enhancing Competitiveness'	Focus on Promoting 'Socially Responsible Behaviour'
Action plan	Visualise requirements to enhance competitiveness of the cluster. Accordingly, promote joint actions such as technology upgradation and formation of a consortium to explore new markets. Capacity building initiatives to enhance competitiveness.	Visualise the cluster's BR requirements. Assess how far the principle stakeholders of the cluster can contribute to socio-economical and socio-cultural development of the cluster. Identify 'joint actions' to tackle BR challenges. Assess the prima-facie feasibility of initiating related actions. Capacity building initiatives to foster socially responsible behaviour.
Implementation	Start with simple projects that help build trust among and result in measurable commercial benefits to 'core firms' and demonstrate the advantages of collaboration. Move towards actions that lead to radical change in the way cluster stakeholders interact with one another and conduct their business. Work through institutional mechanisms that can help the cluster perceive opportunities for business growth and accordingly initiate collaborative efforts.	Start with simple projects: That help build trust among stakeholders, result in measurable 'social impact' as also distinct economic benefits to 'core firms'. That demonstrates the advantages of collaborative efforts to benefit the community. Move towards actions that lead to radical change in the way cluster stakeholders perceive the need for socially responsible behaviour and respond proactively. Work through institutional mechanisms that can help the cluster stakeholders be more sensitive to 'social' issues, relate the same to their long-term well being and accordingly initiate collaborative efforts to benefit the community.
M&E	Outcome indicators focus on: Commercial benefits to 'core firms'. 'Changed' relationships among cluster stakeholders. Willingness and ability to initiate joint actions for business growth. Quantitative indicators such as enhancement in turnover, value addition and exports. Qualitative indicators such as new/ stronger linkages between core firms and service providers.	Outcome indicators focus on: Social benefits to the workforce, the community and the natural environment. Enhanced sensitivity of cluster stakeholders to social issues. Their willingness and ability to initiate joint actions for cleaner environment and better working conditions. Effectiveness of institutions' mechanisms created for or 'owned' by the cluster stakeholders to tackle SEE issues.

9. Cluster governance

Cluster governance[12] is about the focused, collective actions of cluster stakeholders to upgrade a cluster in order to build and maintain a collective and sustainable competitive advantage. In the conventional sense, cluster governance is specifically aimed at facilitating and improving processes of innovation. In other words, it is aimed at the main strategic issue facing the stakeholders involved in processes of innovation in a cluster. It addresses the question 'how the value chain itself is moving', how it can be reconfigured and where new synergies can be found. In addition to this view of cluster governance, issues related to business responsibility also have to be factored in.

Going beyond traditional industry association, one could envisage a governance mechanism through a platform in which all cluster-stakeholders participate, such as suppliers, customers, schools, consulting firms, banks and governmental organisations. The aim of the platform is to stimulate the cluster's self-organising capabilities in order to strengthen its competitive position and in the process tackle BR issues. Thus, it can be said that the platform initiates the following activities:

- Takes stock of the impact of cluster operations on SEE issues.
- Stimulates knowledge sharing to enhance understanding of the above among the cluster actors.
- Deliberates on the current level of engagement of cluster stakeholders with SEE issues and the need to enhance the same.
- Establishes linkage between BR mitigating measures and potential economic pay-offs.
- Identifies resources within and outside the cluster and mobilises the same for addressing SEE issues.

Such a platform should ideally lead to initiating joint actions towards SEE issues.

10. Linking SEE sector promotional schemes with cluster development

Currently, cluster development initiatives are supported by the 'economic ministries' who deal with MSMEs, commerce and industry, textiles, etc. However, inclusion of the BR agenda in cluster development calls for additional support. Such support could be mobilised by tapping the schemes of the 'social sector ministries' dealing with women and child issues, non-formal education, social justice and empowerment, etc. Given below are examples of some of the schemes that could support BR initiatives in clusters.

12 http://www.druid.dk/conferences/winter2000/gilsing.pdf

a) Special Health Scheme for Rural Areas (NRHM) under the aegis of Ministry of Health and Family Welfare promotes outreach services among the rural and high density urban slum population of the country. Financial assistance is available for voluntary organisations to assist them in setting up new hospitals/dispensaries in rural areas or to expand and improve the existing hospital facilities. In association with local NGOs, clusters located in rural areas can work towards providing better access to health care by utilising the assistance under the scheme. This can lead to economic pay-offs for cluster firms by way of reducing incidences of absenteeism, for instance.

b) Industrial Pollution Abatement through Preventive Strategies under the aegis of Ministry of Forest and Environment provide assistance to SMEs who do not have access to the requisite technical expertise. The assistance is for building capacities of SMEs to tackle pollution related issues. This can be economically beneficial for cluster firms by way of reduction in process wastage and creating the potential for recycling.

c) Scheme of Support to Voluntary Agencies for Adult Education and Skill Development under the aegis of Department of Elementary Education and Literacy and Department of Secondary and Higher Education. The scheme helps improve the occupational skills and technical knowledge of neo-literates and trainees and improves their efficiency and productivity. Cluster firms benefit from this by way of better supply of skilled personnel.

The list of relevant social sector schemes that are applicable in MSME clusters are provided in Annex 1.

11. Necessary and sufficient conditions for cluster development

The variety of cluster types and the unique local framework conditions make clear, that there can be no 'one size fits all' cluster development concept. Dedication to the specific needs of the cluster is a sine qua non of successful cluster development. However, some fundamental success factors of cluster development have been identified below.

11.1 Conducive policy framework

While economic policies that enhance competitiveness in a cluster could be well conceived, this is not necessarily enough to promote a cluster's socially responsible behaviour. The policy framework creates an effective 'framework' for tackling BR issues. Cluster policies are required to encourage linkages among the stakeholders (cluster stakeholders and the community) as well as support public-private partnerships to tackle BR issues. A combination of regulatory measures (a 'public watch dog' to monitor BR issues, for instance) and promotional tools (tax holidays linked to 'responsible behaviour', for instance) could play a significant role in the development process.

11.2 Selection of clusters

For development interventions, a cluster has to be chosen, based on its potential to be more competitive and at the same time tackle major BR issues. At times, a cluster could be a candidate for interventions only because of strategic reasons to facilitate regional development, ignoring its development potential. Examples of the inefficient use of public money are the numerous struggling ICT and biotechnology cluster initiatives funded by so many governmental programmes all over Europe.

11.3 Involvement of stakeholders

Multiple institutions and multiple levels of a given institution, which have an impact on the cluster, need to be identified. Regulatory and promotional bodies of the government, R&D institutions, training/educational institutions, NGOs, material/service providers from the private sector and the like are to be involved. Some such stakeholders are mandated to play only an 'economic' role (raw material suppliers for instance). Identification of such institutions, understanding the prevailing level of interaction among them, and assessment of their potential to contribute towards promoting 'responsible behaviour' of the cluster as a whole is an essential prerequisite to be selected.

Box 1.7 Polio awareness initiative of Ummeed in the Moradabad Brassware Cluster

Incidences of diseases like polio, measles and other viral infections were quite common among the children of the craftsmen of the Moradabad Brassware Cluster. This was mainly due to lack of awareness and wrong beliefs about vaccination. Vaccination was not accepted in the region because of the misconception that the vaccines cause impotency. To address this issue of vaccination, 'Ummeed – A Helping Hand', an NGO formed by six manufacturers cum exporters of the Moradabad cluster, went door to door to try and convince the workers to vaccinate their children. However, the campaign did not meet with much success and the NGO joined hands with the district administration, international health organisations like WHO, UNICEF and Rotary International to increase the acceptance of vaccinations for polio and measles, BCG, DPT, etc., among the community. In the process, Ummeed sensitised religious leaders to convey the message on health facilities as and when they got the opportunity, as they had significant influence over the community. Ummeed has also organised several polio immunisation as well sensitising camps in the high risk areas of Moradabad district.

The initiative of engaging appropriate stakeholders in the process of creating awareness for vaccination resulted in reduction of non-acceptance of vaccination from 500 to 50. Moreover, the incidence of polio in the cluster has reduced from 100 in 1995 to nil in 2010.

11.4 Mutual trust among cluster stakeholders

A key element of cluster development is the quality of 'joint action' by the cluster stakeholders to fulfil a 'shared vision' for the cluster as a whole. The gains from such actions depend on mutual trust and common norms, rules that form a part of social relations between the stakeholders. Methods specific to social norms prevalent in a cluster have to be used to promote mutual trust.

11.5 External Linkages[13]

Joint actions for cluster growth, when successful, lead to a sense of 'self-sufficiency' among the core firms, e.g., pooling resources for prototype development. Such an approach could prevent promotion of external linkages between a given cluster and other similar clusters or with service providers who do not form an integral part of the cluster. Thus, any developmental efforts should focus not only on strengthening linkages among cluster stakeholders but also look closely at 'external' linkages.

11.6 Shared vision

Any effort to develop clusters should start with formulation of a vision, not just for the core firms, but for the cluster as a whole. This is possible only when there is mutual trust among the cluster stakeholders. In the absence of mutual trust, the vision, though well formulated (possibility through the intervention of an external agency in charge of the development process), seldom gets translated into action. Further, the vision should lead to joint actions that enhance cooperation while maintaining competitive spirit.

11.7 Effective implementation agency

The process of cluster development is best facilitated by an external agency in the long run and the cluster stakeholders must themselves set up an appropriate institutional mechanism for sustaining the same. Such an implementing agency provides an appropriate work environment (mainly operational flexibility) and support to the field staff.

11.8 'Cluster development executive (CDE)' – the back bone of the process

The CDE represents the programme implementing agency in the cluster. It acts as a link between different cluster stakeholders and ensures the formulation and execution of the action plan in accordance with the vision and strategy of the cluster. One of the important areas of

13 Günter Clar' Björn Sautter, Sabine Hafner, 'Strategic Cluster Development: Applying Strategic Policy Intelligence to create a Joint Research Agenda', Background paper for the CReATE project,2008 http://www.lets-create.eu/fileadmin/_create/downloads/del-1-2_cluster-background-paper_revised_final.pdf

a CDE's work is to facilitate mutual trust among different stakeholders in the cluster. Trust building is initiated through facilitation of healthy discussions, followed by pilot and short-term activities among stakeholders. The CDE should also be able to get stakeholders with divergent views to agree on common targets and implementation priorities. The CDE must be able to identify critical areas of interdependence among the stakeholders and convince them about the possible benefits from such cluster development activities. Thus, the CDE is required to possess certain necessary competencies, especially in the areas of interpersonal relations, trust building, negotiation, planning and networking.

11.9 Problem solving through 'empowerment'

Having identified BR issues to be tackled and barriers to be overcome for the economic development of the cluster, an enthusiastic implanting agency could focus on 'solutions' immediately. However, it is also important to note that any sustainable intervention is possible only when the cluster stakeholders are 'empowered' to take decisions and action on their own. The process of empowerment could involve formation of institutional mechanisms for sustained actions; provision of information/knowledge required to identify, initiate and sustain remedial actions; skill development training and so on.

11.10 Sustainability

Embarking on the process of cluster development based only on 'public funding' could be appropriate under conditions where cluster stakeholders themselves are unwilling to commit financial resources initially. This hesitation could be more due to ignorance of the benefits of 'joint action'. However, for the development process to be sustainable, the cluster stakeholders themselves have to have a 'financial stake' that could be supplemented by support from the government and 'public' institutions.

Section II

Methodology Document for CDAs

CHAPTER 1
Role for CDAs

1. Who is a CDA?

A cluster development agent (CDA) is a person who conceptualises or helps conceptualise the overall developmental strategy for a cluster and facilitates its implementation. The CDA in any cluster:

- Is a representative of the programme-implementing agency in the cluster.
- Can be an individual or team depending on the need of the cluster.
- Works as a link between the different cluster stakeholders and ensures the formulation and execution of the action plan in accordance with the vision and strategy for the cluster.
- Is the entry point into the cluster for any developmental intervention.
- Does not have any business interest in the cluster other than facilitating its development.
- Is mandated to work with the cluster for a fixed tenure till the conclusion of the CDP.

In short, the CDA is the driving force behind the growth of a cluster. For more about the qualities of a CDA, refer to 'Fostering Business Responsibility in MSME Clusters – Volume II: Role of Implementing Agencies'.

2. Roles and responsibilities of CDAs

Following is the role of a CDA as related to various stages in cluster development:

2.1 Preparatory phase

- Undertaking or coordinating the diagnostic study of the cluster and identifying relevant cluster specific BR issues with suitable methodology.
- Initiating the process of trust building with cluster stakeholders.
- Prioritising the issues on the basis of their criticality for the cluster stakeholders, the workforce, the community around the cluster and society at large.

2.2 Action phase

- Facilitating trust building among the cluster stakeholders: building trust among the stakeholders is a crucial step in the cluster development process. Joint actions to address SEE issues are possible only when there is high level of trust among the cluster stakeholders. Thus, the CDA is responsible for the processes of trust building and this needs to be monitored closely.
- Helping the cluster stakeholders develop a shared vision, which could lead to a greater level of socially responsible behaviour and in the process, enhance the competitiveness of the cluster.
- Establishing linkages among core firms and other cluster stakeholders including support institutions.
- Assessing the present involvement of cluster stakeholders in tackling SEE issues and their potential for contributing to the development process.
- Initiating the process of preparation of the action plan:

  While the action plan for development of the cluster is to be shared by all the key stakeholders, the CDA acts as the facilitator to:

  – Bring together all the key stakeholders.

  – Deliberate on the SEE issues and also the commercial ones confronting the cluster as a whole.

  – Encourage the stakeholders to generate options for tackling the issues and also to tap opportunities.

  – Wherever necessary, prompt them to arrive at specific activities.
- Formulation of Cluster Action Plan

  Once the list of activities are arrived at, the CDA sequences the same into an implementable action plan that articulates the following:

  – Objectives (In quantitative and qualitative terms).

  – *Set of activities that will lead to the achievement of all the objectives.*

  – *Definition of the deliverables.*

  – *Time frame for implementation.*

  – *Allocation of responsibilities.*

  – *Definition of the requirement of resources and their possible sources.*
- Provision of necessary hand holding and capacity building support for cluster stakeholders in building suitable governance structures and setting up and development of formal systems.

- Coordination of the provision of necessary knowledge and funding support to address the cluster SEE issues through business cases, philanthropy and regulations.
- Implementation of those components of the action plan which the CDA is required to take care of directly and coordination of other components which other cluster stakeholders are required to implement.
- Documentation of the processes involved, activities undertaken, resources spent, outputs achieved and lessons drawn.
- Monitoring and evaluation of the entire cluster development project and the process.

2.3 Concluding phase

- Facilitating a concerted focus on transfer of governance building support for an institutional arrangement to carry forward the development initiatives once the implementing agency withdraws from the cluster.
- Preparation of the End of Project Report (EPR).

CHAPTER 2
Diagnostic Study

1. What is a diagnostic study?

Having identified a cluster for development interventions, the first step is to understand the cluster dynamics and document the findings in the form of a diagnostic study of the cluster. The study is characterised by the following:

- Identification of the key stakeholders in the economic, social and environmental arena relevant for the cluster.
- Economic, social and environmental challenges that the cluster faces and comparison with the benchmark (best performing) clusters as also with the law of the land.
- The willingness and capacities of the cluster to understand the challenges and its ability to resolve them.
- Identification of the potential which the cluster has for development from the economic angle as also from the angle of promoting socially responsible behaviour.
- Understanding the level of the existing and potential engagement of the stakeholders in addressing SEE issues.

2. The need for diagnosis of a cluster

It is important to stress that, in a complex and highly inter-dependent environment such as an SME cluster, no one-off study can be expected to identify all the relevant aspects. A diagnostic study provides a broad framework of the cluster, which may need to be regularly fine-tuned and revised with the stakeholders. In a nutshell, the objectives of a cluster diagnostic study are to:

- Identify the most effective leverage points for intervention on social and environmental issues (this is important).
- Understand the social, environmental and economic state of the cluster to provide inputs for effective action plan formulation; this includes identification of the actors who will implement timelines, budget, etc.
- Provide a baseline for future monitoring and evaluation.
- Build initial trust with the stakeholders.
- Act as a reference document for the following to fine-tune their development strategies:

- Relevant ministries, concerned with social development, labour welfare, environment protection and the like, which have the dual responsibility as donors and a regulator at the central and state government levels. National and international funding agencies supporting cluster development, community welfare, environment protection and the like.
- Large national/international buyers of the cluster products, who may also be concerned with promoting responsible supply chains.
- Civil society organisations (CSOs) working on social and environmental issues.
- Cluster stakeholders, labour unions, raw material suppliers, service providers, etc.

3. Industrial ecology approach for cluster development

Industrial ecology (IE), also known as the science of sustainability, is a relatively new field of science, which has rapidly developed since the early 1990s. Industrial ecology is the study of[14]:

- Flows of materials and energy (resources) in industrial and consumer activities.
- Effects of these flows on the environment.
- Influences of economic, political, regulatory and social factors on the flow, use and transformation of resources.

Industrial ecology lays stress on the fact that industrial activities do not occur in isolation from the natural world. Industrial systems rely on resources (materials and energy) and services provided by the natural system to function. It is important to stress that the word 'industrial', in the context of industrial ecology refers to all human activities occurring within modern technological society. Thus tourism, housing, medical services, transportation and agriculture are all part of the industrial system.

Industrial ecology is of great relevance for developing countries where resources are stressed due to high population density and rapid industrialisation. This approach provides an opportunity for industrial clusters to measure the flow of resources to, within and from any cluster. These flows can then be used by a CDA to provide a systematic plan with strategies for sustainable utilisation of resources, so that economic, environmental and social benefits are maximised.

Industrial ecology offers several diagnostic tools to clearly develop systematic strategies that can be adopted to optimise resources in industrial clusters (Fig. 2.1):

14 Robert White, 1994. Preface. in B.R. Allenby and D.J. Richards (eds.) The greening of the industrial ecosystem. The National Academies Press, Washington D.C.

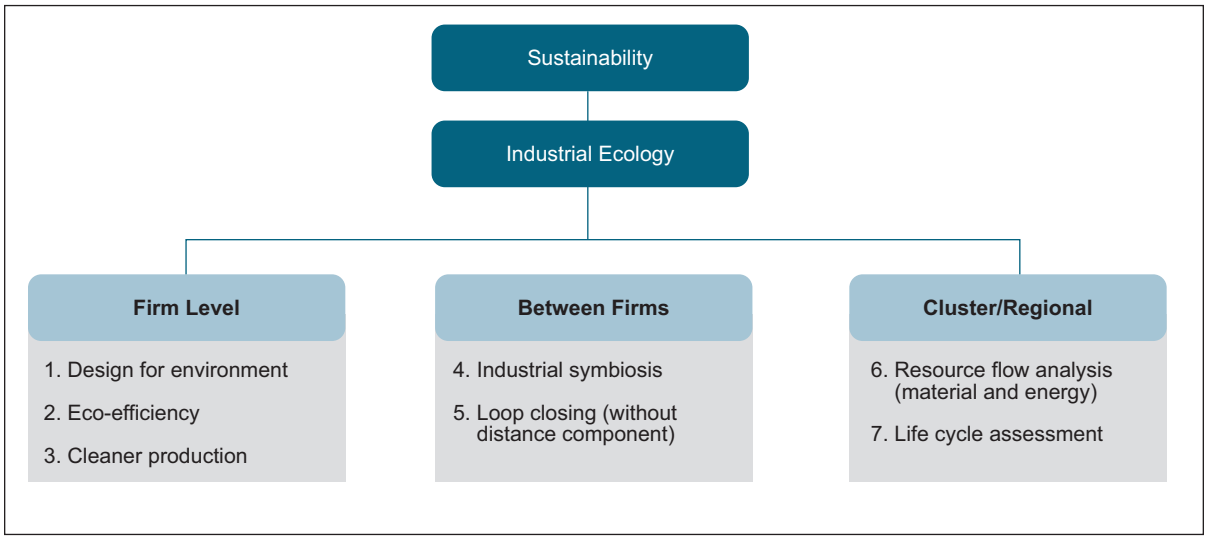


Figure 2.1 Tools of industrial ecology

Two of the tools of industrial ecology that can be used at the cluster or regional level by a CDA are:

- Resource flow analysis
- Life cycle assessment

3.1 Resource flow analysis

Resource flow analysis is based on a well developed tool of industrial ecology called material flow analysis (MFA). MFA is based on the law of conservation of mass and energy and is a diagrammatic representation of the flow of material resources through a selected system. If flows of energy are added to an MFA it is called a resource flow analysis (RFA). In an RFA the selected system could be a cluster of mixed industries, a cluster of a single type of industry or a single industrial facility.

An RFA is used to highlight the quantity of resources (material and energy) that are consumed by the system and those that are generated as products, by-products and wastes. By using an RFA, a CDA can quantify wastes that are discarded by the cluster and then use these values to assess economically viable options for reusing/recycling/selling them. In this way environmental damage caused by the dumping of these wastes is reduced, while simultaneously industries increase economic profits by selling wastes.

Following are examples of an RFA for a cluster of mixed textile industries (industries involved in bleaching, dyeing, calendaring, knitting, printing and finishing) in the town of Tirupur, Tamil Nadu and an RFA for a cluster of foundries that use single blast cupola technology in the town of Samalkha, Haryana:

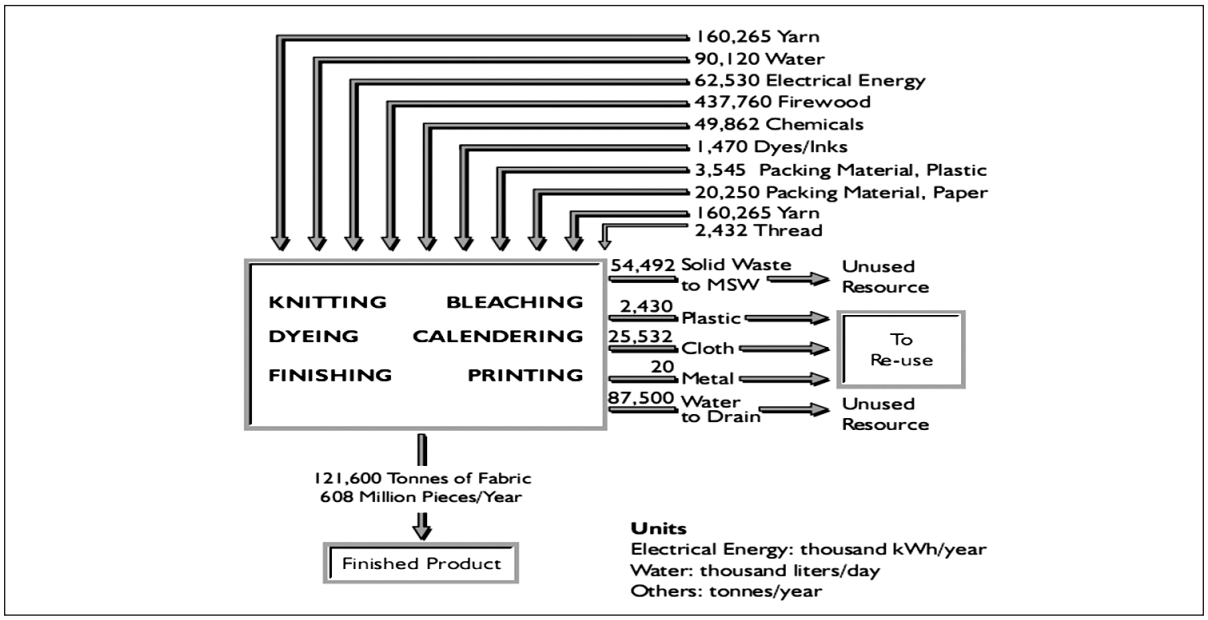


Figure 2.2 Resource flow analysis of a cluster of textile industries in the town of Tirupur, Tamil Nadu[15]

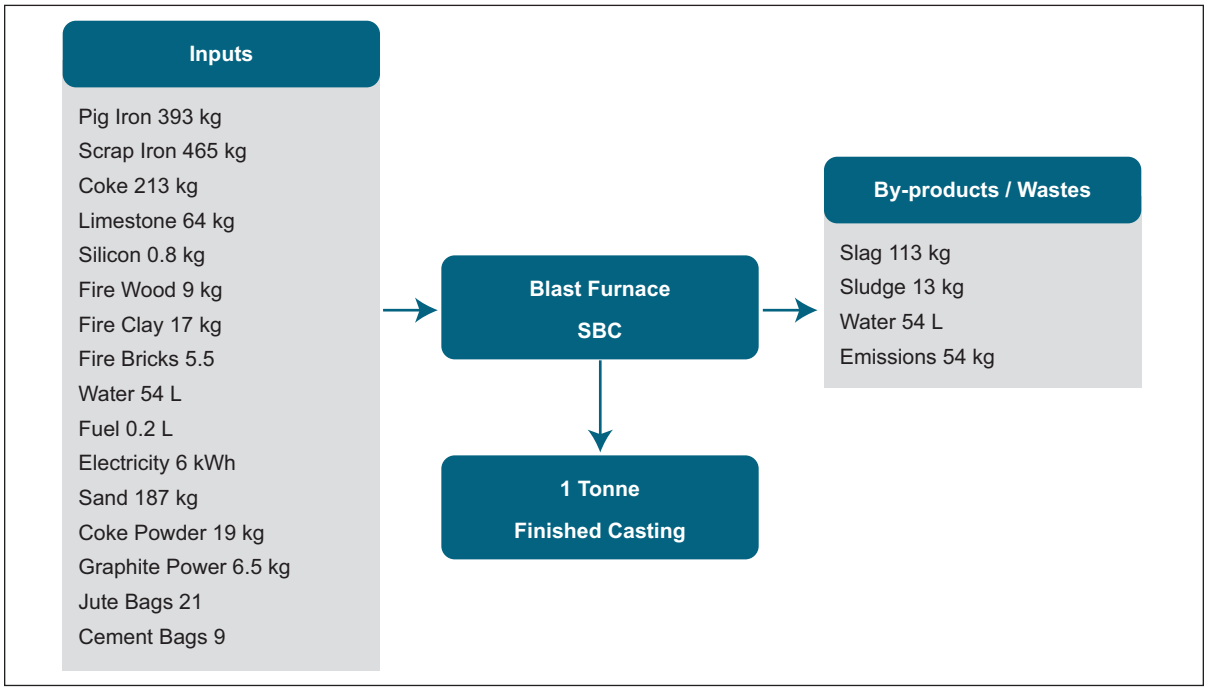


Figure 2.3 Resource flow analysis of a cluster of foundries that use Single Blast Cupola (SBC) in Samalkha, Haryana[16]

15 Erkman, S. and R. Ramaswamy. 2003. Applied Industrial Ecology – A new platform for planning sustainable societies. Aicra Publishers, Bangalore.
16 Kauffmann, M. 2011. Environmental analysis of cluster of foundries in Samalkha, Haryana. Study by Resource Optimization Initiative for Foundation for MSME Clusters.

3.2 Life cycle assessment

A life cycle assessment (LCA), in the simplest terms, assesses the social and environmental impact of a particular product, service or activity over its entire life cycle. As this is a complex analysis, the methodology for examining social and environmental impacts is currently separate. In this document only social LCA is elaborated.

Social LCA (S-LCA)

When performing a social LCA one has to consider the social impact of a product or service throughout its life cycle (see figure below). For example while performing a social LCA for copper, we would have to consider social impacts (i) while copper ore is being mined (in whichever part of the planet), (ii) during transportation (as ore or after processing), (iii) during the processing to extract copper metal from the ore, (iv) through the conversion of the metal into usable products, (v) through its use as a part of the usable product (or as a component), (vi) through any process of recycling and (vii) through its disposal.

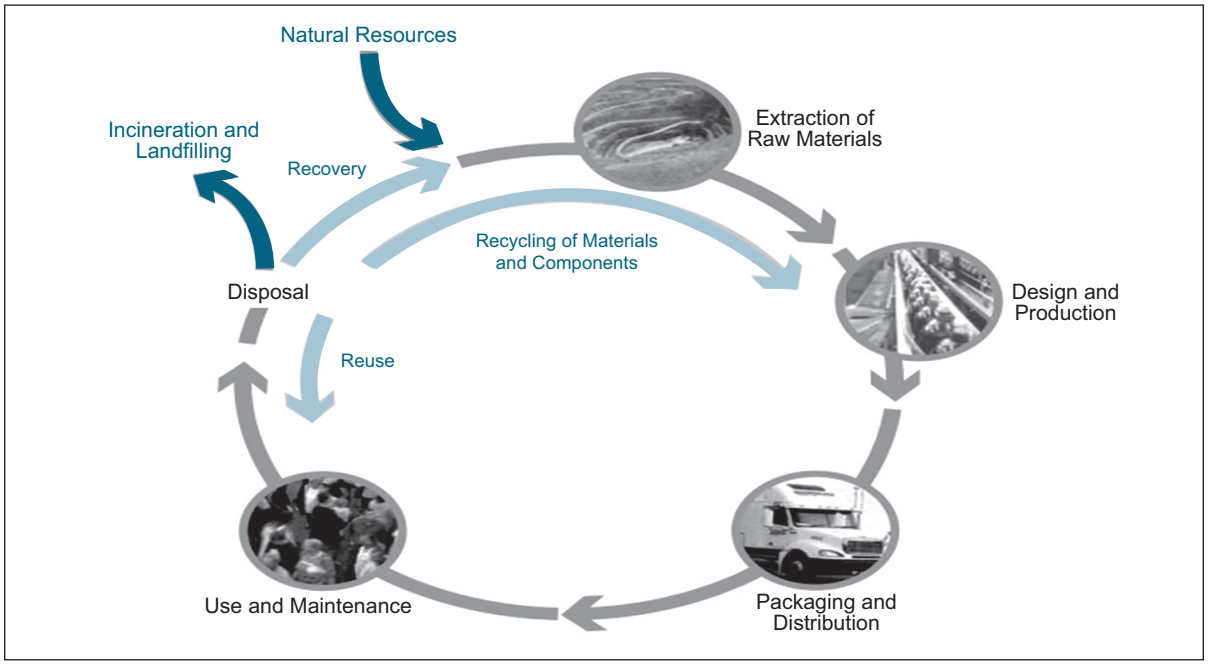


Figure 2.4 Diagrammatic representation of the life cycle of a product[17]

Social impacts need to be measured through factors that are most relevant to the cluster, product or service. These social factors could be the prevalence of child labour, number of working hours, use of forced or bonded labour, lack of fair wages for workers, lack of community infrastructure for workers, health of workers, etc.

17 UNEP. 2009. Guidelines for Social Life Cycle Assessment of Products. http://www.unep.fr/shared/publications/pdf/DTIx1164xPA-guidelines_sLCA.pdf

Although Environmental LCAs are routinely carried out in many parts of the world for a range of products and services, Social LCAs are currently less predominant. Both Environmental and Social LCAs are extremely useful when choosing between strategies to minimise negative environmental and social impact of particular products or services.

4. Who formulates the diagnostic study?

In the normal course, it is the CDA who is vested with the task of carrying out a diagnostic study. Following are the options:

4.1 Individual approach

The process of gaining insight into the cluster is a participatory one that could be led by the CDA. In the process, the CDA interacts with various groups of cluster stakeholders. Further, wherever necessary, the CDA could requisition the services of subject matter specialists.

4.2 Team approach

The mere size of the cluster and the complexity of the issues may require formulating a team of two or more persons who, apart from carrying out the study, may also undertake to implement the recommendations

4.3 Outsourcing

Given the human resource constraints of the implementing agency and/or the complexity of the cluster, the diagnostic study could be carried out by a team consisting of experts from different areas such as technology, marketing, quality, social development and environment, depending upon the nature and significance of issues confronting the cluster. When such an approach is followed, it is necessary that the CDA be in place before the inception of the diagnostic study. For he/she can capture the experiences in the process of the formulation of the study; develop rapport with cluster stakeholders and gain insights into the economic and SEE issues.

5. Sources of information

The process of gathering information for the diagnostic study involves both primary data and secondary data collection. Following is an illustration of the sources of information:

Table 2.1 Sources of information for diagnostic study

Type of information	Possible sources/tools used
Cluster brief profile Location details (state, city/town/village) Historical background of the cluster and its turning points Nature of the cluster (Economic, social and environmental aspects)	Cluster stakeholders Study carried out in the past Regulatory Bodies Department of Industries Local office of industrial development organisations State-level consultancy organisations Local industry associations Industrial survey reports Information contained in Annex II of the Cluster Responsibility Perception Based Score Card.[18]
National/international industry/cluster scenarios – Benchmarking to get an understanding of how others have chalked out the journey and where they stand	Internet review of similarly placed clusters at national/international level to understand what they are doing and how they have done so Apex/national regulatory and promotional institutions
Support system	Local industry associations Department of Industries Local office of industrial development organisations Local office of the state Social Welfare Department
Presence of local/national institutions in the cluster and their activity levels	Information contained in Annex II of the Cluster Responsibility Perception Based Score Card
The cluster's intra- and inter-stakeholder analysis	Observations made while implementing the Cluster Responsibility Perception Based Score Card
The cluster's socio-economic BR behaviour	On-site visits to three to four enterprises, having different production processes, and detailed understanding of their production processes and their relationships to social and environmental impacts Focused discussion with enterprise owners and later with industry leaders Tools used: mapping of value chains

18 Cluster Responsibility Perception Based Score Card is a tool developed at UNIDO.

Type of information	Possible sources/tools used
Cluster socio-cultural BR behaviour	Cluster Responsibility Perception Based Score Card
Resource flow analysis	Cluster stakeholders through survey Study carried out in the past (examples available on www.roi-online.org) Regulatory bodies (such as the State Pollution Control Board, Income Tax Department) Department of Industries Local office of industrial development organisations State-level consultancy organisations Local Industries Associations Industrial survey reports
Social Life Cycle Assessment	Cluster stakeholders through surveys Study carried out in the past (examples available on http://lcinitiative.unep.fr/sites/lcinit/default.asp?site=lcinit&page_id=D45A9A8F-10FA-4501-BF93-FB9AEAE4D163) Local industries associations Local NGOs working to improve livelihoods of communities where the cluster is situated Industrial survey reports

6. Process of formulation of the study

Before introducing the research agenda that lies at the core of the diagnostic study, it may be useful to highlight that MSME clusters can have complex environments both from competitive and SEE angles; i.e., some issues that surfaced as critical issues are actually not issues in their own right but only causal effects of some other issues prevalent in the cluster but unnoticed by the cluster stakeholders. It is crucial that the CDA/team that undertakes the diagnostic study is fully aware of the complexities of the study. At times the diagnostic study uncovers the inter-dependencies of the stakeholders which have never been noticed even by the cluster stakeholders themselves.

A pictorial illustration of steps involved in a diagnostic study and a brief of each step are as follows:

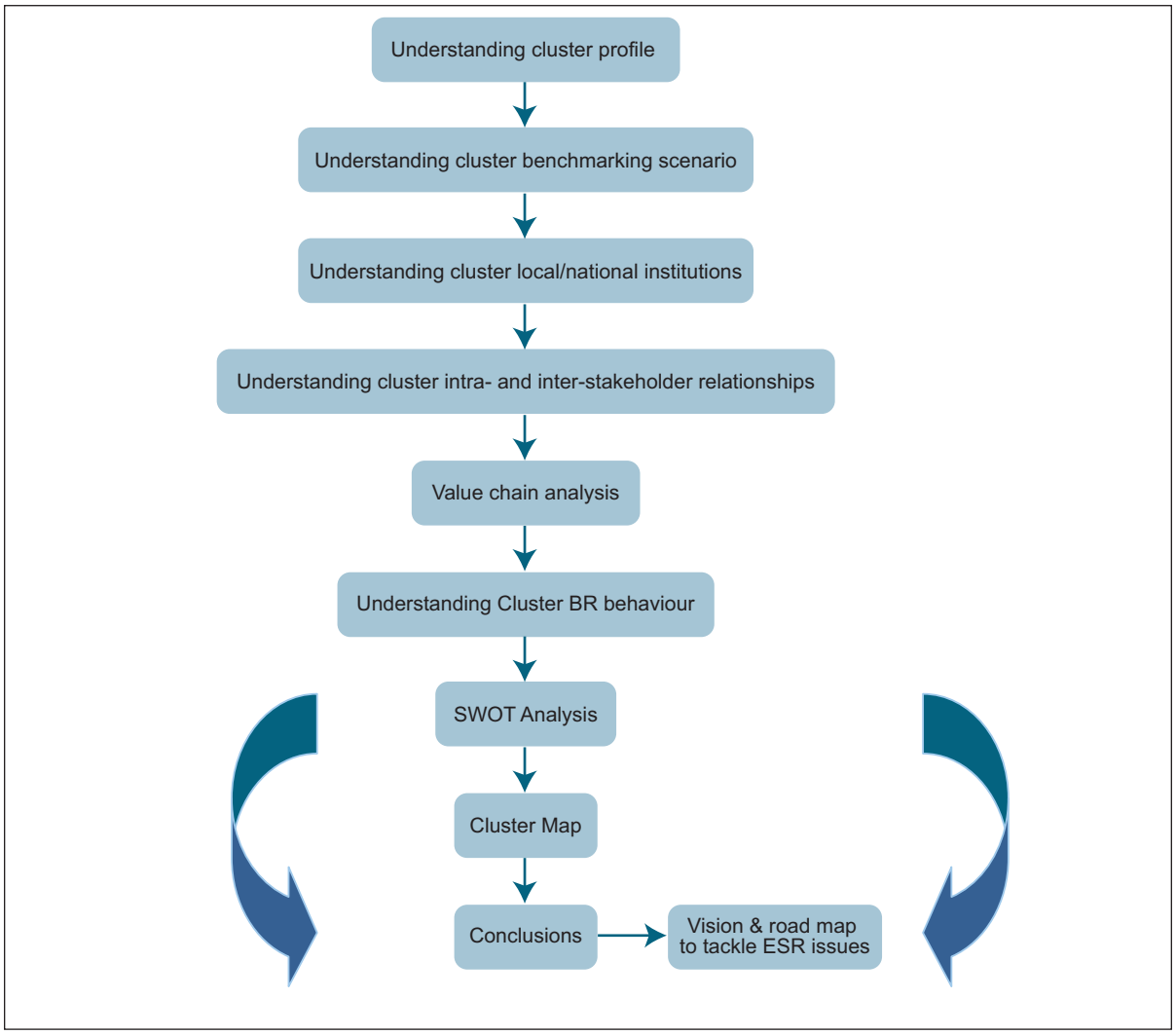


Figure 2.5 Steps involved in a diagnostic study – an illustration

6.1 Step I: Understanding the cluster's profile

This involves drawing a cluster profile including its historical evolution to understand the milestones, turning points and challenges confronted by the cluster in the past as also the current ones. The components of the profile are indicated as follows:

Table 2.2 Components of the cluster's profile

Areas	Elements
Core firms	• How many? • Typology: Type — Percentage to the total Micro Small Medium Large • Ownership pattern: Type of ownership — Numbers in percentage Proprietorship Partnership Private limited Public limited • Quality certification Type of certification — Numbers in firms (%) ISO 9001 ISO 14001 Other certifications Uncertified
Core firms' output	• Significance in the value chain/supply chain of the corporate/large buyer • Relevance in national, regional and sectoral economies • Value chain diagram • Total turnover
Raw material	• Nature of raw materials (eco-friendly, hazardous, polluting, etc).

Areas	Elements
Workforce	• Total numbers • Male/female ratio • Percentage of skilled, semiskilled and unskilled; migratory • Presence of home workers (numbers and percentage to total workforce • Presence of stakeholders and number of workers supplied by them as a percentage of the total workforce
Market	• Corporate/large buyers, (both national and international), sourcing from the Cluster Contribution to exports (percentage of turnover)
Social and environmental issues	• Overview of SEE issues as perceived by the cluster stakeholders.

In the process of interacting with various cluster stakeholders, the CDA/diagnostic team should try to understand the cluster's historical background, i.e., how the cluster has evolved in the past. It would be necessary to review the existing literature available with cluster stakeholders; old studies carried out in the past and also information available with regulatory bodies like industry centre, pollution control office, labour welfare office and local offices of different departments related to women and child development, social welfare, weaker section of the society, environment, etc. Such analysis will help in understanding the logic and reasons behind many of the SEE issues and thereby help in addressing these issues. Box 2.1 provides examples of how this section is documented for the pharmaceutical industry in Ahmedabad and Vadodara.

Box 2.1 Pharmaceutical industry in Ahmedabad and Vadodara: history and turning points

The historical landmarks of the Ahmedabad and Vadodara pharmaceutical cluster provide an insight to how the clusters evolved over a period of 100 years and what was the major critical point of deflection that led to success of the clusters.

Turning Points:

1901: First pharma unit, Alembic Chemicals, was established in Vadodara, paving the way for the growth of indigenous industry.

1914–18: World War I (1914–18) led to establishment of manufacturing units as imports were restricted and in order to meet the eventualities caused by the war. However, adulteration and poor storage facilities led to limited growth opportunities for the sector.

1930s and 40s: During this period the stage was finally set for controlling the industry, mainly sale, distribution and import. The Government of India appointed the Drugs Enquiry Committee (DEC) in 1930 and based on its recommendations the Drugs Act came into existence in 1940. The process of drafting the Drug Rules under the Act started in 1942, and the Rules were published in 1945. The Bio-Chemical Standardisation Laboratory established in 1937 in Calcutta was converted into the Central Drugs Laboratory in 1947 to carry out statutory functions under the Drugs Act. During this period the LM College of Pharmacy was established. In 1947, Mr B.V. Patel became instrumental in founding the Food and Drug Lab in Vadodara.

1960s: In 1967 CADMACH Machinery (for pharmaceuticals) was set up. This also encouraged diversification towards manufacturing packaging machines. Even the later development of the medical disposables industry (a highly related sector) in Ahmedabad may be linked to the early emergence of a strong pharma machinery base in the region.

1970s: An important turning point in the growth of the industry can clearly be linked to the Indian Patent Act of 1970. The Act provided the domestic industry stimulus by opting for a 'process' patents system and specifying a short duration of seven years for patents. This phase of euphoria was also sustained due to heightened exports to many countries, mainly Russia and African countries.

1980s: Schedule M of the Drugs and Cosmetics Act was amended to include GMP and medical disposable units were brought under Schedule M. There was a strong and long-standing need by both the pharma units as also other concerned intelligentsia for having a technical-cum-training centre in Gujarat State. In this context the B.V. Patel Education Trust, Ahmedabad and the Gujarat branch of the Indian Pharmaceutical Association (IPA) established the B.V. Patel Pharmaceutical Education and Research Development (PERD) Centre in Ahmedabad in 1989.

1990s: The Dunkel draft proposals on Trade Related Intellectual Property Rights led the government to take steps to amend patent laws to introduce 'product' patents.

2005: The 'product' patent regime came into operation.

Action points:

- Review relevant literature and interact with knowledgeable persons in the cluster to gather information on:
  - Number of core firms, their size, ownership pattern and quality certification status.
  - Demand-side data on their markets (domestic/exports) including presence of large buyers.
  - Importance of the contribution of the cluster to the value chain.
  - Supply-side data on nature of raw materials used (hazardous; polluting; scarce non-renewable natural resources).
  - Major social and environmental issues.
  - Cluster's historical background.
  - Accordingly prepare a profile of the cluster.

6.2 Step II: Understanding the cluster's benchmarking scenario

This involves comparing the cluster's socio-economic scenario with some benchmark cluster at the national/international level.

Identification of one or two performing clusters, operating elsewhere with near-comparable conditions. Studying their relevant characteristics helps in a comparative analysis of the clusters, enabling the identification of gaps existing in the cluster under study. The following aspects need to be covered:

- BR behaviour of the benchmark cluster.
- The type of social and environmental issues the cluster was involved in at society/community level.
- Cluster's approach towards addressing these issues.
- An analysis of the business segment, focusing on competitive pressures affecting the SMEs in the cluster and opportunities for business development, is called for. This helps in the understanding the BR behaviour of the cluster. For instance, the SMEs may be facing intense domestic competition and hence wish to tap export markets. To do so, they may have to upgrade their labour welfare standards to suit the requirements of the importers.

Sources of information for this analysis can be surveys and censuses, national and international trade statistics, general and sectoral newspaper/magazines, speeches by industry leaders/agency chiefs, national/international level publications, product associations/councils and

internet review of similarly placed clusters at national/international levels to understand the current scenario and the response of the cluster to SEE issues.

Action points:

- Study the characteristics of clusters similar to the one to be developed.
- Make a comparative analysis of the same with the situation prevailing in the cluster.
- In the process focus on the SEE issues.

6.3 Step III: Understanding institutional linkages

6.3.1 Introduction

To start with, the CDA needs to explore the nature and extent of institutional linkages which have an impact on the cluster's competitiveness. This could be followed by looking at the impact of such linkages in tackling BR issues. Accordingly the line of enquiry can start with competitiveness issues and move on to socio-economic issues and finally to social generic issues.

Cluster development is a long-term process fraught with obstacles; where commitment, leadership and communication are keys to success. It is more so when the focus is on facilitating responsible business behaviour among cluster stakeholders, while attempting to enhance the competitiveness of the cluster as a whole. This is so as social sector provisioning brings some key players, such as non-economic ministries (for instance environment and social welfare) or social sector stakeholders. As indicated in the previous chapter, propelling cluster stakeholders to tackle SEE issues is the essence of a CDA's role. Following is an illustrative list of institutions:

- Industry associations
- Government departments dealing with labour, industry, social welfare, environment and the like
- Regulatory bodies such as pollution control board, etc.
- Promotional institutions such as state corporations engaged in marketing of MSME products, etc.
- BDS providers
- R&D and other technical institutions
- Educational institutions
- Civil society organisations (CSOs/NGOs)
- Trade unions and workers' groups
- Industry networks (other than associations)

- Other enterprises in the cluster (large manufacturers, large buyers, supplier firms dealing in equipment, etc.)

Thus the CDA is expected to identify local/state/national level institution operating in the cluster and understand their roles and activity levels. An illustration of areas of interaction is provided below.

Table 2.3 Areas of interaction

Core firms (sample)
• Level of awareness and understanding of SEE issues. • Nature and level of engagement (individual or collective) with BR issues. • Instances of using BR initiatives (individual or collective) for image building/ marketing. • Instances (if any) of inaction on SEE issues, impacting market prospects. • Understanding the possible linkages of raw material usage, production process, technology, working conditions, etc., with SEE issues and steps (if any) to tackle the same. • Absence of funding support and limited infrastructure faced by firms in addressing SEE issues.
Enterprises other than core firms (sample)
• Level of awareness and understanding of SEE issues in the cluster. • Expectations from cluster MSMEs regarding individual BR standards. • Instances of engagement with MSMEs for tackling cluster SEE issues. • Level of sensitivity of supplier firms to SEE issues. • Presence and activity level of service providers related to SEE issues.
Industry associations
• Membership base • Level of professionalism of the secretariat in terms of operations such as organising meetings, preparation of agenda and minutes, financial management, etc. • Level of understanding of the secretariat about SEE issues. • Linkage with knowledge providers, social sector stakeholders and institutions which fund developmental activities. • Past and present initiatives to tackle SEE issues and their impact. • Any long term plan in place to tackle SEE issues.

Workers (sample)
• Nature and duration of work • Any health hazards at work place and actions taken to minimise the same • Presence of unions or pressure groups • Emoluments • Issues such as low wages, non-compliance with mandatory benefits, access to education for children, housing problems, health problems and discrimination • Trends in horizontal movement of work force • Nature and extent of support from the unit owner when workers are in need • Plans, if any, to shift to other occupations and reasons thereof
Regulatory Bodies
• Their perceptions about cluster's social responsibility behaviour • Past and current initiatives in the cluster towards social and environmental issues • Opinion on cluster's regulatory compliance covering: • Environment/pollution • Waste disposal • Factory Act (license/wages/working hours/H and S) • Labour welfare (ESI/PF/Bonus) • Tax compliance (sales/excise/income/customs)
Civil society organisations
• Perceptions about the cluster's social responsibility behaviour • Past and present initiatives of CSOs to tackle SEE issues • Past and present initiatives by MSMEs to tackle SEE issues • Prioritisation of SEE issues

6.4 Step IV: Understanding and analysis of the cluster's intra- and inter-stakeholder relationships

6.4.1 Understanding stakeholder networks and relationships

The Cluster Responsibility Perception Based Score Card provides the cluster BR behaviour based on the response of the stakeholders, who influence or are influenced by the BR aspects.

However for the sake of diagnostic study, it is important to identify the right stakeholders and to understand their intra- and inter-relationships.

The understanding of intra- and inter-relationships of the stakeholders depends upon the status of the cluster's governance structure. The governance structure can be easily identified and analysed in well performing clusters, where more or less institutionalised frameworks exist to represent the various interests and demands of the cluster stakeholders as well as to identify, prioritise and address the challenges faced by the cluster as a whole.

The governance structure in a performing cluster consists of the presence of industry associations/social networks, technical/financial institutions, civil society organisations, social audits, BDS providers, active trade unions, active regulatory bodies and more ethical leaders, who play a proactive role in the socio-economic development of the business environment of the cluster. Besides this, there is close cooperation among these associations and institutions. The cluster also has various specialised service providers having close linkages with the firms and the associations/institutions. Such institutional mechanisms are not always fully formalised. There may be strong informal bonds among a group of firms.

The ability of the cluster to address SEE issues depends, to a great extent, on the strength of relationships among various stakeholders who have learned to communicate effectively to address the ever-emerging set of problems/opportunities in the cluster. Thus there is need to understand the different types of networks in the cluster working on different socio-economic issues.

6.4.2 Trust level

In clustering behaviour, trust is a level of understanding among stakeholders that facilitates a joint initiative, ensuring that all relevant information for the same is shared and that appropriate efforts are made for achieving its objective. Prior to commencement of the planned interventions, the CDA needs to assess the trust level through a cooperation matrix of social capital. Each cell in the matrix is assigned a value for the strength of linkage between two stakeholders in the cluster. There is not necessarily a linkage between two stakeholders in some of the cases.

The table below presents a hypothetical picture of the relationships in a cluster at a certain point in time. It is important to trace the development of linkages in a cluster. This can be done with yearly matrices, or with more complex matrices covering several years.

Table 2.4 Hypothetical BR cooperation matrix of a cluster

Principal stakeholder → / Stakeholders ↓	A_1	A_2	NW_1	NW_2	T_1	T_2	FI_1	FI_2
A_1	NA							
A_2		NA						
NW_1			NA					
NW_2				NA				

Score values:

0 – no linkage and/or open conflict

1 – Stakeholders barely know about each other, no impact on the cluster as a whole;

2 – Positive linkages and some history of mutual help, some impact on the cluster;

3 – Strong propensity to cooperate based on a supportive history;

4 – Excellent existing linkages with significant impact on the cluster as a whole.

NA = not applicable.

Note: A_1 and A_2 – Associations present in the cluster

NW_1 and NW_2 – Networks present in the cluster

T_1 and T_2 – Linkages of technical institutes in the cluster

FI_1 and FI_2 – Linkages of financial institutes with the cluster

Action points

- Revisit the data generated after preparing the Cluster Responsibility Perception Based Score Card.
- Accordingly draw lessons from the intra- and inter-relationships among the stakeholders.
- Assess trust levels amongst the stakeholders through a cooperation matrix.
- Compile the outcome of the entire exercise to answer following questions:
  - What, if any, are the drivers of BR initiatives?
  - To what extent such initiatives are home grown?
  - To what extent such initiatives are a result of external pressure?
  - Are there institutional mechanisms in place in the cluster to plan and implement development initiatives to promote responsible behaviour?
  - If yes, who could be assigned the role of implementing agency for the interventions?
  - If not, what type of special purpose organisation is to be created? Should it be a joint venture among all key cluster stakeholders? Or should it be an extension of an existing NGO or even a new NGO?

6.5 Step V: Value chain analysis

6.5.1 Identification and sampling of key cluster stakeholders

Given that several enterprises will be operating in the cluster, visiting each of them is neither necessary nor feasible. If the production processes followed by all the firms is similar, then visits to a few enterprises will provide a clear understanding of the production processes and their possible societal and environmental impacts. CDAs can use quota sampling, in which the population is first segmented into mutually exclusive sub-groups, just as in stratified sampling. Thereafter, judgment is used to select the subjects or units from each segment, based on a specified proportion. It is this second step, which makes the technique non-probability sampling. In quota sampling the selection of the sample is non-random, according to some fixed quota. For understanding sampling, please see the example at Annex II.

6.5.2 What is value chain analysis?[19]

For understanding the inter-dependent behaviour of cluster competitiveness, society around the cluster and the environment in which it is situated, it is very important to understand the cluster's value chain. The value chain represents a series of activities of a firm in delivering its goods and services to its final customers. The series of activities of the firm have distinct links and there is a distinct value addition at each level. The value addition is directly reflected in the customer's willingness to pay. Analysis of a value chain is basically an analysis of the enterprise. However, it also involves an analysis of the value chains of the enterprise's suppliers and the marketing channel of the enterprise.

To be successful and sustainable, an enterprise needs to create and deliver more customer value. Every firm has a series of activities that are performed to design, produce, market and service customers. An enterprise needs to examine its cost and performance in each value-creating activity and look for ways to improve it.

The same logic applies to a cluster also as it includes groups of SMEs and related enterprises involved in forward and backward-linked activities for creating value for customers. Each activity has to be analysed while focusing on consumer needs and value. A cluster where the entire value chain works towards creating more consumer value is one that is relatively sustainable and competitive.

6.5.3 Components of the value chain

Value activities are distinct activities performed by the firm to bring its products to a level where the customer perceives value. The margin is the difference between total value (price of the goods) and the total cost of performing value-creating activities. Supplier and channel value chains also include margins which are important for identifying and understanding the sources of a firm's cost position, since supplier and channel margins are a part of the total cost borne by

19 Porter Michael E. (1985) Competitive Advantage, New York, The Free Press

the buyer. The sum margin (supplier's margin, firm's margin and the channel's margin) reflects the value perceived by the customer for the products of the firm.

Value activities may be divided into two broad types: primary activities and support activities. Primary activities are those activities leading to the creation, sale and delivery of products to the buyer, as well as after-sales support.

How each activity, combined with its economics, is performed will determine whether a firm in a cluster has high or low costs and also indicate its differentiation from competitors. How each value activity is performed will also determine its contribution to buyer needs and hence differentiation. Comparing the value chains of a sample of enterprises in a cluster may also help a CDA evolve benchmarks.

Primary Activities

There are broadly five categories of primary activities. Each category is further divisible into a number of distinct activities that depend on the particular industry and enterprise strategy.

Inbound logistics: Inbound logistics involves activities associated with receiving and sorting of inputs; such as material handling, inspecting goods received, warehousing, inventory control, vehicle scheduling and returns to suppliers.

Operations: These are activities associated with transforming inputs into final products using the enterprise technology, manpower and machinery, raw material inputs, testing quality of the final product and finally packaging the product for the customer. Operations also include equipment maintenance and production planning.

Outbound logistics: Activities associated with collecting, storing and physically distributing the product to buyers such as finished goods warehousing, material handling, delivery vehicle operation, order processing and scheduling. Such activities work in close coordination with operations and marketing and sales activities.

Marketing and sales: These activities are associated with the mode through which buyers can purchase the product and also involve inducing them to do so; such as advertising, promotion, sales, quoting, channel selection, channel relations and pricing. These activities are in close coordination with outbound logistics.

Services: These include activities associated with providing service to enhance or maintain the value of the product; such as installation, repair, training, supply of parts and product adjustment.

Each of the categories may be vital for competitive advantage, depending on the industry. For a distributor, inbound and outbound logistics are most crucial. For a service firm, such as a restaurant or retailer, providing service on its premises, and outbound logistics may be largely non-existent and operations may be the vital function.

Support activities

Support activities for competing in any industry can be divided into four generic categories. As with primary activities, each category of support activities is further divisible into a number of distinct value activities, which are specific to a given industry. In technology development, for example, distinct activities may include component design, feature design, field testing, process engineering and technology selection. Similarly, procurement can be divided into activities such as qualifying new suppliers, vendor development, procurement of different groups of purchased inputs and ongoing monitoring of supplier performance. Following is a brief description:

Procurement: Procurement refers to the function of purchasing inputs used in the firm's value chain, i.e., raw material required for the production of goods and services. Purchased inputs include raw materials as well as assets, such as machinery, office equipment and buildings.

Technology development: Every value activity embodies technology, be it know-how, procedures or technology embodied in process equipment. The array of technologies employed by most firms is very broad; ranging from technologies used in preparing documents and transporting goods to other technologies embodied in the product itself. Moreover most value activities use a technology that combines a number of different sub-technologies involving different scientific disciplines. Machining, for example, involves metallurgy, electronics and mechanics.

Technology development consists of a range of activities that can be broadly grouped into efforts to improve products and processes. Technology development tends to be associated with the engineering department or the development group. Typically, however, it occurs in many parts of the firm, although this is not explicitly recognised. Technology development may support any of the numerous technologies embodied in value activities, including office automation for the accounting department, for instance.

Technology development is important for competitive advantage in all industries, holding the key in some. In steel, for example, a firm's process technology is the single factor in competitive technology.

Human resource management: Human resource management consists of activities involved in the recruiting, hiring, training of all types of personnel and their development and compensation. Human resource management supports both individual primary and support activities (e.g., hiring of engineers) and the entire value chain (e.g., labour negotiations).

Firm infrastructure: Firm infrastructure consists of a number of activities including general management, planning, finance, accounting, legal, government affairs and quality management. Infrastructure, unlike other support activities, usually supports the entire chain and not individual activities. Depending on whether a firm is diversified or not, firm infrastructure may be self-contained or divided between a business unit and the parent corporation. In diversified firms, infrastructure activities are typically split between the business unit and corporate levels (e.g., financing is often done at the corporate level while quality management is done at the business unit level). However many infrastructure activities occur at both, the business unit and corporate levels.

Value chain analysis of a firm

A necessary condition of value chain analysis is the understanding of the supply and distribution chains and the value created by them. For example a bedsheet produced by Bagru hand block printers gets its value not only from the efficiencies of the printer, but also the grey cloth manufactured in Ahmedabad. Thus, the value of the bedsheet comes not only from the quality of the block printing done at Bagru, but also from the quality of the grey cloth coming from elsewhere.

The analysis of the value chain starts from looking at the need for each value activity and whether each such activity leads to value addition more than the cost incurred on that activity. The value chain also has significance for issues like resource allocation, cost efficiency, control over resources, effectiveness of the firm and its financial analysis.

Value chain analysis of a cluster

In the context of a cluster, value chain analysis has to be looked at from the economic and BR angles.

To start with, the CDA needs to look at BR issues with respect to the following four parameters:

HR practices: For instance, analysis of the labour force could indicate significant presence of child labour – a serious BR issue.

Nature of technology: For instance, the technology followed by the firms could be inefficient and/or lead to pollution.

Marketing practices: For instance, excessive use of non-biodegradable packing could lead to environmental issues.

Reusing/recycling of non-hazardous wastes: For instance the slag produced by a cluster of foundries may be recycled to make cement building bricks.

Thereafter, the CDA needs to look at the operations of the firms (primary activities) from an economic and a resource (material and energy) consumption angle as is the case in any value chain analysis. This should lead to an understanding of the nature and extent of value addition and the quantification of wastes generated by the cluster. The findings are to be benchmarked against a well operating cluster. This should lead to analysis of the reasons behind any performance gaps, and analysis of options to reuse/recycle non-hazardous wastes generated by the cluster. In clusters where core firms are engaged in producing multiple products, the economic value chain analysis could be confined to the product which contributes most to the turnover of the cluster. Similarly, the resource flow analysis (RFA) of such a cluster could be confined to the industrial product that generates the highest amount of non-hazardous waste.

Having understood the value chain of the cluster, it is possible to articulate the possible social and environmental impacts of the cluster's production processes. In most cases environmental impacts are associated with industrial wastes that are indiscriminately let out into the environment (air emissions, waste water and solid waste). This calls for taking stock of the production operations of the firms and listing possible social and environmental impact. Such a list has to be validated through discussions with pre-identified entrepreneurs (judgemental sampling). For instance, in one cluster engaged in producing sports goods, repeated exposure to wood dust particles (<4 μm) can cause chronic bronchitis, emphysema and flu-like symptoms. Decades of such exposure could also cause cancer.

Noted below is a pictorial presentation of value chain analysis from economic and BR angles:

Figure 2.6 Cluster value chain analysis: economic and BR angles[7]

Some of the possible social and environmental issues, related to cluster activities and its economic value chain, are as follows:

20 Adopted from Porter, M.E. and Mark R. Kramer, 'Strategy and Society-The link between Competitive Advantage and Corporate Social Responsibility', Harvard Business Review, December 2006.

21 Extracts from 'National Voluntary Guidelines for the Social, Environmental and Economic Responsibilities of Business', IICA-GTZ Initiative, 2011.

Table 2.5 Possible social and environmental issues related to the cluster's value chain

Activity area	Illustration of possible social problems due to cluster activities	Illustration of possible environmental problems due to cluster activities
Cluster inputs and their supply systems	Congestion of roads; logging of roads; drivers' issues pertaining to HIV/AIDS; occupational health and safety issues in material handling; corruption, child labour; wage issues regarding material handling; other human rights issues; hazardous material handling and its effects	Air pollution due to emissions of dust and gasses by vehicles; pollution due to improper storage of raw materials; effects of hazardous material on the environment
Operations and Processing	Workers health and safety; discrimination; human rights violations; labour welfare; statutory compliances with regard to matters such as wages and their payments, working hours and social security (like PF/ESI); training; hazardous working conditions, female/ child workers; disposal of wastes; inefficient use of fuels, energy, water, and materials	Issues related to air, water and land pollution; waste disposal and management; all type of energy usages and their environmental relevance; natural resources utilisation; issues related to bio-diversity and ecological impacts
Outbound finishing, packaging and dispatch	Congestion of roads; logging of roads; drivers' issues pertaining to HIV/AIDS; occupational health and safety issues in material handling, corruption; child labour; wage issues regarding material handling; other human rights issues; hazardous material handling and its effects	Issues related to type of packaging material used and its disposal, both in terms of quantum and the negative impact on the environment
Marketing and sales	Transparency in truthful marketing and advertisement; provision of proper information to consumers; fair pricing practices; faithful adherence to regulatory aspects of undertaking business (compliance with standards, prescribed practices, tax payments etc.)	
After sale services	Fair and truthful after sale service practices	Proper handling of consumables (say motor oil, chemicals); environmentally friendly disposal of solid obsolete products; recycling of materials
Infrastructure development	Protection of the interests of stakeholders like farmers and the community, whose resources are being utilised for infrastructure creation; fair financial reporting; following fair and transparent procedures; use of positive lobbying; rehabilitation and resettlement (R&R) issues	Adverse impacts of infrastructure creation on natural resources like air, land, water, habitats, forests, ecological & biological systems
Human resource management	Safe working conditions; payment of statutory wages and other benefits as per regulations; health care and other benefits; provision of education and on-the-job training; child labour; discrimination and human rights; retrenchment policies; compensation policies	

Activity area	Illustration of possible social problems due to cluster activities	Illustration of possible environmental problems due to cluster activities
Technology	Social impacts of existing technology; effects of technology up-gradation on labour displacement and redeployment; ethical relationships with research centres, technical institutes and other knowledge organisations; ethical research and testing facilities (e.g., animal testing); product safety	Technologies that encourage environmental conservation; technologies that enable recycling of materials; technologies for handling all type of pollution – air, water and land
Procurement	Fair and transparent procurement and supply chain policies and practices, handling issues of bribery; child labour involvement in procured inputs; conflicts with suppliers; pricing for producers and others in an ethical manner	Issues related to proper and optimum utilisation of natural resources; use of restricted items and materials e.g., endangered plants, animals and other such materials
Household operations	Payment of minimum wages and other benefits as per regulatory norms; health care and other benefits; provision of education and job training; issues related to child labour, discrimination and human rights	—
National and international markets	All issues relating to social impacts of buying practices of national/international buyers	All issues relating to environmental effects of buying practices of national/international buyers

In the interest of further clarity on mapping of social and environmental effects, a case study is set out in Annex III.

A resource flow analysis (RFA) can be used to highlight and quantify all wastes generated through the different industrial steps of production in an industry or a cluster.

Given below is such a RFA for flow of material and energy through the four industrial steps in a small scale foundry: (i) blast furnace, (ii) iron casting, (iii) engineering, and (iv) packaging. Such a detailed RFA can be generated using the freeware software STAN http://iwr.tuwien.ac.at/resources/downloads/stan.html

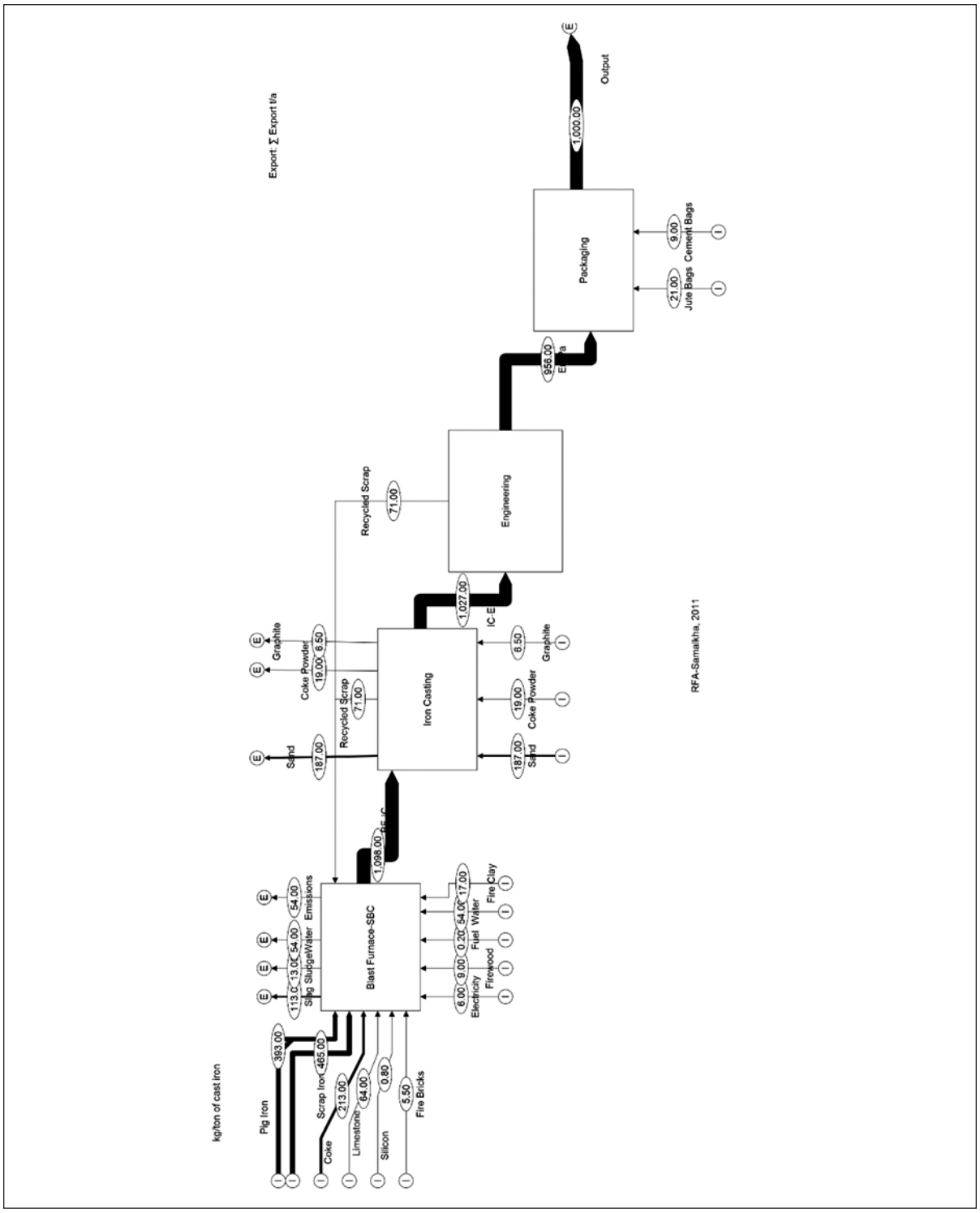


Figure 2.7 Detailed Resource Flow Analysis of a foundry (kg/year)[22]

22 Kauffmann, M. 2011. Environmental analysis of a cluster of foundries in Samalkha, Haryana. Study by Resource Optimization Initiative for Foundation for MSME Clusters.

This RFA highlights two important sets of data that can be used to valorise non-hazardous waste from a cluster of foundries:

- On average 113 kg of slag is generated when producing 1,000 kg of iron
- On average 13 kg of sludge from the APCD is generated when producing 1,000 kg of iron
- Depending on the amount of product that the foundry produces, a CDA can calculate the amount of waste (slag and sludge) that the cluster will generate.

The CDA then needs to test for the concentrations of hazardous compounds, as per the Hazardous Wastes (Management, Handling and Transboundry Movement) Rules, 2008[23] and any amendments thereafter. If none of the wastes have hazardous materials above the concentrations stated in the said rules or any amendments thereafter, then these wastes can be used to make products that can be sold in the market. If they do contain hazardous materials in concentrations above those stated in the said rules or any amendments thereafter, then these wastes will have to be handled, transported, labelled and reprocessed or disposed as per the said rules or any amendments thereafter.

The CDA can then use these quantities to assess the economic viability and gains for the cluster of options to reuse/recycle these non-hazardous wastes.

6.6 Step VI: Understanding Cluster BR behaviour

This step involves understanding the SEE issues emanating from the operations of the firms in the cluster as illustrated in Annex IV. The approaches involved in the process are:

- Interactions with knowledgeable persons/ethical leaders who have performed well from economic angle and are socially conscious
- Analysis of the value chains of the cluster and their relationships to potential BR issues

Understanding the severity of the issues and the response of the cluster stakeholders to the same. This can be measured through a matrix as shown below:

Table 2.6 Measuring criticality of SEE issues

Issues → / Intensity ↓	Energy Intensity	Environment			Social Issues		
		Air	Water	Solid Waste	Labour related	Community health	Generic Social issues
Critical							
High							
Moderate							
Low							

23 Hazardous Wastes (Management, Handling and Transboundry Movement) Rules, 2008 http://envfor.nic.in/legis/hsm/HAZMAT_2265_eng.pdf

For example, the study on 'Business Responsibility Issues among MSME Clusters: Magnitude and Way Forward in the Indian Context' by FMC has used such a matrix to illustrate the SEE issues of few selected sectors in clusters as shown below.

Table 2.7 Status of selected sectors in clusters in terms of energy and social issues

Sub-sector	Energy Intensity	Environment			Social Issues
		Air	Water	Solid Waste	
Foundry	High	High	Low	Moderate	The foundry industry is mainly concerned with occupational health and safety issues
Sponge Iron	High	High	Low	Moderate	The sponge iron industry is mainly concerned with occupational health and safety issues of the workers
Leather	Low	Low	High	Moderate	The social issues pertaining to the leather tanning sector are mainly related to occupational health and safety issues associated with the construction and decommissioning of tanning and leather finishing facilities
Textile	High	Low	Moderate	Moderate	The social issues pertaining to the textile sector include the occupational health and safety hazards during the operational phase of textile manufacturing projects
Dyes and Chemicals	Moderate	Low	High	Low	The social issues in this sector are mainly related to the occupational health and safety of the workers as well as the women labourers employed during packaging. They mostly face respiratory problems due to the presence of various chemical substances
Electroplating	Moderate	High	High	High	The social issues in the electroplating industry is mainly related to occupational health and safety issues

Sub-sector	Energy Intensity	Environment			Social Issues
		Air	Water	Solid Waste	
Brick	High	High	Low	Moderate	The social issues pertaining to brick kilns are related to the occupational health and safety of the workers as well as the child and female labour employed in this sector
Ceramics	High	High	Low	Moderate	The social issues pertaining to the ceramics sector are mainly related to occupational health and safety issues arising during the construction and decommissioning of ceramic tiles, sanitary wares and pottery production units
Glassware	High	Moderate	Moderate	Moderate	The social issues pertaining to the glass sector are mainly related to occupational health and safety issues and low wages paid to labour
Mini Cement Plants	High	High	Moderate	Low	The social issues pertaining to the mini cement plants sector are mainly related to occupational health and safety issues
Paper Industry	High	High	High	Moderate	The social issues pertaining to paper sector are mainly related to occupational health and safety issues

Source: 'Business Responsibility Issues among MSME Clusters: Magnitude and Way Forward in the Indian Context', FMC 2010.

Apart from interactions with knowledgeable persons as indicated above, the CDA is required to administer the ESR score card and undertake a preliminary social life cycle assessment (S-LCA) as indicated in the following sections for understanding the BR behaviour of a cluster.

6.6.1 Administering ESR score card

UNIDO has developed a tool – Cluster Responsibility Perception Based Score Card (CRPBSC) for understanding the socio-cultural BR behaviour of clusters. Following is a brief of CRPBSC:

6.6.1.1 What is Cluster Responsibility Perception Based Score Card (CRPBSC)?

It is diagnostic tool which helps in understanding:

- Severity of the SEE issues faced by the cluster i.e., the SEE issues in the cluster, which are most severe based on the average response of the cluster stakeholders.
- Diversity/divergence of views of the stakeholders/respondents based on the difference in their responses to the severity of the SEE issues.
- Activity undertaken to tackle/address the issues by the cluster stake holders, individually or collectively till date.
- Priority for action based on the severity of issues and activities undertaken to tackle the SEE issues so identified.

6.6.1.2 How to administer CRPBSC?

The process of administration of score card is depicted in the table below:

Table 2.8 Score card administration

Sub activity	Remarks
Preparatory phase	
Secondary research	Purpose: Gather as much information as quickly as possible, based on the cluster profile questionnaire. Source: Reports from regulatory and development agencies in the cluster government departments; internet.
Identifying stakeholders	Getting the missing information as per the cluster profile questionnaire that was not collected during the Secondary research. Validating the cluster profile information collected by secondary research. Administration of the ESR Score Card.
Interaction with stakeholders	
	Interact with key stakeholders to brief them on the score card and enlist their support.
Consultative meeting	
	Hold a meeting of key stakeholders to: Present the cluster profile and seek inputs to validate the same. Explain the scope and process of administering the score card. Seek commitment from them to participate and cooperate in the process. Finalise the schedule for individual interactions for administration of the ESR Score Card.

Sub activity	Remarks
ESR Score Card administration	
Presence of an issue and its severity	Focus on level of awareness of SEE issues as illustrated below: Example: Do you and your peers perceive 'Health and Safety' as an issue in the cluster? The respondent is expected to answer based on his perception and understanding of the 'Health and Safety' issue and its relevance as a problem to the cluster as per the following three options given: 'Yes': Response to be scored from 1 to 5 as under: 1-If the Issue exists and its relevance is negligible. 2-If the issue exists and its relevance is Minor 3-If the issue exists and its relevance is Moderate 4-If the issue exists and its relevance is Major 5-If the issue exists and its relevance is Critical 'No' (if it is not an issue today or never has been an issue in the past or if it has been an issue in the past, it has been solved): Response to be scored '0' Not aware or not in a position to answer because of his lack of knowledge or understanding of the subject matter. Then he needs to give it a score of ' N/A' It is to be noted that the questionnaire is to be administered to each individual and compiled once all the respondents are covered
Activity undertaken to address the issue	Document the level of engagement of stakeholders on SEE issues as illustrated below: Example-. What in your opinion has been done to tackle the issue? The respondent, based on his perception and understanding of the 'Health and Safety' issue, is expected to give an opinion on what has been done to resolve the issue from the following options: Nothing has been done or no effort undertaken: score of 5 Discussing about doing something to solve the issue or talking about doing something to solve the issue: score of 4 Planning to do something about solving the issue: score of 3 Doing things in an ad-hoc manner to solve the issue, individually or collectively: score of 2 Taking concrete initiatives to solve the issue, individually or collectively: score of 1 Not aware about any activity being undertaken or not in a position to answer this question: score as NA

Sub activity	Remarks
Compilation of response and its analysis	
	The information is captured in the Cluster Responsibility Behaviour Template which will then lead to parameters of responsibility behaviour covering the following: The presence and severity of the SEE issue faced by the cluster. Diversity/divergence in the views of stakeholders/respondents on the particular issue Activity undertaken to tackle/address the issue by the cluster stakeholders, individually or collectively, till date The priority for action based on the severity and lack of activity undertaken to tackle the BR issue so identified
Dissemination workshop	
	Findings from score card to be disseminated through a workshop to: Ensure that all the stakeholders understand the BR Behaviour and the reasons for the same. Prioritise the issues to be addressed, on the basis of consensus. Accept and agree (commit) to mutually work together based on a common understanding of the SEE issues faced by the cluster in order to improve the BR behaviour through a time bound action plan. Define the action plan along with time lines Agree on the monitoring mechanism for implementation

Note: The score card is applicable for the cluster as a whole.

The Rourkela sponge iron cluster score card is attached as Annex V.

6.6.2 Performing a social life cycle assessment (S-LCA)

The United Nations Environment Program (UNEP) and the Society for Environmental Toxicology and Chemistry (SETAC) launched an International Life Cycle Partnership, known as the Life Cycle Initiative, to enable users around the world to put life cycle thinking into effective practice. Life cycle thinking, as UNEP explains, 'is about going beyond the traditional focus on production sites and manufacturing processes so that the environmental, social, and economic impact of a product over its entire life cycle, including the consumption and end of use phase, is taken into account.'[24] (Refer to Figure 2.4).

Through its life cycle initiative UNEP published 'Guidelines for Social Life Cycle Assessment of Products' in 2009.[25] According to these guidelines both Environmental and Social LCA is to be conducted in four phases as shown in the figure and described in the following table:

24 See for more information: http://www.unep.fr/scp/lifecycle

25 UNEP. 2009. Guidelines for Social Life Cycle Assessment of Products. http://www.unep.fr/shared/publications/pdf/DTIx1164xPA-guidelines_sLCA.pdf

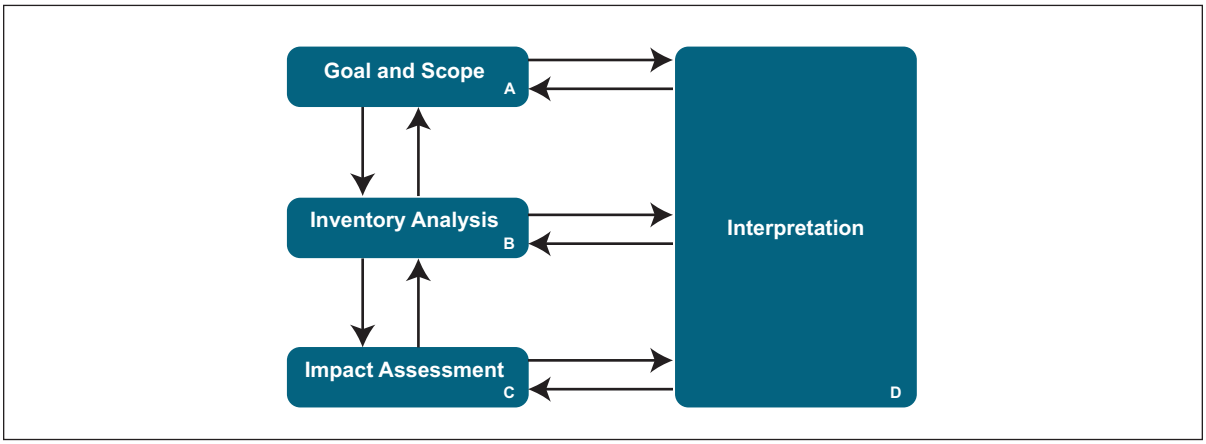


Figure 2.8 Diagrammatic representation of the phases of life cycle assessment

Table 2.9 Social life cycle assessment administration

Phase	Remarks
Goal and scope phase	Defines the reasons for carrying out the S-LCA and states the intended use of the results of the S-LCA. This phase of an S-LCA may require site-specific social information about political attributes, such as the country and its laws.
Inventory analysis	Provides an inventory of socially relevant impact categories that need to be examined in each stage of the life cycle of a product or service. These impact categories will have to be defined by the CDA and additional stakeholders, depending on the goal and scope of the S-LCA. Some impact categories to consider are: (i) child labour, (ii) working hours, (iii) forced labour, (iv) living wages, (v) community infrastructure and (vi) health of workers. Additionally, other impacts associated with human rights, working conditions, health and safety of stakeholders, and cultural heritage can be included. Using these categories a CDA will then have to define a methodology for calculating impact indices for each of these impact categories with a scale based on the goal and scope of the S-LCA. In this phase of an S-LCA, a large share of qualitative data will need to be incorporated, since numeric information may be less capable of addressing the issues at hand. For example, in assessing the wages of the workers of a particular enterprise, numeric values can be used but additional information, such as compliance with minimum wage laws, etc., will be needed.
Impact Assessment	Uses the information collated in the life cycle inventory phase to assign impacts and assess need for intervention according to assigned impact categories.
Interpretation	Results of the impact assessment are interpreted to satisfy the goal and scope of the LCA.

Example of a social life cycle assessment (S-LCA) of cotton garments

While performing a social life cycle assessment of cotton garments, it is necessary to first understand the different life cycle stages involved in the production, consumption and disposal of a cotton garment. Once this is understood and diagrammatically represented as in Figure 2.10, one needs to follow the four phases of performing an S-LCA.

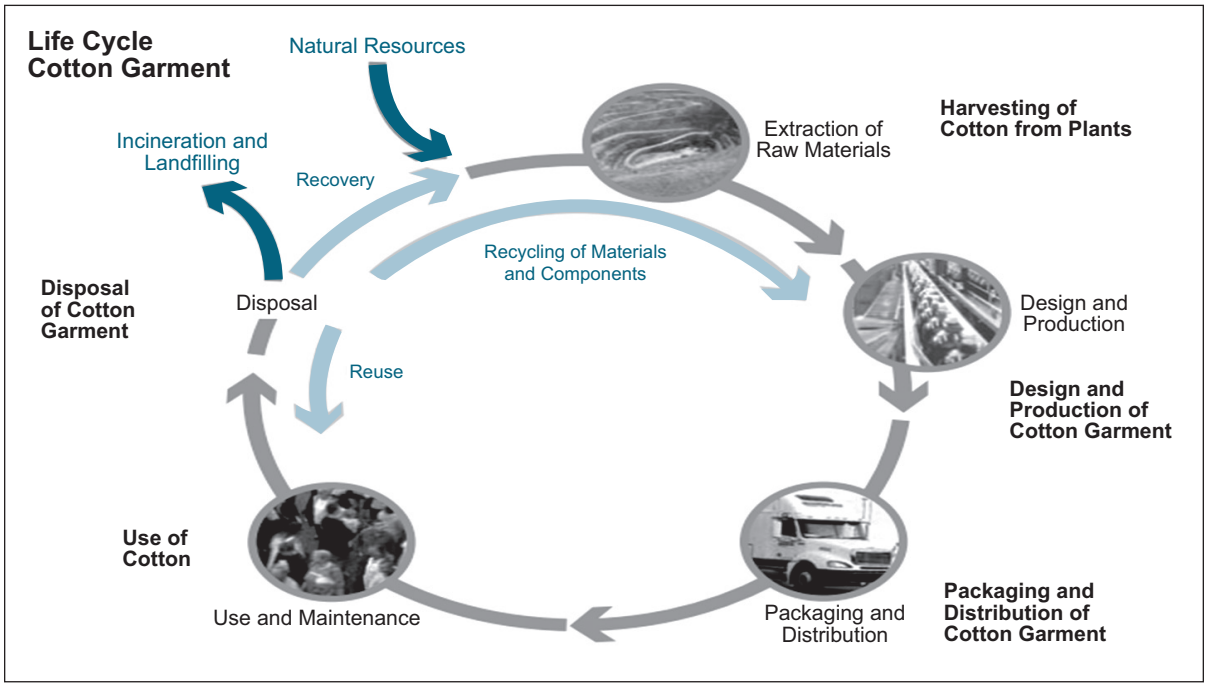


Figure 2.9 Diagrammatic representation of the life cycle of cotton garments

Table 2.10 Social life cycle assessment administration for cotton garments: an example

Phase	Remarks specific to the S-LCA cotton garment example
Goal and scope phase	The goal and scope of this S-LCA is to identify the life cycle stage in the life cycle of a cotton garment that has the maximum need for intervention so as to reduce social costs with regard to (i) child labour, (ii) working hours, (iii) forced labour and (iv) health of workers. See figure below for life cycle of a cotton garment.
Inventory analysis	In this phase an index is formulated for measuring the need for intervention with regard to the social issues defined in the goal and scope viz. (i) child labour, (ii) working hours, (iii) forced labour and (iv) health of workers. The scale of the index is 0 to 5, where 0 indicates no need for intervention and 5 indicate urgent/ maximum need for intervention. Data from the different life stages of the cotton garment is collected and the indices are computed.
Impact assessment	In this phase the results of the inventory analysis are plotted against the need for intervention in order to assess the maximum need for intervention with regard to the social issues defined in the goal and scope phase (see Figure 2.10).

Phase	Remarks specific to the S-LCA cotton garment example
Interpretation	In this phase results are interpreted. The results of this example S-LCA indicate that the production stage has the maximum social impact and the maximum need for intervention with respect to (i) child labour, (ii) working hours, (iii) forced labour and (iv) health of workers. Within this particular life stage (production stage of cotton garments) child labour is prevalent and there is the maximum need for intervention. The other life stages that show a need for intervention are: • Harvesting of cotton from plants • Packaging and distribution of cotton garments • Disposal of cotton garments • Design of cotton garments The results also show that during the use stage of the life cycle of cotton garments, there are no social impacts and no need for intervention with regard to the social issues defined in the goal and scope phase.

Table 2.11 Inventory analysis for an S-LCA of cotton garments

Life cycle stage → / Social issues ↓	Harvesting of cotton from plants	Design of cotton garments	Production of cotton garments	Packaging and distribution of cotton garments	Use of cotton garments	Disposal of cotton garments
Child labour	3	0	5	2	0	0
Working hours	2	0	4	2	0	1
Forced labour	4	1	2	2	0	1
Health of workers	3	1	4	2	0	4
Total	12	2	15	8	0	6

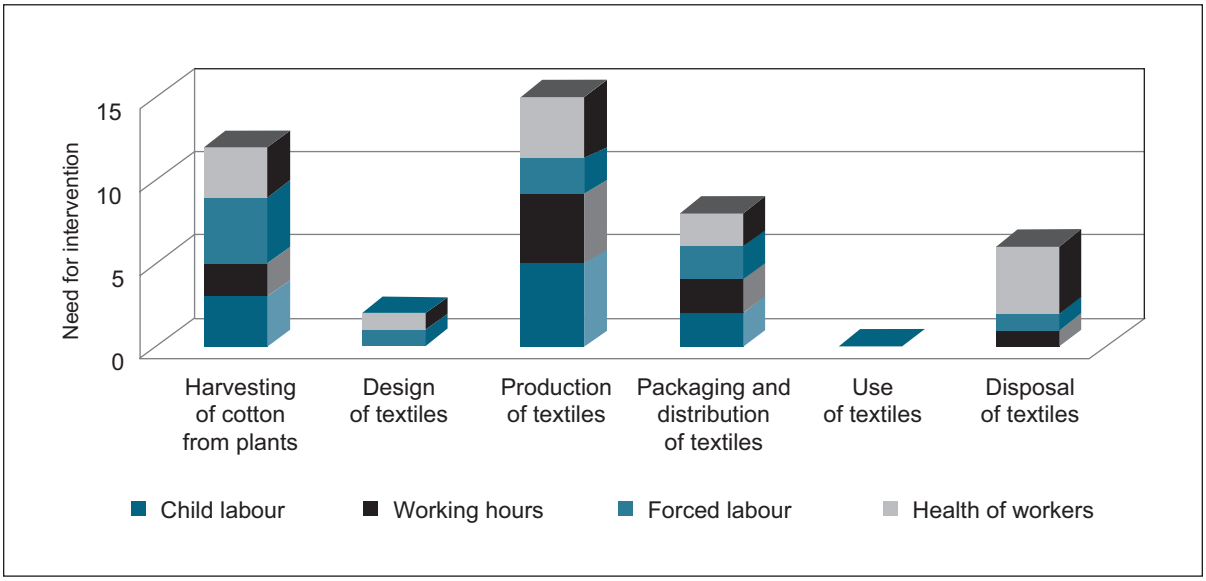


Figure 2.10 Graphical representation of the impact of the different stages of the S-LCA of a cotton garment

Action points

- Take stock of the number of core firms operating in the cluster
- Design a sampling system
- Draw representative sample of core firms
- Analyse the value chain of the cluster
- Articulate the possible social and environmental impacts of the cluster's production processes
- Identify opinion leaders and other knowledgeable persons and seek their opinions on SEE issues confronting the cluster
- Hold a consultative meeting with stakeholders to seek their involvement for articulating SEE issues
- Administer Cluster Responsibility Perception Based Score Card (CRPBSC)
- Compile the responses and analyse on the following lines:
  - The presence and severity of the SEE issue faced by the cluster. Diversity/divergence in the views of stakeholders/respondents on the particular issue
  - Activity undertaken to tackle/address the issue by the cluster stakeholders, individually or collectively, till date
  - The priority for action on the basis of the severity and lack of activity undertaken to tackle the SEE issue so identified
- Hold a dissemination workshop to share the findings; seek the opinion of the stakeholders on prioritisation of SEE issues and securing agreement to act on the same

6.7 Step VII: SWOT analysis

As a diagnostic aid, the CDA or CSR team should conduct a SWOT analysis that could lead to a better understanding of the criticality of SEE issues.

A typical model is noted below:

Table 2.12 Model for SWOT Analysis

S. No.		Current strengths and weaknesses		Future challenges and opportunities	
		Strengths	Weaknesses	Challenges	Opportunities
Themes					
1	The cluster's socio-cultural issues such as education, public health, health care, poverty, women & child development, underprivileged sections of the, environment, youth, old age and religion				
2	The cluster's value-chain SEE issues such as product innovation, technology, raw materials, new markets, wastage, occupational hazards, health and safety, pollution, productivity, unfair labour practices, child labour, corruption, infrastructure, skill development and training, bad practices in marketing and after sale services, transparency in truthful marketing and advertisement, proper and optimum utilisation of natural resources, use of restricted items and materials and other value chain BR issues				
3	The cluster's governance structure				
4	The cluster's BR behaviour compared with a benchmark cluster				

S. No.		Current strengths and weaknesses		Future challenges and opportunities	
		Strengths	Weaknesses	Challenges	Opportunities
5	The cluster's religious and personal value behaviour				
6	Response of cluster firms to BR requirements of large national/ international buyers				
7	The cluster's waste generation patterns and quantities as illustrated by a resource flow analysis (RFA)				
8	The cluster's social impacts as illustrated by a Social Life Cycle Assessment (S-LCA)				
Cluster stakeholders					
1	Industry associations/social networks				
2	Social audit BDS providers				
3	Workers/trade unions				
4	Technical institutions				
5	Local government departments working in the areas of social welfare and environmental issues				
6	Financial/funding institutions				
7	BDS providers for other cluster's main activities				
8	Structure and role of CSOs and NGOs in the cluster				
9	Ethical leaders				
10	The cluster's social and environmental regulatory structure				

6.8 Step VIII: Drawing a Cluster Map

6.8.1 What is a cluster map?

The cluster map is a diagrammatic representation of (a) types and number of stakeholders involved, (b) nature of linkages amongst the stakeholders and (c) strength of such linkages. The map drawn at the time when an agency starts working in a cluster is called the current cluster map. The cluster map projected by the agency at the conclusion of the project is called the future cluster map. The visual difference of these two cluster maps provides information about linkages that need to be developed, critical stakeholders who need to be created/implanted in the cluster, the links that need to be created thereafter, etc.

6.8.2 Why cluster maps?

The development of a cluster has multiple dimensions that focus on linkages among the stakeholders. Thus, the map helps in:

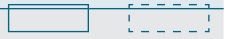
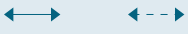
- Identification of the number and the nature of stakeholders relevant for shaping BR behaviour in the cluster.
- Analysis of the strengths of linkages amongst individual elements in each group of stakeholders and inter-group linkages.
- Demonstration of the importance of linkages to cluster stakeholders, related institutions and policy makers.

Creation or improvement of linkages among stakeholders can be the key to progress on any front. For instance, cluster firms need to have strong linkages with civil society organisations (CSOs) and the local community, in order to take care of child labour issues.

6.8.3 Tools used for drawing a cluster map

The tools used for drawing a cluster map from a BR approach are as given in the table below:

Table 2.13 Cluster map tools

A thin-bordered rectangular box for a group of stakeholders. The members in a group are almost similar and are not necessarily linked to each other.	
A thick-border rectangular box for showing a well functioning network of inter-related stakeholders; a dotted-border box for showing a poorly functioning network.	
A thick double-sided arrow to show a well-developed linkage between two stakeholders; a dotted double-sided arrow to show an under-developed linkage.	
Parentheses to show the number of stakeholders in a group/network.	( )

A cluster map indicating the various linkages and stakeholders that exist in a cluster is presented in Figure 2.3 below. It can be observed from the cluster map that if mechanisms to strengthen these linkages are created, the cluster as a whole can become more successful:

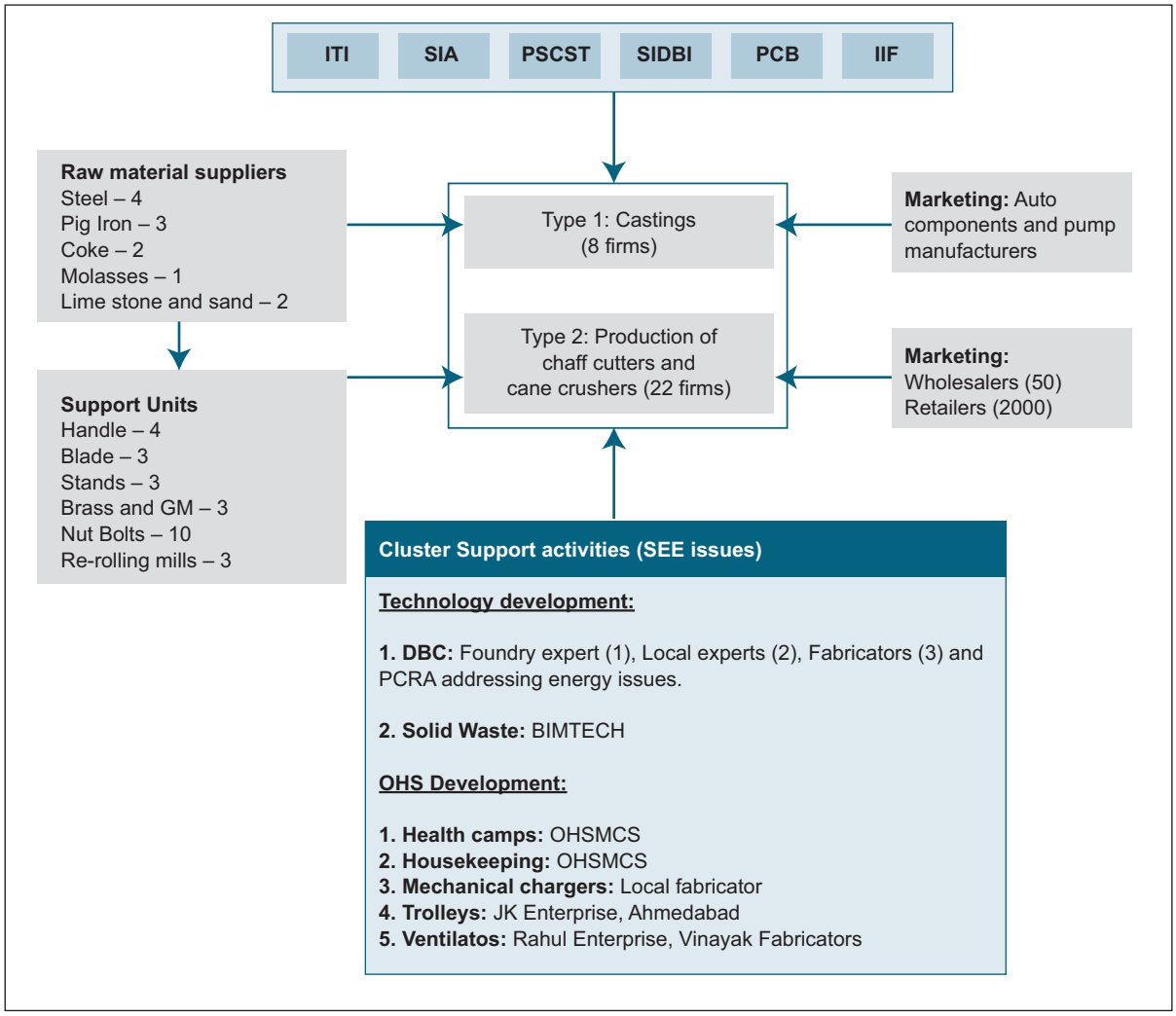


Figure 2.11 Cluster map of the Samalkha Foundry Cluster (including social and environmental stakeholders)

6.8.4 How to measure linkages?

While indicating the strength of the linkages among the cluster stakeholders, it is necessary for the CDA to look for the related indicators. Following is an illustration of the indicators of strong and weak linkages:

Table 2.14 Status of links between stakeholders

Strong	Weak
1. BR Relationship between a group/network of cluster firms and a group/network of support firm(s)	
Support firms are equal partners with cluster principal firms in addressing cluster BR issues related to society, the community and the environment in which they live. Support firms have developed a niche in a product/service and are competitive, human and environmentally friendly with services which are transparent/ethical.	Support firms do not consider BR to be any issue and there is no coordination between the them and principal firms for addressing SEE issues. Principal firms sub-contract/source a product from support firms to reduce costs, without considering whether minimum regulatory norms are being followed; what wages are being paid to workers; what are the working conditions, etc.
2. Relationship between a group/network of principal firms and a group of BDS provider or a single BDS provider	
Principal firms are regular users of the services of the BDS providers both for competitiveness and improvement in respect of social and environmental issues. BDS providers have specialisation. BDS providers are creating external service providers by creating and delivering new training programmes. BDS providers have grown in size and number.	BDS providers are rarely used. BDS providers do business with different types of firms. BDS providers are very secretive about their trade. BDS providers are not growing.
3. There can be similar types of relationships of the cluster firms with CSOs; government social and environment regulatory bodies; large buyers; social audits (analysing the gaps in social factors like labour standard, child labour etc.); ethical and social leaders in the industry and community; local institutions, etc., where both the cluster firms and other stakeholders are involved in different activities related to improvement of responsible behaviour of the cluster firms.	

Action points

- Take stock of the exercise of literature review and interactions with knowledgeable person taken up as a part of Step 1 above.
- List various 'actor groups' and their numbers.
- Look for indicators of the strength of the linkages among the stakeholders on the basis of observations and information gathered as per Step 1 above.
- Draw a cluster map focusing on linkages.

6.9 Step IX: Data analysis and conclusion

This section deals with the appraisal/analysis of the information collected as per the aforesaid steps in order to formulate the development strategy for the cluster.

Once the CDA (or the diagnostic team) completes the eight steps detailed above, he/she will be in a position to:

- Understand the characteristics of the cluster.
- Visualise the cluster's BR requirements.
- Assess how far the principal stakeholders of the cluster can contribute to socio-economic and socio-cultural development of the cluster.
- Pinpoint the strengths which can be built upon, and the weaknesses that need to be remedied.

Following are the components of the analysis:

6.9.1 Analysis on the basis of criticality of SEE issues

Based on the exercise taken up thus far as a part of diagnostic study, the cluster SEE issues (both socio-economic and socio-cultural) can be categorised as low or high from the point of relevance and criticality. The analysis can be reflected in matrix format as indicated below:

Criticality

		High	Low
Relevance	High	Quadrant 1	Quadrant 2
	Low	Quadrant 3	Quadrant 4

Quadrant 1: Criticality high x Relevance high
Quadrant 2: Criticality high x Relevance low
Quadrant 3: Criticality low x Relevance high
Quadrant 4: Criticality low x Relevance low

The cluster SEE issues as contained in quadrant 1 are the ones to focus upon.

6.9.2 Prioritisation of cluster SEE issues

The prioritisation of these SEE issues can be done at two levels:

- As perceived by agencies other than cluster firms
- As perceived by the cluster firms

The SEE issues which may be affecting the clusters can be broadly divided into two categories namely:

- Cluster socio-cultural BR issues: These issues may be related to education, health care, poverty, welfare of the under-privileged sections, old age, differently-abled people, etc. These issues may be important to the community but their relationship with cluster operations needs to be analysed.
- Cluster socio-economic BR issues: These BR issues may be related to wastage of scarce resources, occupational hazards, pollution, unfair labour practices, child labour, corruption, poor infrastructure, skill development and training, unfair trade practices, etc. These issues have direct relevance to cluster value chain operations and could impact the cluster's competitiveness.

It is not possible for the cluster to solve/bear the cost of tackling all the SEE issues related to the community around it. However, the cluster can select a few key SEE issues which, when taken care of, would lead to economic as well as social benefits. Accordingly, the issues could be prioritised as under:

Table 2.15 Prioritisation of economic and non-economic issues

Social benefits	Economic benefits for the cluster firms		
	Low	Medium	High
Low	1	2	3
Medium	4	5	6
High	7	8	9

The CDA has the following options:

- In the immediate term, focus on issues that have high/moderate economic impact – those falling under quadrants 9, 6 and 3 in the order of priority. Cluster stakeholders could be effectively prompted when tackling a given SEE issue that has economic payoffs.
- Once the trust levels among the cluster stakeholders is built up to a desired level and in the medium term, focus on issues that have moderate economic impact – those falling under quadrants 8, 5 and 2 in the order of priority.
- Once the trust levels as also social awareness among the firms is at its peak and in the long term, focus on issues that have high/moderate social impact – those falling under quadrants 7, 4 and 1 in the order of priority.

Following is an illustration of the Samalkha Foundry Cluster, wherein activities undertaken for development had both economic and non-economic impact in the cluster.

Table 2.16 Broad framework for workplace inclusiveness in the Samalkha Foundry Cluster

Activities	Benefits	
	Economic	BR
Cupola		
Improving operational practices	Coke savings resulting in increased profits estimated at Rs 2–2.5 lakh Payback under one year	Reduction in air pollution
Upgrading to DBC		
Housekeeping		
Defining and delegating responsibility for housekeeping to the workers Removing waste materials from the unit Immediately rectifying pieces of equipment which are not working Developing a periodic equipment maintenance plan	Time saving of labour	Better working environment
Charger/Conveyer		
Installing chargers in the units	Time and labour saving with an investment of around Rs. 1.5 lakh	Reduced drudgery Less chance of accidents Reduced exposure to heat
Semi-mechanisation of moulding		
Installing pneumatic moulding machines	Better and mechanised preparation of moulds Reduced rejections and reworks in castings	Reduced incidence of joint and back pain of labourers
Machine shop improvement		
Changing the layout of machine shops, which includes new and improved machining systems	Energy savings Reduced labour cost	Reduced dust, solving respiratory problems Less noise pollution Proper ventilation

Activities	Benefits	
	Economic	BR
Layout of the unit/reorganise the workplace		
Prepare product manufacturing flow-chart and explore the possibility of reorganising the workplace in a manner which facilitates smooth chain operations Classify the raw material and prepare a list of all the materials with quantity required for daily use and storage capacity Classifying raw materials and designating places close to locations of operation. This has to be done for different raw materials, finished goods, tools/patterns, rejected castings, etc. Developing a system of trolleys for easy flow of materials in the unit Display emergency signage	Increase average per ton productivity of workers Improve systems in the workplace Reduce confusion and save time of the workers Help in estimating costs	Safety: easy movement of workers reducing accidents Reduced labour drudgery Help the workers in emergency situations
Infrastructure		
Hygiene of toilets and washing areas Clean lunch areas Proper ventilation in the units with increased lighting and transparent sheets on the ceilings Exhaust ventilation systems Adequate illumination system using T5 energy saving lights in the workplace Installing temperature control measures (steel revolvers on the ceiling) for heat minimisation on the shop floor Tree plantation	Reduced level of absenteeism Reduction in rejection rate and better mould preparation Green foundry unit and better utilisation of vacant space	Clean and better working environment Less pressure on eyes Reduced heat stress

Activities	Benefits	
	Economic	BR
Equipment		
Ensuring fire extinguishers in the units First aid measures like first aid box Manometers Tea-spout ladles Separators Round jharnas Fettlers Manual pulleys at the site of sand mixing Mechanism for easy transfer of sand to the moulding section	Prevent man hour losses Improved castings Saving molten metal during pouring Labour saving — only one labourer required instead of three Cost savings	Safety in the workplace Easy pouring of molten metal, leading to less drudgery No exposure to heat
Labour related activities		
Training and workshops for labour on mould preparation, machining, melting etc.	Increase supply of labour in the cluster Skilled and trained manpower	Better and improved knowledge
Waste disposal		
Mechanism for proper disposal of solid wastes which are mostly waste sand and polluted water full of harmful gases		Better working environment
Soft training		
Creating awareness about health, insurance and cure of diseases Safety Clean and pleasant environment	Reduce attrition and absenteeism	Improved health of workers Reduction in accidents

While the above framework could be a starting point for prioritisation of the issues, it is necessary to check with the cluster firms and other stakeholders to understand the feasibility of acting on such issues. For each of them could have varying perceptions about the priorities. Other stakeholders like government ministries/departments, funding agencies and organisations working on social and environmental issues can rank these issues based on their focus areas and the criticality of issues from their view points.

A sample format for listing and prioritisation of SEE issues is attached as Annex VI.

Action points

- Understand the criticality of SEE issues.
- Prioritise issues as per the matrix.
- Visualise the cluster's BR requirements.
- Assess how far the principal stakeholders of the cluster can contribute to socio-economic and socio-cultural development of the cluster.
- Check the preferences/willingness of the cluster firms to act on the same.
- Assess the prima-facie feasibility of initiating related actions (in terms of capability of the firms and resources needs).

6.10 Step X: Developing a vision

Based on the exercise so far, the diagnostic team/CDA must be able to develop a broad vision, strategy and suggestive activities in order to achieve the vision. This section deals with the process of vision building.

6.10.1 What is vision building?

Through deliberations and consensus among the stakeholders, the cluster as a whole envisions the future – where we want to be at a future point of time in terms of exhibiting business responsible behaviour and enhancing competitiveness for long-term survival and growth. Following are the characteristics of a vision statement:

- The vision of a cluster describes what the cluster aspires to be in a span of five to ten years.
- It is an inspiring expression that highlights the core competence and sustainable competitive advantage of a cluster.
- It provides a broad guideline to all cluster stakeholders, indicating their role for accomplishing the vision.
- It may or may not include numerical goals in terms of either enhancing the competitiveness of the cluster or of promoting socially responsible behaviour. However, such aspirations may be implicit in the vision statement.

The vision statement of the hand-block printed textile cluster of Jaipur reads:

'The Hand Block Printed Textile Cluster of Jaipur will sustainably establish itself in the international and high-end domestic market with thrust on the eco-friendliness and ethnicity of

its products'. This has components reflecting enhancement of competitiveness of the cluster as also promoting 'business responsible' behavior.

6.10.2 Need for vision building in a cluster

If the aspirations, goals, and actions of cluster stakeholders are in synergy, the cluster vision can be achieved faster and with more sustainable results. However, the multiplicity of stakeholders, their conflicting aspirations and their only marginally overlapping agenda make it difficult to achieve a cluster vision. The rationale for the process of vision building is to generate synergy by working on the aspirations and priorities of the various cluster stakeholders. This often painstaking grassroots work is also extremely useful for creating a more receptive environment for SME support policies. It is often as an outcome of this feature that cluster development initiatives become well accepted by local policy makers who appreciate a change in the mindset of the cluster stakeholders.

In most underperforming clusters, a unitary cluster vision will not be available. For this reason, the CDA should start with provisional short-term objectives which can be shared by at least some sub-groups within the cluster. At the earliest stage of the intervention, such short-term objectives may not be fully in line with each other. However, as time progresses, each actor becomes more aware of the degree of interdependence among cluster stakeholders (e.g., entrepreneurs appreciate that service providers need to be upgraded to deliver better services). As a result it becomes increasingly possible to merge the different objectives into a unitary cluster vision, in which all agents can perceive fulfillment of their own roles and opportunities.

Finally, the emergence of an innovative vision provides an opportunity to revive relationships within the cluster, forging new links and reviving old ones. This is of crucial importance.

6.10.3 Steps in vision building

Prior to initiating the process of vision building, it is important that the CDA prepare the ground in terms of mutual trust since various groups of cluster stakeholders may be hitherto competing with one another and not in a position to deliberate together on a future vision. Trust building is achieved through formal and informal interactions that gradually help dissolve several real and perceived animosities amongst them. Trust building is not a onetime activity, but a continuous process.

There are five major stages in the process of vision building as under:

Stage 1 – Understand the stakeholders and their aspirations

The CDA should access data on the cluster, gathered as a part of selection process to acquaint himself/herself with the cluster scenario. Further the CDA should revisit the SWOT analysis to understand the aspirations of key stakeholders.

Stage 2 – Draft vision statement with long-term objectives and strategy

Before stimulating a debate among a wide audience in the cluster, the CDA should draft a preliminary vision, long-term objectives and strategy for the cluster, to be used as a reference point during his/her bilateral interactions with the stakeholders. This will enable the CDA to anticipate questions and reservations from the cluster. It is always a good idea to draft more than one vision statement and to identify a range of alternative strategies to achieve the same. This exercise, if broadened to include a balanced focus group of stakeholders, will greatly help remove doubts in advance.

Stage 3 – Stimulate debate among key cluster stakeholders

The CDA should stimulate a debate on the vision statement, taking particular care to include key opinion makers. A workshop (or a similar type of gathering) is useful to present the main findings of the diagnostic study, introduce international best practices (drawing on the experience of more dynamic clusters) and present perspectives from industry leaders and experts. This can help to provide much-needed food for thought, validate the vision statement and elicit strategy suggestions.

This stage may require quite some preparatory work to build a minimum of mutual trust among cluster stakeholders – they should at least meet and speak with one another. As previously discussed, trust is achieved through formal and informal interactions that gradually help to dissolve real and perceived animosities – the extent of mutual mistrust that can characterise under-performing clusters should not be underestimated! If this cannot be achieved for the whole cluster, the CDA should begin by identifying and working with sufficiently homogeneous sub-groups. In certain cases this phase may be completed within a few months from the end of the diagnostic study. In other cases it may take a couple of years.

Stage 4 – Formal construction of a tentative vision statement

This is a complex task and may require external expertise to construct a mutually agreeable common vision statement. In the process, the fundamental questions to be answered are:

- What to change?
- Why change?
- What are the benefits of changing?
- What are the dangers of allowing the status quo to prevail?
- How to cause improvements (change) in a sustainable manner?

This can be accomplished through a brain-storming session with a representative group of cluster stakeholders in order to:

- Take stock of key SEE issues confronting the cluster as a whole.

- Articulate undesirable effects (UDEs) of such issues, as at present and in the near future – the effects on sustainability of the cluster as such and its development.
- Searching for causal relationships between the UDEs and the operations of the cluster stakeholders.
- Deliberate on broad initiatives to tackle the cause of given SEE issues.
- Debate on the benefits accruing to the cluster by taking care of given SEE issues.

Stage 5 – Validate the vision statement and communicate it extensively

It is important to validate the vision statement with as many cluster stakeholders as possible. This may be done formally through a broad open meeting or meetings. It is helpful to ensure that local opinion makers take the centre stage and communicate the vision statement. Questions and doubts should be openly voiced and addressed by the CDA. Once the vision statement is agreed upon, it should be widely circulated for refinement and finalisation.

Box 2.2 Engineering cluster of Tiruchirapalli

The engineering cluster of Tiruchirapalli is one of the major SME clusters in India. It caters predominantly to the sub-contracting requirements of the mega power equipment manufacturing firms by employing its core skills in heavy fabrication, machining and timely delivery. Such firms include BHEL (which is the principal client), ONGC, ABB, etc.

Draft Vision: To emerge as a world class cluster in engineering and fabrication in the global market by the year 2007.

(By achieving a turnover of Rs. 9,000 million by the year 2007 above the current (2003) turnover of Rs. 2,500 million, using our core competency in the field of fabrication and machining, developed in the course of the past 25 years by more than 300 entrepreneurs).

Action points

- Take stock of the SEE issues.
- Accordingly, visualise the cluster's BR requirements.
- Formulate a tentative vision statement.
- Deliberate on the criticality of SEE issues, the need for action and the attendant benefits, through a brain-storming session with a representative group of cluster stakeholders.
- Subsequently, seek inputs for the vision statement.
- Accordingly develop a draft statement as a part of the brain-storming session.
- Refine the vision statement, share the same with the stakeholders, seek their inputs one more time and then finalise the vision statement.

CHAPTER 3
Trust Building and Social Capital

1. What is trust?

In clustering behaviour, **trust** *is a level of understanding among stakeholders that facilitates a joint initiative, ensuring that all relevant information for the same is shared and that appropriate efforts are made for achieving the cluster's objective.* It could be called functional trust to help distinguish it from with absolute or un-caused trust. The more complex an activity, the higher the level of involvement (sharing and dependence) of different stakeholders and the higher the level of functional trust required among those stakeholders.

2. What is social capital?

Since enterprises in the clusters often live in close proximity to each other for many years, an inter-relationship is established between the owners of these enterprises based on their shared values and the sense of belonging. These relationships have long-accepted practices, ways of behaviour, unwritten or formal agreements and codes of association. The strength and stock of these inter-relationships is called the social capital of the cluster.

Social capital as defined by Putnam (1995) as *'features of social organisation such as networks, norms and social trust that facilitates coordination and cooperation for mutual benefits.'* Relatively stable patterns of social interaction exist within communities that are useful for sustaining mutually beneficial collective action. Social capital is an asset, a functioning propensity for mutually beneficial collective action, with which communities are endowed to different degrees. Communities which possess a large amount of social capital are able to engage in mutually beneficial cooperation over a wide front. Communities which have low levels of social capital are less capable of organising themselves effectively (Fukuyama 1995; Putnam et al 1993; Putnam 1995, 1996).

Trust and social capital are therefore closely related to each other. Thus, accumulated trust turns out to be social capital. Without shared values, people cannot be expected to trust each other. For instance social capital could manifest itself in the presence of networks of cluster firms and other stakeholders and the efficacy of such networks.

3. Why focus on trust building?

Based on the understanding about clusters, it can be argued that enterprises can benefit from being located in close proximity to each other. Clustering benefits can be increased as an outcome of explicit joint action among the stakeholders, i.e., the principal firms in the cluster

and the range of entities playing supporting roles to aid the manufacture of the final products. The support roles can be provided by business service providers, banks, regulatory agencies, industry associations, policy makers, retailers, wholesalers, trade unions, etc. For instance, contributing to the cause of supporting a health initiative for the elderly in a community calls for a certain degree of comfort among the potential contributing entrepreneurs. If the cluster members have faith that the financial contribution provided by one among the group members will not be misused, the time that it will take to mobilise the resources will be relatively quick.

4. Factors impacting the trust level

Apart from the value system of the cluster stakeholders, a system of incentives and disincentives impact the trust level. The incentive could be in terms of tangible benefits which accrue to the stakeholders as a result of joint actions. For instance, cluster firms coming together to set up a common facility for skill up-gradation of the workforce is a win-win situation for all in terms of enhanced productivity. There could also be a disincentive that acts as a hurdle to initiating joint actions. For instance, negative experiences of such earlier initiatives could create a trust deficit. The following diagram depicts the factors impacting trust level:

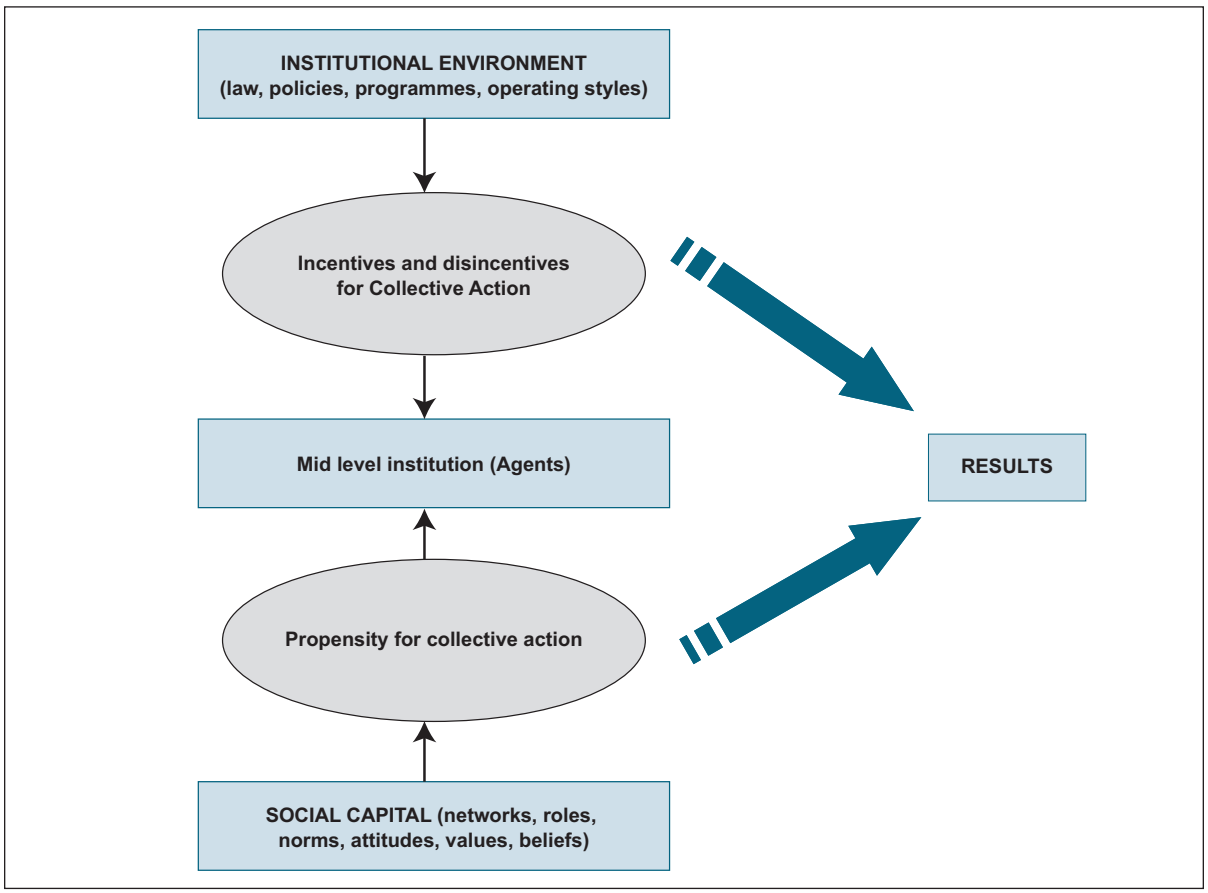


Figure 2.12 Factors impacting the trust level

(Adapted from 'Active Social Capital' by Anirudh Krishna)

The top level of the figure represents the formal institutions of the state and markets that generate incentives and disincentives for individual and collective action. These incentives and disincentives determine the quality and quantity of collective action. The broken arrow leading from incentives to results represents the view of those who rely more on structures, incentives and systems. The proponents of the social capital theory however believe that societal and environmental performance is shaped by the propensity for mutually beneficial collective action which exists within the cluster, community groups and local organisations. This bottom-up view is represented in the lower half of the figure.

High social capital helps produce better results in an environment with high incentives. However, incentives and propensities must be connected for obtaining best results – and institutions or capable change agents are required for making these connections. Middle level institutions, such as parties, unions, interest groups, industry associations, civil society organisations, knowledge organisations, BDS providers or CDAs, help the cluster stakeholders/firms to make connection with the State and market-driven agencies. When these institutions are weak and no other capable agency is available, social capital and institutional incentives remain disconnected and social responsibility performance suffers.

5. How to build trust?

For most development funding agencies, the creation of social capital is not considered a priority area because its net measurable outputs are less visible and less attributable than other forms of capital investment. For instance, the commissioning of a water treatment plant in a cluster, solving issues related to social codes of conduct by hiring a common BDS provider and forming of self help groups among workers for better social security are more visible than the focused joint actions that were often required to generate them. Therefore, activation of social capital requires investment of resources (time, capital and manpower) and some well-tested techniques.

A change agent in the shape of a CDA is often required to link oral traditions and personal and religious values to help increase the social capital of the cluster stakeholders.

Before moving on to the process of building trust, it is important to understand the different parties involved and the purpose for which trust needs to be built. The trust can be between:

- entrepreneurs
- entrepreneurs and the CDA
- entrepreneurs and institutional representatives
- different groups/institutions

depending on the particular issue and the degree of trust needed to catalyse joint action.

It is however erroneous to presume that the current level of trust would be zero and needs to be created afresh with the efforts of a CDA. More often than not, people in the cluster meet each other and know each other, but for purposes other than business and solving common problems relating to social and environmental aspects of the businesses. Therefore the issue at hand is usually about strengthening the ties for the intended purpose rather than creating them fresh.

In a cluster, the level of social capital can be enhanced by:

- Encouraging dialogue between ethical leaders of the cluster for addressing their BR issues.
- Promoting forums for dialogue among cluster stakeholders by reactivating networks/associations.
- Encouraging cross-fertilisation of ideas via the umbrella associations of different cluster stakeholders.
- Generating awareness about the advantages of joint action through the cluster.
- Defining the rules for reaping the advantages of collective action and disincentives associated with breaching common action.
- Enabling cluster leaders to conceptualise and implement joint initiatives.

Following are some of the tips for the CDA to act towards trust building:

Revisiting the assumptions

If the CDA perceives a total lack of motivation among the stakeholders engaged in joint action, it would call for re-checking the fundamental assumptions, such as:

- The perceived cost of working together may be too high compared to the advantages thereof; thus leading to an adverse risk-return ratio. Such perceptions may be due to improper communication leading to improper understanding of costs and benefits.
- The incentives available for fostering collective action could be too low to spark enthusiasm.
- The negative baggage of mistrust and failures in collective action in the past could weigh too heavily against any suggested joint actions.

Demonstration effect of positive experiences

If the local stakeholders have a positive experience of working together they are likely to think of new ways of collaborating to exploit new opportunities and meet challenges. On the other hand, negative experience will lead them to avoid any new options for collaboration. In such a situation, positive experiences of other clusters can be used effectively to demonstrate and help them explore options.

Considering social capital building as an organic process, there are obvious ups and downs that one has to tackle, as they come along the road. In certain circumstances where resolution of a long standing conflict is not feasible they have to be managed, if considered necessary, to foster collective action. Building trust behaviour amongst principal stakeholders by the CDA can be based on appreciation of what is done well by them. Accusing the cluster stakeholders for their lack of engagement with SEE issues could be fatal for rapport building.

The CDA can stimulate collective action through pilot activities with small successes. This could lead to enhanced desire to initiate joint action and confidence in feasibility of such actions. This, in turn, could prepare the stakeholders for exploration of options for tackling more challenging SEE issues.

6. Indicators of trust building

There are several formal and informal indicators that manifest trust levels. The formal indicators could be the number of networks created; number of persons involved in formal institutions to take up collective action; amount of resources formally invested in common ventures etc. It is however not feasible to measure trust only by formal indicators. The degree of informal interactions, extent of information shared and number of informal groups could also serve as indicators of trust building. Noted below is an illustrative list of indicators:

- Cluster principal stakeholders start having formal or informal interactions on the intended subject matter during social and official gatherings.
- Number of ethical leaders in the cluster who discuss and take up measures for social responsibility issues.
- Creation or revival of focused networks/associations in the cluster to take up cluster BR issues.
- Increase in the number of BR activities being taken up on common and individual platforms.
- Increased level of participation of members in different networks/associations in decision making and execution.
- Increased level of stakeholder commitment; willingness to commit their resources, financial or non-financial, for common activities.
- Stronger cooperation among the stakeholders resulting in a greater and more transparent flow of information.

The said indicators could be applied to judge the impact of development interventions at regular intervals once the CDP is under way. However, prior to commencement of the planned interventions, the CDA needs to assess the trust level through 'Cooperation matrix of social capital' (Refer to table 2.7).

7. Breakdown of trust

Despite a seemingly good progress made over time, trust may often break down due to several reasons within or outside the control of the CDA. Trust building is not a linear process but an organic one susceptible to altered inter-relationships and varied external incentives/ disincentives. The CDA should be aware of the reasons that may lead to breakdown of trust as under:

- Communication failures
- Incompatible task/goals
- Conflicting perceptions
- Role conflict and ambiguity
- Ego problems, status struggles or threats
- Competition for resources
- Role incompatibility

Situations of trust breakdown require deft handling of the situation, seeking support from neutral intermediaries, if necessary and feasible. Some of the options available with CDA are:

- *Opening communication:* Organising face-to-face meeting of the relevant entities for the purpose of identifying and resolving the matter by open discussion.
- *Expansion of resources:* Increasing the resources to meet the altered needs of the group members.
- *Deferment:* Issues that are contentious in nature, leading to possible breakdown of trust could be deferred. This will be in the interest of promoting joint actions to tackle BR issues. Once the trust is established in the process of tackling generally accepted issues, the CDA can then take up the deferred issues.
- *Compromise:* Finding out a median solution that may partially meet the requirements of conflicting individuals/persons. This could also mean re-working the rules for cooperation.
- *Enabling authoritative command:* Imposing a solution by the use of power and status of someone who cannot be avoided.
- *Altering the structural variables:* Changing the structure of the group and/or the interaction patterns of the relevant individuals/entities.

CHAPTER 4

Formulating the Cluster Action Plan

1. What is a cluster action plan?

The diagnostic study of a cluster leads to the following:

- Analyse the business segment in which the cluster operates, particularly trends in the segment's markets, technologies, and competitive position.
- An appraisal of the MSME's typical enterprise strategies.
- Nature and strength of business relations among core firms within the cluster with other enterprises.
- An appraisal of the strengths of support institutions and apparent gaps in the services provided by them to the MSMEs in the cluster.
- Identification of economically viable options for the cluster to valorise, reuse or recycle industrial non-hazardous wastes – from the resource flow analysis (RFA).
- Detection of the socially relevant issues that need maximum intervention for reducing adverse social impacts of production and consumption in the cluster – from the social life cycle assessment (S-LCA).
- Assessment of other life stages associated with the product manufactured by the cluster which have high adverse social impacts and need critical intervention – from the social life cycle assessment (S-LCA).
- Diagnosis of the challenges and opportunities.

In addition, with reference to SEE issues, the study leads to:

- An assessment of the SEE issues confronting the cluster.
- Analysis of the same to understand their impact of the sustainability and growth of the cluster.
- Current level of engagement of the cluster stakeholders in tackling such issues.
- Potential of the cluster stakeholders for affirmative action to tackle SEE issues.

Thus, subsequent to the diagnostic study, it is possible to identify and formulate strategic objectives that need to be realised in a given time frame to address the social and environmental issues of the cluster.

The cluster action plan refers to the systematic approach for formulating such development objectives, identifying interventions necessary to fulfil the same, specifying the time frame for implementation, allocating material/human resources and, in short, facilitating effective implementation of the planned activities.

The components of the action plan could fall in three domains as under:

- Those interventions that benefit the cluster from the economic angle and involve economic payoffs to the core firms (domain 1 in the figure below). This has been the mainstay of CD programmes.
- Those interventions that do not necessarily get reflected in economic benefits to the cluster but help in tackling SEE issues emerging out of the operations of the core firms (domain 3 as in the figure below). Such actions amount to pure philanthropy and hence are difficult to promote, given the economic realities of the business.
- Those interventions that tackle SEE issues and in the process, involve economic payoffs to the core firms (domain 2 in the figure below). This is the area of overlap where economic interests are served in the process of tackling SEE issues. At the initial stages of promoting socially responsible behaviour, it is suggested that the interventions be focused on this dimension.

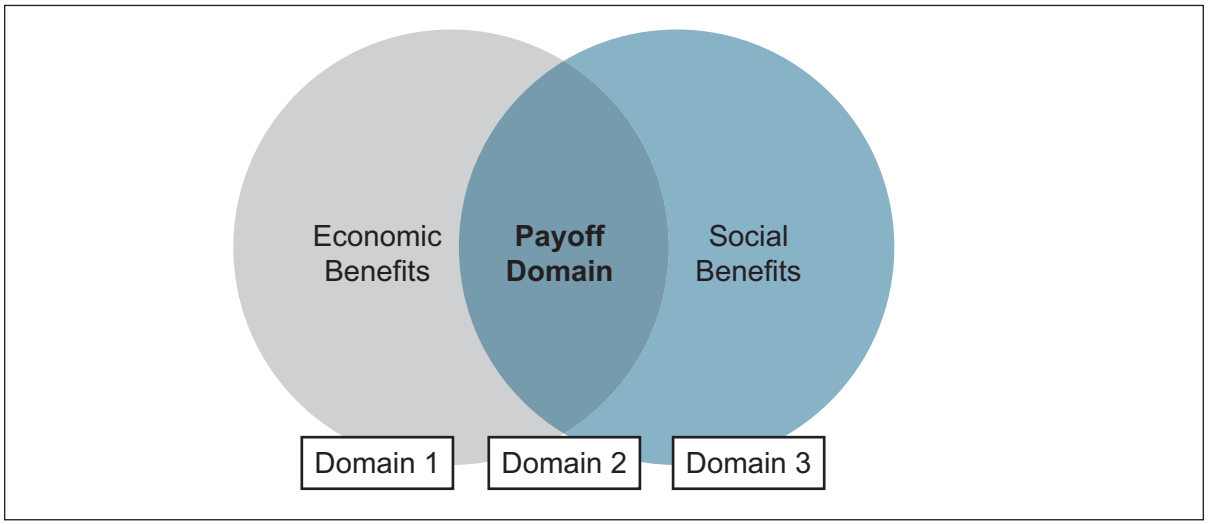


Figure 2.13 Illustration of the payoff domain

2. What is the need and who are the users?

Given that there could be unfelt needs, especially with reference to SEE issues, it is not necessary for cluster development to be demand driven. At times, a cluster action plan may therefore include such activities which induce the cluster towards a direction that the local groups of stakeholders may resist. Industry associations/principal firms can also show resistance to systematic ways

of identification of the cluster's main SEE issues and the agenda to tackle them; more so if the issues go against their immediate or short-term interests. In addition, there may be competing associations with conflicting interests with regard to activities to be pursued and resources to be shared. Thus, the cluster action plan is not meant for individual stakeholders and industry associations. However, a summary of the action plan and details of given segments could be shared with all the cluster stakeholders.

While the action plan, in its entirety, is meant for the implementing agency and the CDA, social sector stakeholders could apply the same as an input in implementing their schemes as per the brief below:

- For the implementing/funding agencies:
  - To formulate budgetary requirements for carrying out all the developmental initiatives.
  - To facilitate allocation of funds for a given activity.
  - To seek financial support from competent authorities.
  - To effect proper coordination among various agencies engaged in implementing a given activity.
  - To assess and monitor the progress of programme implementation and output.
- For the cluster development agent:
  - To provide a clear-cut road map for execution of different activities in the cluster.
  - To facilitate allocation of resources internally among the competing and complementing initiatives.
  - To effect proper coordination among various agencies engaged in implementing a given activity.
  - To assess and monitor the progress of programme implementation and output.
- For social sector stakeholders: Ministries/departments dealing with social and environmental issues could find the action plan useful as under:
  - To identify initiatives which fall within their domain and incorporate them in their local area action plan for allocating resources.
  - As a corollary to the above, to dovetail their standard development schemes with the related BR initiatives of CDP.

3. Who prepares the cluster action plan?

The CDA is the focal point in the process of the formulation of the action plan. However, social sector stakeholders also have a role to play in the process as indicated overleaf:

3.1 Role of the CDA

The action plan for development of the cluster is to be shared with all the key stakeholders. It is then that there is acceptability for the initiatives and the chances of the outcome being on the expected lines are high. Thus the action plan is best prepared by the stakeholders themselves. However, they may not possess sufficient expertise to translate the development needs into specific activities. Thus the process of the preparation of the action plan is a joint exercise involving all the stakeholders or their representatives. The CDA acts as the facilitator to:

- Bring together all the stakeholders.
- Deliberate on the SEE issues as also the commercial ones confronting the cluster as a whole.
- Encourage stakeholders to generate options for tackling the issues as also for tapping opportunities.
- Wherever necessary, prompt them to arrive at specific activities.

Once the list of activities are arrived at, the CDA integrates the same into an implementable action plan with clear cut objectives; related activities; defined deliverables together with allocation of responsibilities; resource requirements and their possible sources and the time frame for implementation.

3.2 Role of social sector stakeholders

Given the dual objectives of tackling SEE issues and, in the process, bringing in economic benefits to the cluster, it is important that non-economic stakeholders (ministries/departments and autonomous institutions), dealing with labour welfare, social welfare, health, education and environment, are involved in the process of formulating and implementing the cluster action plan. The following roles are envisaged:

Prioritising SEE issues

In the process of prioritising SEE issues that need to be tackled, the CDA could seek expert assistance from relevant social sector institutions. For instance, in a foundry cluster there could be several issues such as air pollution, health of the workforce being affected due to exposure to heat and fumes, opportunities to reuse non-hazardous wastes, safe disposal of toxic waste and the like. The Pollution Control Board could give inputs to the CDA on the degree of seriousness of each such issue so that these issues could be appropriately prioritised.

Identifying optional alleviating measures and making a choice

The CDA or even other professionals working for the IA may not possess necessary expertise in identifying possible measures to tackle a given issue. For instance, in a foundry cluster,

minimising air pollution could involve a variety of options such as change over from coal to a more eco-friendly fuel, change in smelting technology, use of dust filters in chimneys, etc. The Pollution Control Board or organisations working in the environmental sector could give inputs on possible options and help in evaluating the same.

Budgeting

The expertise of a given social sector institution could be an input to prepare the budget for a given initiative. For instance, reducing the incidence of alcoholism among the workforce could bring in social benefits (to the family and to the workers themselves) and at the same time economic benefits to the core firms (in terms of reduced incidence of absenteeism). An NGO that deals with de-addiction issues could provide inputs to formulate a plan and work out related costs.

Selling ideas

In a situation where economic payoffs of a given BR-related initiative are not easily comprehendible, the social sector stakeholders could be a crucial source of support to the CDA. For, on the strength of their specialisation and credibility, they could sell the idea to cluster stakeholders. For instance, the idea of launching a de-addiction programme could be sold to the core firms by an NGO with a relevant track record and the concept linked to their economic benefits.

Strategic alliance

While formulating the action plan and prior to its implementation, the CDA may consider the need to partner with a specialised institution to implement certain activities that call for expertise and resources not at the disposal of the IA. For instance, in order to improve access to healthcare for the workforce and their families, regular health camps could be required. The CDA could then partner with a local NGO, experienced in the field, so that a permanent institutional arrangement is put in place to improve access to health care.

4. Components of a typical action plan

The cluster action plan can be structured as under:

4.1 Objective

An objective is an intended outcome or goal that needs to be defined at the design stage of the action plan. For instance, providing quality health and safety to the workforce could be one of the objectives. Activities like provision of safe drinking water, providing personal protective equipment, placing fire safety equipment in the workplace, etc., are the activities that can help achieve this objective.

4.2 Interventions

The plan will consist of interventions translated into activities to be taken up in the short, medium and long term to achieve the stated objectives. For instance, one of the objectives could be to enhance the quality of life of the workforce, another objective could be to increase economic profit by reusing or recycling non-hazaradous waste.

Table 2.17 Listing of activities based on objectives

Objective	Intervention	Major activities
To enhance the quality of life of the workforce	Improve access to health care	Organise awareness camps on key health issues (joint action by core firms) Group medical insurance
	Educate family members of the workforce	Adult literacy programme for spouses of workers (through the local NGO) Instituting scholarships for meritorious children of workers
To increase economic profit to the industries by reusing or recycling non-hazardous waste	Quantify all the wastes generated by the cluster using a resource flow analysis Test for the concentration of hazardous material in these wastes to ensure they are not above the limits in the Hazardous Wastes (Management, Handling and Transboundry Movement) Rules, 2008 http://envfor.nic.in/legis/hsm/HAZMAT_2265_eng.pdf	Visit and quantify input and output flows in a few representative industries in the cluster and extrapolate the results to form a resource flow analysis (RFA) Send samples of wastes to testing labs to test for concentrations of hazardous materials
	Make a list of possible options for reusing non-hazardous wastes that are generated in large quantities	Identify buyers for the non-hazardous waste If buyers do not exist, calculate the investment, return on investment and business model for the association or any other cluster stakeholder to set up an industry to reuse the waste generated by the industrial cluster

Objective	Intervention	Major activities
To identify social issues that need urgent intervention in the entire life cycle of the product manufactured by the cluster	Perform a social LCA of the products of the cluster	Organise a stakeholder meeting to identify important social issues that the stakeholders feel need to be changed for the better, during the entire life cycle of the product manufactured by the cluster
		Define the goal and scope of the S-LCA, collect data from the cluster to compile an index that will help measure social impacts in the cluster over the entire life cycle of the product; interpret the results of the S-LCA to identify social issues that need urgent intervention during the entire life cycle of the product manufactured by the cluster

A menu of the BR-related activities is depicted in Annex VII.

4.3 Scheduling

It is important that the cluster action plan be superimposed on a time frame. Every activity of the cluster action plan should be allotted some time period with indications about commencement and completion times.

4.4 Tentative Budget

The budget requirements for development initiatives could be classified as under:

Funds required by the implementing agency to cover:

- Professional fees, if any, normally charged by the agency for such initiatives
- Organisational overheads
- The cost of offering the services of the CDA.

Funds required by the CDA for meeting day-to-day operational expenses:

- Travel costs
- Board/lodging expenses
- Other expenses including stationary, photocopying, communication and the like, not directly related to a given intervention.

Cost of 'soft' interventions such as capacity building of local institutions to support the planned interventions (irrespective of whether the activity is carried out by the implementing agency/CDA or other institutions).

Cost of 'hard' interventions (for example, setting up of a common effluent treatment plant, or a facility to reuse/recycle non-hazardous wastes generated by the cluster).

4.5 Resources

Once the proposed development initiatives are spelt out and tentative budget arrived at, it is necessary to take stock of resources to implement the action plan. There are two main resources as under:

Knowledge

It is expected that the implementing agency has in-house resources to take up the action plan and implement cluster development initiatives. However there could be instances where in-house expertise of a specialised nature is not available with the implementing agency. For instance, as a part of the initiative to the improve quality of life of the workforce, one way is to offer vocational training to teenage children of the workforce to enhance their employability within or outside the cluster. The implementing agency may have to tie-up with a local technical training institution to design and implement tailor-made training programmes. Thus, it is necessary that:

- Knowledge resources that need to be mobilised from elsewhere have to be identified for each of the proposed interventions.
- Options for procuring such resources to be spelt out.
- Cost of acquisition of the same to be estimated and included as a part of the budget.

There are a variety of knowledge/resource organisations offering assistance, mainly in terms of expertise, for a variety of initiatives. A compendium of the same is placed at Annex VIII.

Financial resources

Financial assistance for cluster development is available from a variety of sources. However, these can be accessed as a part of the overall development plan for the cluster rather than for stand-alone interventions. Unless covered by a comprehensive cluster development programme, activities such as trust building amongst SMEs and related stakeholders and institutional capacity building (whether for corpus formation, training or for feasibility study for infrastructure requirements) are those that are not funded by agencies. Further, funding is routed generally through the implementing agency.

4.6 Implementation and coordination

Considering that the development process involves a variety of activities that could possibly be implemented by several agencies, there is a need for coordination to avoid duplication of efforts and facilitate synergic effects. For instance, a watershed development programme could be taken up by an NGO. Measures to treat effluents could be initiated by the local industries association but implemented by a technical organisation; the two agencies need to coordinate their activities for effective performance. A BDS provider and even individuals could be implementing a given activity depending on their expertise.

Generally, the CDA is vested with the task of coordinating all the development initiatives through the CFP[26] platform.

4.7 Time frame for the cluster action plan

Most cluster development initiatives have a duration of three to five years, whether with a focus on economic development issues or SEE issues or both. Clusters with low level of engagement with BR need longer duration for interventions. Cluster action plans are usually detailed for one year with lesser details for the remaining years. Thus an action plan of three to five years will have two components: overall development plan for the entire duration and detailed yearly action plans with short term, medium term and long term objectives:

- Short-term action plans may focus on 'low hanging fruits' with a time horizon of a few weeks, generally less than six months. The likely activities may be organisation of exposure visits to other successful clusters, awareness creation on health issues, introduction of cleaner technology among the local enterprises and the like. Activities that could produce visible and measurable results in a matter of weeks/months have a demonstration effect in the sense that the cluster stakeholders see the benefit of the development approach and are hence more likely to extend their support to other interventions, which are time-consuming and resource-intensive.
- Medium term actions are planned generally for several months ranging from say six to eighteen months. Within a medium term focus, pilot activities may be undertaken to test input-output efficiency and the responses of the relevant cluster stakeholders. This could then lead to setting up scaled-up models for replication. For example, t a few firms may, after an exposure visit decide to adopt a cleaner production technology. Over a period of six to eighteen months, other enterprises may decide to negotiate bulk buying of necessary equipment or technology, which may lead to the entire cluster adopting cleaner production methods.

26 The cluster level focal point (CFP) is related to the cluster being developed and hence it is a time-bound institutional arrangement to be set up once a given cluster is targeted or development. The focal point could be led/chaired by the District Collector and could include district level officials from various departments and representatives from public bodies, funding institutions, local NGOs and the representative body of cluster firms. The focal point shall cease to function on conclusion of the CDP.

- Long-term action plans are for the period of 18 months to 36 months and beyond. Such activities may involve setting up of common infrastructure to deal with common effluent discharge; undertaking common plantation to ensure a renewable source for the regular supply of wood; taking up long-term research and development for developing systems for reduction of energy consumption, etc.

An illustration of the action plan of an organisation called 'Cluster Development Services' (CDS) in Sponge Iron and Allied Industries Cluster of Rourkela (Orissa, India) is depicted in Annex IX.

4.8 Deliverables

This part of the action plan will define the following:

- Outcome of the entire cluster development initiative to be quantified to the extent feasible. For example, the output of an awareness workshop on hiring of physically challenged persons can be judged from the number of intended participants present during the workshop, their level of involvement and agreement/disagreement with the subject matter and their initial reaction in terms of adopting this practice in their organisation.
- Time-frame for each such outcome to fructify.
- Individuals/institution/agency responsible for a given outcome.
- Beneficiaries of each intervention.

5. Sharing the action plan

Ideally, all the key stakeholders are required to be involved in the process of formulation of the action plan. However, certain social sector stakeholders may not be involved in the process, due to issues such as their mandate and the absence of a local representative in the place where the cluster is located. While it is for the CDA to interact with them on an individual basis while formulating the action plan, it is advantageous to share the complete plan with such stakeholders as a group. The advantages are:

- Seeking an opportunity to mobilise support for implementation of the plan.
- Using peer pressure for encouraging the passive stakeholders to contribute effectively.
- Exploring the possibilities of dovetailing the social sector schemes to the related CD initiatives.

At the cluster level, the CDA could share the action plan with the stakeholders through a specially convened meeting of the cluster-level focal point. Care needs to be taken to invite all social sector stakeholders relevant to the initiatives proposed as a part of the plan.

At the state level, the IA needs to take the initiative to convene a meeting of the proposed focal point or, pending its formation, a support group that includes senior state-level officials of all key stakeholders, including social sector stakeholders. During the meeting, the action plan, including the rationale and the deliverables, needs to be shared with an emphasis on the potential roles of the participating institutions. Here again, the scope for tapping resources available with social sector stakeholders for implementing the action plan has to be explained and commitments sought.

6. Characteristics of an effective cluster action plan

The implementing agency should ensure that the action plan conforms to certain key quality parameters as under:

6.1 Ownership

When the action plan is facilitated by the CDA based on his/her understanding of the cluster, the proposed initiatives could be appropriate for the situation. However, the stakeholders should not identify themselves with the ideas contained in the action plan; since the the ideas may then be considered as coming from an outsider (CDA). It is therefore essential that the CDA involves all the stakeholders as indicated in para 3 above.

6.2 Transparency

Every detail of the action plan need not be known to every stakeholder. Otherwise, there could be uncalled-for debate, leading to demands on the CDA to do the convincing act. However, the ownership of the action plan should ideally rest with the stakeholders. Therefore, major activities of the action plan are to be shared with all the stakeholders with details being shared 'on demand' and with relevant partners. This could well be accomplished through a seminar of all the stakeholders addressed by the CDA once the action plan is finalised.

6.3 Pragmatism

While framing a cluster action plan, the CDA may often become over-ambitious in addressing the cluster SEE issues. Also, some of socially conscious stakeholders may end up with grandiose ideas. For instance, having understood the negative impact of child labour on the community and possibly on export market prospects, the CDA and/or some stakeholders may decide to banish the same in a span of months or even weeks. While this is a laudable objective, the income from the child labour may be the only source of livelihood for some families. Thus, the time frame for abolition of child labour has to be appropriate enough to allow helping of families with alternate means of livelihood.

An ambitious action plan may lead to failures; thus reflecting poorly on the CDA and the institutions involved. Any such failures, especially during the initial stages of engagement with cluster, may lead to a trust deficit, affecting the entire action plan.

The action plan should therefore be realistic in the sense that a step-by-step approach is taken with simpler initiatives being implemented first to demonstrate success, build trust and build local capacities to then undertake more complex activities.

The action plan would be more realistic and hence doable once the following are taken care of:

Demand: The need for a given initiative has to be explicit to gain acceptability. Thus, the majority of the activities should be demand-led or start with a perceived need. However, certain SEE issues could be 'unfelt' and hence any related imitative may be perceived as avoidable. Further, some stakeholders may either overlook possible opportunities or decide in favour of short-cuts with subsequent long term negative effects. These notwithstanding, the CDA may need to include some that address unfelt needs. It is just that the CDA has to walk the extra mile to help the stakeholders understand and realise the importance of such needs and related initiatives.

Resources: Material, financial and human resources required for implementing a given initiative have to be identified and possibilities of procuring the same need to be assessed before freezing the action plan. For non-availability of resources for a given activity could jeopardise implementation with spill-over negative impact on the entire action plan.

Critical mass: For an initiative to be sustainable there has to be a critical mass. For instance, there could be just two or three firms among the many responsible for water pollution. One has to examine whether it is economically feasible to commit resources for installing a common pollution treatment plant.

Linking BR activities with business benefits: To the extent feasible, the CDA has to clearly outline the commercial benefits of the proposed initiatives. In certain cases, such benefits could be obvious but not so obvious in certain other cases. Due to short-sightedness or lack of awareness, the stakeholders may not be in a position to perceive the commercial benefits of certain BR initiatives. For instance, use of cleaner production technology may not be a priority of the core firms. Over a period of time, pressures from the community and the relevant law enforcement agency may compel them to look for such technology; when it is too late. Thus, for such initiatives to gain acceptability, it is necessary for the CDA to establish their linkages with the long term commercial benefits.

Inclusion of spin-off activities: Fostering responsible behaviour in a cluster is based both on perceptions and also objective analysis by cluster stakeholder behaviour. It is often seen that the process of activity execution may lead to new paradigms and creation of new conditions that include opportunities and problems. A CDA therefore needs to remain alert to seek such eventualities during the implementation of the action plan. This could mean adding on to the list of initiatives not originally planned. A retention of almost 70% of the planned activities and replacing the other 30% activities with new options has been experienced over the years.

Transfer of governance: At the initial stages of the development process, the implementing agency could take on the lead role of initiating and executing the planned activities. However, for the process to be sustainable, the stakeholders in the cluster should assume increasing

responsibility for implementation. This is possible when they have the requisite capacity (in terms of expertise) to do so. Thus, any action plan should provide for capacity building of stakeholders in relevant areas.

Formulating Cluster Action Plan:

Action points

- Focus on those interventions which tackle SEE issues and in the process, involve economic payoffs for the core firms.
- Ensure that the action plan provides for specific, time bound and measurable outcomes.
- Involve the relevant social sector stakeholders during the process of the formulation of the action plan.
- Take advantage of their expertise in identifying and prioritising SEE issues to be tackled as also in generating options for tackling such issues.
- Identify the possibilities of strategic alliance with relevant institutions, where the IA does not have the expertise/resources to detail and implement a given initiative to tackle a BR-related issue.
- The action plan has to be shared with all the relevant stakeholders including the social sector stakeholders, at the cluster level as also at the state level.

CHAPTER 5

Resources Mobilisation and Implementation

1. Introduction

This chapter deals with the nuances of the implementation of the action plan to promote socially responsible behaviour among the cluster stakeholders. In the process, the following are covered:

- Levels of implementation
- Importance of a team approach for implementation
- Mobilising resources
- Up-scaling the development initiatives

2. Levels of implementation

The cluster action plan comprises several activity groups such as setting up of common facility centres, installing welfare measures for the workforce in the cluster as a whole, offering access to basic education for the children of the workers and the like. These could be implemented by different local institutions depending on their areas of expertise. These institutions may be industry associations, industry networks, BDS providers or NGOs.

The CDA's basic objective is to synergise the strengths of the different relevant cluster stakeholders and their supporters to help facilitate implementation. The CDA can be responsible for initiating an activity, but completing the same often falls on the various stakeholders who together undertake completing the activity.

Thus there are essentially two levels of implementation as under:

- The entire CDP involving diagnostic study, action plan, implementation support and M&E.
- Components of the action plan to be implemented by cluster stakeholders and other institutions servicing the cluster (for instance, adoption of eco-friendly technology as an activity is implemented by cluster firms with the support of a technical expert, where the CDA's role is that of a facilitator or catalyst).

3. Need for team approach

3.1 More than one CDA?

It is important to recognise that if the cluster is big, with several stakeholder groups across different interests, sometimes overlapping and conflicting, it may call for more than one person to steer the cluster-wide agenda. Tackling the BR agenda across ongoing and new cluster initiatives and and simultaneously focusing on competitiveness issues requires a CDA who understands the cluster challenges from social and environment angles and yet also has the ability to synergise such initiatives with the competitiveness agenda. A team of CDAs with different backgrounds and experiences can together see the cluster picture more holistically than can one of them individually.

3.2 Specialists other than the CDA

The team may not necessarily be confined to the professionals from the IA acting as CDAs. Depending on the needs, a subject-matter specialist from an institution other than the IA could be seconded to the team. For instance, operating in a cluster facing an existential threat due to environmental issues may require a subject-matter specialist, from a local university or other such institution, to be a part of the CDA team; though temporarily. Once the SEE issues are identified and prioritised, the IA is expected to define the composition of the support team and mobilise participation of relevant subject-matter specialists.

4. Implementation structure

4.1 Support System

Institutional mechanisms to support CD initiatives in the state as a whole and at the cluster level should be in place to support a given CDP.

One could envisage three levels of engagement, depicted as follows:

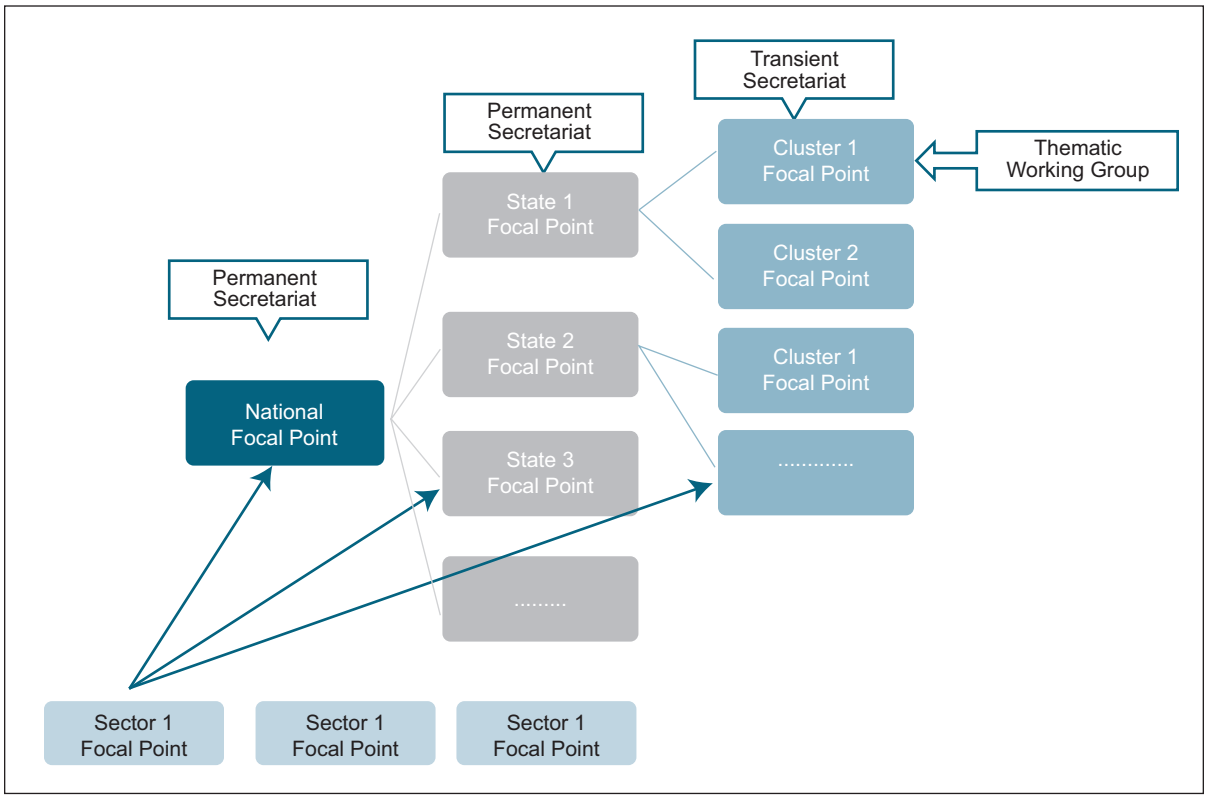


Figure 2.14 Institutional mechanism to foster BR in cluster development

However, the role of the CDA is confined to interactions with CFP and the thematic working group (WG).

4.1.1 National level

As a part of the national level initiative, a National cluster development focal point (NFP) is proposed as a permanent inter-ministerial coordination and support mechanism. The focal point could be assigned the following roles:

- Inter-ministerial and inter-departmental coordination: The role is in terms of:
  - Sharing the annual development plans of each constituent of the focal point before such plans are frozen.
  - Examine on-going schemes of social sector stakeholders and explore the possibilities of dovetailing them with cluster development schemes.
- Encourage/facilitate in setting up of similar state-level focal points.
- Offer sustained support and guidance to state-level focal points.
- Offer a platform for funding institutions to deliberate on their plans for funding CD initiatives so that the resources are not distributed too thinly and effective levels of synergy are achieved.

- Seek feedback, on a continual basis, from clusters stakeholders through state-level focal points to refine development assistance.
- Based on inputs from state-level focal points, develop a national registry of CD initiatives, focusing on best practices and disseminate the same.
- Organise appreciation programmes on social sector provisioning in CD initiatives.
- Strengthen existing development agencies to be the national resource organisations.
- Promote and support cluster-based 'action research' projects on BR, involving students and faculty members of B-Schools.

It is the role is of IAs to interact with the NFP for trouble-shooting and resource mobilisation, wherever necessary. For instance, the cluster firms could wish to access support, through the CDA, from the Ministry of MSME for setting up of a CFC. This could call for the IA to liaison between the cluster and the NFP.

4.1.2 At state level

At the state level, it is proposed that a state cluster development focal point (SFP) be established with key economic and social stakeholders as members. Considering that such a focal point serves the interests of promoting and supporting cluster development initiatives, not necessarily limited to a given CDP or a given implementing agency, the task of setting up the focal point rests with the State Department of Industries. However, in the absence of such an institutional arrangement, the IA may take initiative to kick-start the focal point under the umbrella of the state-level Department of Industries. The focal point could support the IA in the following ways:

- Enable inter-ministerial and inter-departmental coordination mainly to help the IA access financial, material and intellectual resources available under various schemes of social sector stakeholders and explore the possibilities of dovetailing them with cluster development schemes.
- Addressing the operational issues emerging from the cluster level focal point.
- Assisting the cluster level focal point to access resources especially from social sector stakeholders.
- Evolve rational and prudent parameters for the evaluation of BR compliance.
- Carry out social audit to monitor BR compliance.
- Help cluster firms generate an internal checklist to be used for integrating BR behaviour in their processes.
- Install awards to recognise clusters for their involvement in BR activities.

4.1.3 Sector focal point

It is an institutional arrangement within the representative body of a given sector. For instance, Indian Machine Tool Manufacturer's Association (IMTMA) is the representative body for the machine tool sub-sector. Within IMTMA there could be institutional mechanism by way of a cell. This cell could provide inputs to NFP and SFP in the process of planning developmental initiatives relevant to the sub-sector. Further, the cell should, on a need basis, offer technical support/inputs to the CFP dealing with the relevant cluster.

4.1.4 At cluster level

The focal point at this level, the cluster level focal point (CFP), is related to the cluster being developed and hence a time-bound institutional arrangement is to be set up once a given cluster is targeted for development. The focal point could be led/chaired by the District Collector and have as members, district level officials from various departments and representatives of public bodies, funding institutions, local NGOs and the representative body of cluster firms. There also has to be representation from the workforce since the workforce could contribute towards addressing those BR issues that are not impacting them directly. The focal point shall cease to function on conclusion of the CDP. Following are the proposed roles:

- Offering inputs for the development plan once the diagnostic study is ready.
- Assisting the cluster development executive (CDE) in accessing knowledge/information from institutions present in the focal point and from other institutions.
- Examining the possibilities of dovetailing social sector development schemes with the cluster action plan.
- Facilitating the CDE access support under such relevant schemes; assistance being mainly in terms of going through formalities required to access material support.
- Coordination and integration of on-going social sector assistance schemes in the geographical area where the cluster is located.
- Monitoring the implementation of the CDP and contributing in trouble-shooting where necessary.

The CDA is required to take care of setting up of such a focal point, seeking the support of the IA wherever necessary.

4.1.5 Thematic working group (WG)

In the process of identifying and prioritising SEE issues and in facilitating the formulation and implementation of the action plan, the CDA needs a variety of knowledge inputs. This is so as the CDA alone may not be able to manage the complexity and variety of SEE issues on the strength of his own intellect and information. Hence, working groups which offer knowledge resources or soft inputs to the CDA for enhanced role-efficacy are to be put in place.

What is a working group?

The working group (WG) is a small group (around five persons) of subject-matter specialists who will offer mainly technical support to the CDA. The CDA is required to classify SEE issues into specific themes (for example, child labour; ground water quality) and then, depending on the support needs, set up separate working groups for each theme. It is expected that there should be three to five working groups associated with a cluster.

Constitution of the working group

WG shall consist of preferably local individuals who have specialised subject-matter knowledge and related experience in one or more areas of SEE issues. On need-basis, professionals from other locations (preferably from the same state) could be inducted. Full-time engagement of the members is not envisaged; their contribution will be spread over the duration of the CD project (more so during action plan formulation and implementation)

Role

Being on a mission mode, the role of the WG is to support the CDA with regard to tackling a particular SEE issue or a class of related issues. Specifically, the group should:

- Offer technical support or guidance to the CDA in understanding the impact of operations of a cluster on a given SEE issues.
- Help the CDA in understanding the intensity of the SEE issue or the potential that it has to develop into a full-blown crisis.
- Assist the CDA in generating options for tackling the issue – such assistance should be by way of technical support or offering a set of optional solutions and means to evaluate the same.
- When CDA seems fit or necessary, put forward the relevant issues, causes, and potential solutions to cluster stakeholders, including enterprises, as a part of formulating the action plan.
- Signpost the CDA to relevant sources of information/support.

The CDA shall be the focal point of interaction between the IA and WG members. While the CDA will be the member-secretary of the WG, the meetings (at least the initial ones) are to be chaired by the chairperson of the cluster focal point.

Remuneration

Given their advisory role, WG members are not to be remunerated through consultancy fees. However, any costs incurred by them in the process of supporting the CDA are to be reimbursed. Whenever they are invited for meetings, a sitting fee could be offered. However during the implementation process, if the services of any WG member are to be sought in the capacity

of a consultant, he/she has to be compensated accordingly. As a part of budgeting exercise, it is suggested that adequate provision be made to cover the cost of engaging working groups (travel reimbursement and sitting fees).

The CDA is expected to do the following:

Table 2.18 Role of the CDA in facilitating proper functioning of the thematic working groups

Understanding the need for Working Groups	
1	Identify BR issues as part of the diagnostic study
2	Prioritise the same
3	Classify the issues into manageable number of themes (up to 5)
4	Identify those themes for which additional help is required
Constituting WG	
1	Identify institutions and individuals (technical experts/subject-matter specialists/ NGOs related to the theme): Private institutions in the cluster or nearby areas readily accessible to the CDA State government or its institutions, NGOs, technology providers, technical educational institutions
2	Seek consent of the potential members
3	Inform the CFP
4	Put the WG in place

4.1.6 Stakeholders' potential contribution:

Variety of actors should contribute to the process of promoting responsible business behaviour. This sub-section deals with their potential to contribute to the process and the mechanism for engaging them.

4.1.6.1 Business membership organisations (BMOs)

Representative bodies of enterprises at cluster level, chambers of commerce and apex industry associations have a significant role to play by way of their influence. Once they own the idea of promoting business responsible behaviour, they have the potential to:

- Act as pressure or advocacy groups which should work with cluster enterprises not readily coming forward to tackle BR issues.
- Undertake collaborative development initiatives in clusters where the CDP is being implemented.

- Contribute to providing human resource support to the CDP implementing agency.
- Facilitate sustenance of development initiatives once the programme concludes.
- Initiate full-fledged cluster development programme acting as programme implementing agency: The national, state-level and sectoral industry associations must initiate their own cluster development programmes with or without external funding support. Apex bodies such as Confederation of Indian Industry (CII), Federation of Indian Chamber of Commerce & Industry (FICCI) and Indian Machine Tool Manufactures' Association (IMTMA) have undertaken successful initiatives in certain sectors, with some good successes worth emulating. There are several cluster-level associations like Sports Goods Manufacturers and Exporters Association (SGMEA); Okhla Garments and Textile Cluster; Tirupur Exporters Association, etc., that have taken up cluster development activities.

This can happen through:

- Appreciation programmes for office bearers of such bodies at national and provincial levels.
- Capacity building programmes, on the methodology of cluster development with business responsibility, targeted at office bearers and professional staff in clusters chosen for development interventions.

4.1.6.2 Large private/public sector enterprises as buyers

It is in the business interest of the large private sector enterprises to build up capacities of their SME supplier enterprises. There are instances when the brand equity of a large company gets eroded due to their suppliers not conforming to BR standards. Direct interest taken up by the mother enterprises will itself induce positive response among supplier enterprises and therefore most of the initiatives will be self-funded.

Frame a Code of Conduct'[27] or BR policy for their supplier MSMEs. These can be designed in accordance with the respective policies the large buyers implement within their organisations. Thus BR should be made as a mandatory clause. This would compel the MSMEs to rework their production techniques and business strategies. For instance, pending the formulation of a BR index and related measurement and rating tools, the core enterprises in the cluster should commit themselves to certain BR standards based on the 'National Voluntary Guidelines for the Social, Environmental and Economic Responsibilities of Business'. Following are the key guidelines that businesses should commit to[28]:

- Assure safety and optimal resource use over the life-cycle of the product –from design to disposal. In designing the product, businesses should ensure that the manufacturing processes and technologies required to produce it are resource efficient and sustainable.

27 'Role of large buyers (public and private) in shaping Enterprise Social Responsibility of Micro, Small and Medium sector in India', UNIDO-Bombay Chamber Project

28 Extracts from 'National Voluntary Guidelines for the Social, Environmental and Economic Responsibilities of Business', IICA-GTZ CSR Initiative, New Delhi

- Respect the right to freedom of association, participation, collective bargaining, and provide access to appropriate grievance-redressal mechanisms.
- Provide and maintain equal opportunities at the time of recruitment as well as during the course of employment, irrespective of caste, creed, gender, race, religion, disability, or sexual orientation.
- Refrain from using child labour, forced labour or any form of involuntary labour, paid or unpaid.
- Take cognisance of the work-life balance of its employees, especially that of women.
- Provide facilities for the wellbeing of its employees, including those with special needs. They should ensure timely payment of fair living wages.
- \wages to meet basic needs and economic security of the employees.
- Provide a workplace environment that is safe, hygienic and humane, which upholds the dignity of employees. Business should communicate this provision to their employees and train them on a regular basis.
- Ensure continuous skill and competence upgradation of all employees by providing access to necessary learning opportunities, on an equal and non-discriminatory basis. They should promote employee morale and career development through enlightened human resource interventions.
- Create systems and practices to ensure a harassment-free workplace where employees feel safe and secure in discharging their responsibilities.
- Ensuring all individuals impacted by their operations have access to grievance mechanisms.
- Recognise and respect all human rights of all relevant stakeholders and groups within and beyond the workplace, including those of communities, consumers and vulnerable and marginalised groups.
- Utilise natural and man-made resources in an optimal and responsible manner and ensure the sustainability of resources by reducing, reusing, recycling and managing waste.
- Take measures to check and prevent pollution. They should assess the environmental damage and bear the cost of pollution abatement with due regard to public interest.
- Ensure that benefits arising out of access and commercialisation of biological and other natural resources and associated traditional knowledge are shared equitably.
- Continuously seek to improve their environmental performance by adopting cleaner production methods, promoting the use of energy-efficient and environmentally friendly technologies and the use of renewable energy.

While the conformity to the above standards is voluntary, the body representing the cluster or the individual enterprises benefiting from the interventions is required to sign a declaration affirming their commitment to the above standards (See Annex X for details).

- There should be a contractual agreement between the large buyers and cluster enterprises supplying to them, specifying the roles of both the parties in tackling BR issues. The same should be monitored through periodic audits.
- Install a system of accreditation of cluster enterprises, whereby they are assigned special status signifying BR compliance standards leading to increased/improved business prospects.
- Given access to human resources, large buyers should equip/collaborate with the cluster enterprises with skills to tackle SEE issues. For instance, the work force of the cluster enterprises should be trained by large buyers on how to promote occupational safety.

4.1.6.3 Creating BR culture – business schools[29]

The first stage of promoting socially responsible behaviour is one of generating awareness about SEE issues as related to operations of businesses. While, in the short term, efforts are to be made to promote initiatives meant to tackle SEE issues, it is necessary to develop BR culture among the younger generation. B-schools should be the starting point for such a socialisation process considering their graduates are most likely to occupy positions of influence in the business sector.

As of now, BR related areas are either not covered at all or inadequately covered in the curriculum of B-schools and Universities. The following measures should be followed to engage them:

- At the level of the ministry (Central HRD Ministry and education ministries of state governments).
  - Material and financial support should be made available to promote the type of projects which are related to BR/CSR and community development and which sensitise students, faculty and the stakeholders. In association with the Ministry of MSME, the HRD Ministry can initiate cluster-based 'action research' projects related on BR, involving students and faculty members of B-Schools.
- At the level of regulatory authorities (AICTE/AIMA/UGC, etc.)
  - Certified agencies ranking management institutes should also include BR-related activities (teaching and research) as a key criterion while grading B-Schools.
  - Amendments should be carried out in the overall curricula of B-schools to include BR-related themes.
- At the level of management schools
  - Management institutions should enhance their contribution to the community by setting up a focus group or even a distinct department focusing on education, training and research on BR related not just to the big corporate sector but to the MSME sector as well.

29 'Role of Business Schools in shaping Enterprise Social Responsibility amongst Micro, Small and Medium Enterprises', Career Institute of Technology & Management (Manav Rachna Educational Institutions) & UNIDO

4.1.6.4 International donor agencies (IDA) for resource mobilisation

Given the international exposure, the contribution of IDAs towards responsible behaviour could go beyond mere funding. As in the case of other development initiatives, CD projects too are to be supported financially. However, to encourage the inclusion of business responsibility as a part of CD agenda, the IDAs could consider the following:

- Set up exclusive funding arrangements for supporting CD initiatives.
- Specifically relax funding norms of IAs in case of CD projects with an inbuilt SEE agenda.
- Put in place a system for incentivising cluster actors who conform to responsible competitiveness.
- Taking advantage of international presence, facilitate exposure of key cluster actors to best practices.
- Likewise, facilitate trans-national experience sharing among IAs, CDAs and other stakeholders.

4.1.6.5 Banks and FIs as credit providers

Banks should provide softer loans (reduced interest rates and with other relaxed conditions and increased range of services) to more responsible businesses, based on their responsibility credit points.

4.2 Activity implementation

The CDA can engage the following institutions to implement the individual activities envisaged in the action plan:

a) Associations of micro, small or medium enterprises

These are traditional business associations and the more well known among them generally undertake policy based representations. Some of them also undertake development activities like provision of training, introduction of cleaner and greener technologies, setting up of common infrastructure to tackle waste disposal and even community welfare initiatives.

Field organisations/offices and autonomous/public sector institutions under the banner of various ministries dealing with MSMEs, environment protection and the like.

b) State Governments and their autonomous/public sector organisations.

c) National and international institutions engaged in promotion and development of the MSME sector.

d) Partnership models.

e) Special purpose vehicles (SPVs).

A brief of some of the above types of institutions is as follows:

4.2.1 Partnership models

There are different types of NGOs working in the cluster on different social and environmental themes. On the other hand, the industry representative bodies are often more experienced in undertaking economic development initiatives as their main mandate. A partnership between an industry association or a similar body with a relevant local or national NGO can be an effective model to build on mutual synergies. NGOs may be engaged in drug de-addiction, sanitation, adult literacy, HIV/AIDS, provision of legal aid and recycling of goods, whereas, more often than not, industry associations may not have the necessary competence and knowledge to take such initiatives to a logical conclusion. Such a partnership may also provide necessary confidence to potential donors who may like to supplement the resources of such joint ventures. An illustration of such an initiative in the area of child labour eradication is provided as under:

Box 2.3 Child Labour Eradication Initiative – partnership between Myrada and Silk Reelers Association

Kollegal, which is about 160 km south of Bangalore, practices all the stages of sericulture and has a silk exchange, wherein producers of raw silk and reelers are required to sell only through the exchange, thereby reducing the monopoly of middlemen and indiscriminate price structures.

Post-cocoon processing, which comprises silk reeling, twisting, weaving, dyeing and processing and finishing, is mostly carried out in micro units as value addition is lowest at this stage and quality requirements are not stringent. These micro units often engaged child labour as lower wages are paid and children are more adept at reeling and twisting of silk with their nimble fingers in comparison to adults.

The Karnataka State Government was highly concerned about the rising issue of child labour and considered addressing this problem in totality with the support of the ILO. The ILO-IPEC Karnataka Child Labour Project was initiated in 2007 with the focus of combating child labour in the sericulture sector with support from Myrada, a local NGO and the Silk Reeler's Association, Kollegal.

The task of convincing the employers was not that simple. To achieve the goal of making sericulture child-labour-free, innovative methods were adopted by Myrada along with the support of the Silk Reeler's Association. The initial headway for successful project implementation was made when the first batch of 16 reelers were convinced to attend a training programme at CSB. The training programme made visible changes in the practices of many reelers.

The employers agreed to pay the daily wages to workers when they attended training programmes so that there was motivation for them to attend such programmes. The project achieved its objective of eliminating child labour in the silk industry with the help of employers and the approach of rising awareness and organising employers and workers towards building better relations among themselves. Around 110 child workers were removed from the sericulture sector and sent to mainstream schools.

However, to make the intervention sustainable, the programme fostered linkages with support organisations, which had a marked presence in the district but were underutilised. These included: Karnataka State Sericulture Research and Development Institute (KSSRDI), Thalghatpura; Central Sericulture Training and Research Institute (CSTRI), Bangalore; Sericulture Department of Government of Karnataka; Silk Exchange & Cocoon Market; Central Silk Board; NABARD; District lead banks; Raw Silk Testing Centre (RSTC), Kollegal; Karnataka Silk Marketing Board (KSMB) and Regional Sericulture Research Station (RSRS), Chamarajnagar.

4.2.2 State Governments and their autonomous/public sector organisations

There are a number of local government departments/agencies which are often responsible for the implementation of the ongoing schemes related to workers welfare, environmental issues, women and child development, health care and the like. These departments/agencies implement the welfare schemes often at their own level and some of them through implementing agencies recruited by them. The CDA could partner with such institutions for implementing the planned initiatives falling within their mandate. This approach offers an additional advantage of utilising resources available with such institutions.

4.2.3 Special Purpose Vehicle (SPV)

When the existing institutions do not have a mandate to undertake activities in line with cluster development as a whole or a key part of the process (setting up of a common facility centre for instance), a new institution may have to be created. Else, all the member enterprises in an existing industry organisation may not be willing to take up a common set up of activities; thus requiring a separate formal body to be created for the interested members.

A SPV is a clear legal entity with evidence of prior experience of positive collaboration among its members, whether formally or otherwise, as the applicant of proposed cluster development initiatives assures sound management. Ideally, therefore, all proposals must emanate from the SPV, consisting of the actual/likely beneficiaries organised in any legally recognised form like a cooperative society, registered society, trust or company, etc.

The SPV should have provision for enrolling new members to enable prospective entrepreneurs in the cluster to utilise the facility. For this purpose, provision should be made to allow change in the equity structure (shareholding pattern) of the SPV, as and when required, to accommodate prospective entrepreneurs. In addition to the contributing members of the SPV, the organisers should obtain written commitments from users of the proposed facilities so that the benefits can be further enlarged. The CFC may be utilised by the SPV members and also others in the cluster. The Central Government shall not accept any financial liability arising out of operation of any CFC/infrastructure development project.

Main roles and functions for a SPV include:

- Responsible for the day-to-day running of the cluster development activities including functioning of hard interventions e.g., CFC.
- To mobilise maximum participation of the user units in the SPV.
- To develop and follow a democratic constitution with an inbuilt scope for increasing the membership in future.
- Coordinating with State and Central Governments and other departments for the functioning of the cluster development activities.
- Reporting progress.

An example where a new organisation had to be created in the eastern part of India is illustrated below:

Box 2.4 A village level committee created to address livelihood issues in sal leaf cluster of Mayurbhanj

The Mayurbhanj district, in the northern region of Odisha, covers an area of 10,400 sq km, of which 44 per cent is forest area. The forest mainly comprises of the sal tree (Shorea Robusta) and the collection of sal leaves is an age-old practice in this area. Sal leaf collection is the major source of income for the local people for only eight months in a year, due to the seasonal availability of sal leaf. Almost 7 lakh people are associated with sal leaf activities in the cluster.

The sal leaf business originated in Betnoti, a village in Mayurbhanj district, and eventually spread to other parts of Odisha. In the initial years, the leaves were mostly collected from the forest within a 20–30 km periphery of Betnoti. Over a period of time, this led to deforestation and during the 1970s almost half of the forest areas adjacent to the nearby villages were depleted. The increase in livestock population and uninterrupted human pressure on forests accentuated the problem. The consequences: huge shortage of availability of raw material and threat to the livelihood of the community. The stakeholders anticipated the closure of the sal leaf business.

The dependency of the villagers on sal leaf forests as their only means of livelihood led to a community initiated and community owned historical movement of forest conservation. A Joint Forest Protection Committee (JFPC), Buddikhamari, was formed by the villagers to undertake the responsibility of forest conservation. The movement, that started in remote villages like Hatikote, Buddikhamari and Dubhia in 1983, spread to almost a hundred villages of Odisha in phases. In five years (1988) the protection activities had spread to 25 villages and by 1992 the movement had spread to 55 villages. By 1999, 95 villages in Odisha had joined the protection activity and each of these 95 villages had formed Village Forest Protection Committees (VFPCs).

JFPC, Buddikhamari, became the federation of the 95 VFPCs. Groups of villagers were assigned the task of guarding their respective forest areas daily, on a rotational basis. At the JFPC level, a patrolling team was formed with the task of monitoring the work at the VFPC level. All these activities were taken up through voluntary contributions by the villagers. About 7,500 households from 95 villages are directly involved in this entire process. This unique effort helped the forest to regenerate and provided the villagers a means for sustenance. It also helped the villagers to strike a balance between conservation and livelihood needs. The forest conservation initiative of the villagers led to reforestation of the protected areas leading to livelihood benefits to the villagers and positive environmental consequences. The sal leaf business that was once under threat revived and the availability of non-timber forest products (NTFPs) increased.

When there are options to choose among alternative partner agencies, they may offer particular advantages and disadvantages. The issue at hand plays a significant role in selecting the right

agency. For example, if the issue relates to the community, then an agency that enjoys the trust of the community will be better placed to do the needful, the execution capacities being considered equal. However if the issue at hand relates to the improvement of business practices such as the introduction of cleaner technologies, then the industry association in collaboration with a technical partner are likely to form a good combination. However if the issue at hand relates to a few enterprises, either not hitherto organised or where their organisation does not have the mandate to take up the issue, then a new executing partner may need to be created.

Soft Interventions such as setting up of a CFC (on a turnkey basis) shall be the responsibility of the SPV/IA. Implementation of infrastructure development projects shall be the responsibility of the concerned state/provincial governments, through an appropriate agency, which has a good track record in implementing such projects. Such agency may be a public sector corporation or a corporate body or a good NGO having a sound financial position.

5. Mobilising resources

As in the case of any development initiative, the following are the types of resources required to implement the action plan:

- Human resources
- Physical resources
- Technical resources
- Financial resources

5.1 Human resources

The requirement of personnel for implementing the CDP could be classified into three types as under:

Short term staff

The efforts of the CDA, who is primarily responsible for facilitating implementation of the action plan, have to be supplemented with additional personnel. For, the dual task of tackling SEE issues and, in the process, facilitating economic development calls for careful strategising. For instance, one or two field investigators could be required for a few days to take up a benchmark study of the quality of life of workers.

Long term staff

More often than not, in a cluster development programme with BR focus, the efforts of the CDA have to be supplemented by subject-matter specialists. This would amount to having an implementation team in place as the CDA may want a specialist to work with him for the entire duration of the project.

Operational staff

Operational staff is personnel in charge of implementing a given activity as per the action plan.

The CDA has to seek support from IA in identifying and recruiting provisional staff. Operational staff has to be provided by institutions responsible for implementing components of the action plan. For example, organising health camps have to be taken care of by local NGOs/core firms with the CDA playing the role of facilitator.

5.2 Physical resources

As in the case of human resources, these too could be categorised as under:

- Resources required for the CDA and his/her team
- Resources required for implementing a given activity

Resources required for the CDA

The CDA and the team require office space, related equipment and supplies for the duration of the project. The options are:

- Use the resources of the IA if it has a prior presence in the cluster.
- If available, seek the facilities from the local industries association or from other stakeholders such as BDS service providers; this is an attractive proposition since it saves the efforts of the IA in organising the facilities.
- Hire the facilities for the duration of the project.

It is to be noted that it is important that the office of the CDA be housed in a place that reflects neutrality. In other words, it is better that the office should be not tied to a place offered by one of the stakeholders; to avoid perceived biases.

Resources required for implementing a given activity

Some of the initiatives proposed in the action plan could call for physical resources. For instance, the action plan could provide for setting up of a health centre or a common facility centre requiring buildings and equipment. The cluster stakeholders are required to own up the idea and organise the same; the CDA playing the role of a facilitator.

5.3 Technical resources

Right from the stage of the diagnostic study, technical support is required throughout the process of implementation of the CDP. For instance, the CDA may require the services of a technical expert to understand the impact of the cluster operations on the natural environment.

For implementing a given activity as per the action plan, technical expertise could be required. For example, identifying options for core firms to introduce technological change that leads to better quality, reduction in wastage and lower emissions, may call for technical support. Or there could be a need for energy audit to identify possibilities of conservation. Such requirements fall within the domain of the concerned stakeholder groups; the CDA playing the role of a facilitator.

5.4 Financial resources

5.4.1 Typology

Fund requirements are classified as under:

- Funds required by the implementing agency to cover professional fees, including the cost of the services of CDA, and organisational overheads.
- Funds required by the CDA for meeting day-to-day operational expenses.
- Cost of soft interventions such as capacity building of local institutions.
- Cost of hard interventions (setting up of a common effluent treatment plant for instance).

Such a classification enables the CDA to identify appropriate funding sources.

5.4.2 Sources of funds

Conventional sources of funding include relevant ministries (Ministry of Social Welfare for instance), development finance institutions and state agencies (Directorate of Handlooms and Handicrafts for instance), multilateral funding agencies, large buyers and local banks/financial Institutions. The beneficiary segment of the community may also supplement the available resources to ensure greater financial sustainability.

On one hand, the cluster action normally contains numerous activities that require funding support. On the other hand, there are a number of schemes of assistance where funds are available with a large number of institutions and agencies. The critical gap in the matching process is the extent of information available with or accessible to the CDA. The CDA is expected to be equipped with the information to match the standard development schemes with the individual components of the cluster action plan for effective synergy.

The sources of funds could be broadly classified as under:

- State and Central Governments
- Financial Institutions
- Multilateral organisations
- Non-governmental international donors

- Private sector bodies
- Cluster stakeholders

An effort has been made to identify suitable schemes of BR-related assistance from Government of India's ministries/departments/organisations. The schemes relate to the following areas:

- Women and child welfare
- Rural development
- Youth welfare
- Adult literacy
- Development of disadvantaged communities (SC/ST/OBC)
- Environment protection
- Non-conventional energy
- Health care

Over fifty development schemes pertaining to the aforementioned areas have been identified and presented in Annex I.[30] Following is an illustration of how a cluster can benefit from such schemes:

Box 2.5 Support from Ministry of Labour to run NCLP school in Jalandhar

Under the Scheme of Non Formal Education supported and assisted by the Ministry of Labour, Sports Goods Foundation of India (SGFI), an NGO from the Jalandhar Sports Goods Cluster, has been running four National Child Labour Project (NCLP) schools where their Household Stitching Centres are located. In view of their good performance over the years, the concerned authority in the year 2007–08 has allotted them seven more schools. Under this scheme an amount of Rs. 100 per month is allotted as stipend for each child. The scheme's annual budget for one school works out to about Rs. 2.5 lakhs and assistance is available on 100 per cent basis. Thus, SGFI has been able to get an assistance of Rs. 52.5 lakhs for these seven schools for the next three years. This activity helps in taking care of the important issue of child labour and at the same time the cluster is taking care of its social responsibility of educating the children of their workers. With the success of this scheme, SGFI is thinking of applying for more such schemes in the areas of vocational training of youth.

Annex XI summarises the sources of funds.

30 Considering that the schemes of assistance are subject to periodic review, the users have to check the current status from respective institutions

6. Resource mobilisation – Tips for success

Involvement of stakeholders

While BR activities could be carried out through support from funding institutions, there needs to be adequate and direct contribution from the various stakeholders within the cluster. For this is an indication of their ownership of the initiative and of commitment to successful implementation of a given activity. Otherwise, one should question the basic premise behind the felt need for a given activity and revisit the action plan.

Apart from monetary contribution by stakeholders, contributions in kind (expertise for instance) also need to be valued and factored in. For example, providing premises, equipment and staff for training courses are very valuable inputs. Such contributions help to not only increase the prospects of success but also reflect greater visibility of the commitment from the contributing stakeholders. Besides monetary contributions, industry associations/networks can often provide secretarial support, platforms to bring together different operational partners and access to available infrastructure owned by the association/network or their members.

Linking BR activities to commercial gains

The extent of financial contribution of cluster stakeholders to a given intervention is likely to be higher when this intervention leads to commercial benefits. On the contrary, when the stakeholders do not see immediate commercial gains, the activity could attract less funding support from them. The CDA/implementing agency has to categorise the activities accordingly and estimate the need for external funding. Further, the CDA needs to help the cluster stakeholders see the commercial benefits, long-term or otherwise, of a given intervention.

Scaling and scheduling of interventions

A given intervention or a set of activities could be planned in such a manner that one could start in a small way with limited resources, produce results, and then scale up gradually. For, smaller activities over shorter time periods should essentially generate confidence among the beneficiaries, other cluster stakeholders and regular funding bodies, encouraging these funding agencies to later commit more resources. Further, when an activity is carried out successfully for the second or third time, the cluster stakeholders could be more willing to provide financial support thereby reducing dependency on external sources of funds.

As regards scheduling of activities, it is likely that a given activity is repeated in the interest of wider reach. In such a case, the external funding agency may contribute a higher portion of the cost. As the activity is repeated, the share of the funding agency may come down; since it is expected that the demonstration effect of the activity, taken up for the first time, may convince the beneficiaries to contribute more towards the cost. For instance, in the sports goods cluster, Jalandhar (Punjab, India), the contribution of the implementing agency (UNIDO in this case) decreased for activities repeated over time. Further, the proportion of support varied depending on the type of activity as indicated in Annex XII.

Financial means of core firms

Within the cluster, the percentage of external support should be greater for stakeholders with limited financial means.

Supporting implementing partners

At times, the CDA may avail the services of localised institutions for carrying out certain activities. For instance, an NGO may be asked to implement literacy programmes in a rural artisan cluster. When the NGO is not in a position to raise funds for such an activity, it is the responsibility of the implementing agency to mobilise resources and provide the same to the NGO till the time the beneficiaries themselves are in a position to meet the costs.

Need for critical mass

When a given activity benefits only a few, care should be exercised in including it as a part of the action plan. For, it may not be cost effective or might not interest the funding agencies. Exceptions could be made when a given activity is likely to have strong a demonstration effect or when it is a pilot exercise which leads to replication on a larger scale.

Do's and don'ts

- While formulating the action plan, ensure that each activity is clearly spelt out with objectives, benefits, time frame and budget.
- Before approaching the funding agencies, understand their priorities so that the funding proposal may be dovetailed to their objectives and requirements. In other words, the funding proposals should fit into the schemes of donors.
- Categorise the schemes of the donors based on the degree to which their parameters can be met and, accordingly, approach relevant ones.
- Ensure transparency so that the donors are in a position to clearly perceive the overall cluster development plan and the contribution of each activity to achieving the overall development objectives.
- While approaching a given funding agency, have a contingency plan to make room for possible rejections or delays.
- It is invariably necessary, that while pursuing cluster development related activities, it should be ensured that a flexible pool of funds is available to avoid bottlenecks.

7. Creation of sound demonstrative models for up-scaling

The process of promoting socially responsible behaviour in a cluster is time-consuming. For instance, improving the quality of ground water, hitherto affected by pollutants, is seldom accomplished is a matter of weeks or even months. Thus it may be difficult to ensure that all BR issues across most of the cluster stakeholder groups are tackled within the time frame and the budget at the disposal of the implementing agency. Given the varied levels of willingness of different stakeholder groups to engage in positive action and their capacities to do so, it is considered prudent to target potentially successful groups around critical areas of challenge. This helps demonstrate the efficacy of developmental efforts and instil confidence in the stakeholders. This in turn sets the desired mood for change and prompts otherwise passive or reluctant stakeholders to come on board. It is then that more complex and large scale interventions, calling for wider cooperation among majority of the stakeholders, could be implemented.

The following multi-stakeholder model at Rourkela Sponge Iron and Allied Industries Cluster (Orissa, India) is illustrative of the demonstrative effect:

Box 2.6 Peripheral development spreads fast across Orissa

One of the five administrative blocks namely Lathikatta was identified and selected by UNIDO in consultation with the local government in the district of Sundergarh (Orissa), for implementation of a pilot initiative where the local industry representatives joined hands to undertake collective socially relevant initiatives. UNIDO provided the necessary technical assistance and some funding support to the Lathikata Block Industries Periphery Development Society (LBIPDS), like:

- Coordination between different stakeholders for initial understanding and need for coming together for the interventions.
- Setting up a professionally managed secretariat at LBIPDS to implement its periphery development agenda and building its capacity.
- Hand holding and development of LBIPDS systems for their health care programme, education initiative, infrastructure development and its internal working.
- Helping to explore new areas related to cluster environmental issues and ensuring that they are taken up in due course.
- Exploring with other expert knowledge organisations, their related periphery areas and developing a concept of working together with a partnership model.
- Helping develop a proper review and monitoring mechanism by their internal and external team.
- Ensuring the sustainability of the model into a full-fledged programme at the end of UNIDO's intervention.
- Making it a demonstrative model for upscaling in the nearby areas.

The positive impact generated with LBIPDS led to similar request for support from three adjoining blocks of the district where the enterprises were willing to set up similar institutions to initiate activities in the area of health, education, and rural infrastructure development. The administrative set up created at LBIPDS and the systems being used therein were shared by the elected office bearers with other block level institutional representatives.

Noted as follows is another illustration of how the demonstrative effect through a limited intervention blossomed into a cluster-wise activity.

Box 2.7 Formation of SHGs in Chanderi

Chanderi is a small town in MP with a population of 30,000 people, 60 per cent of who are engaged in handloom weaving and allied activities. The cluster has about 3,659 looms that produces fabric worth Rs. 15 crores and employs around 11,000 persons directly and another 7,000 persons indirectly.

Though the women were engaged in home based weaving and allied activities, due to socio-cultural practices, they were denied proper education, information and exposure to the outside world to such an extent that they did not even have basic knowledge of how to take care of their health. This in turn affected the quality and quantity of work done by them.

During the initial phase in 2003, the CDP focussed on organising small yet homogeneous networks (that has comparatively higher mutual trust as opposed to larger networks) of relatively independent weavers in the form of Self-Help Groups (SHGs) and building their capacities to undertake collective production and marketing. However, since such networks were of inadequate size to meet market requirements and use resources optimally, the strategy for the year 2004 was to create a federation of suitable SHGs and strengthen their federation through appropriate market linkages and training. As a result of this, 42 SHGs were created in 2004 followed by another 18 in the years that followed. Of these, 11 were women SHGs, 32 were men SHGs and 17 were mixed (men and women) SHGs. Of the total of 623 members, 186 were female.

In subsequent years the focus was towards sustainability of efforts, especially with respect to building management capacity of the various joint forums and identifying appropriate agencies to drive the momentum. Accordingly, 7 SHGs out of 42 collaborated and created Bunkar Vikas Sanstha (BVS), a registered body. This had a demonstrable effect which led to the formation of another similar forum of 70 weavers that was organically linked to BVS. This ultimately led to creation of Chanderi Development Foundation for the benefit of the weavers including women.

8. Tips for the CDA

During the course of implementation, the CDA is expected to be cautious as per tips below:

- Avoid limiting the focus of activities to one's own area of interest or experience.
- Avoid the tendency to get into the activity trap and thus lose sight of the bigger picture. The focus of activities should include medium and long term issues as well. A close watch on the main objectives of the cluster action plan needs to be retained.
- Avoid the tendency to invest all or most of the time in implementation and take control of the details. Delegate. The CDA must try to delegate implementation responsibility and related authority to other local partners/stakeholders. In the process, he could build the capacities of such partners to take the agenda forward by themselves.
- Avoid blaming himself in case of failure. Changed demand, low critical mass or unfavourable conditions, for instance, could be the reasons for failure. Try to analyse the situation objectively to take positive corrective action.

Resources Mobilisation and Implementation:

Action points

- Identify the SEE issues, establish their links with economic payoffs and prioritise them.
- List relevant activities and objectives associated with each activity.
- Match with the mandate of local institutions including NGOs, BDS providers and state-sponsored bodies.
- Once there is a match, assess the willingness and the capability of the concerned partner to implement the activity.
- Accordingly, formalise the arrangement with the concerned partner indicating:
  - Role of the partner vis-a-vis of CDA/main implementing agency
  - Resources that the partner can bring in
  - Resource gap that the CDA or main implementing agency shall fill in
  - Time frame for implementation
  - Performance parameters
  - Process of M&E
- Set up working groups, one to be in charge of each group of related activities (community welfare, child labour, environment protection, etc.)
- Define parameters for functioning of the working groups in terms of:
  - Support that the group can expect from the CDA
  - Role and responsibilities
  - When, where and how often to meet?
  - Who will convene meetings?
  - Agenda for each meeting
- Given the varied levels of willingness of different stakeholder groups for engaging in positive action and their capacities to do so, it is considered prudent to target willing and capable groups around critical areas of challenge. This helps demonstrate the efficacy of developmental efforts and instil confidence in the stakeholders leading to wider and more sustainable affirmative action
- Wherever possible involve labour representatives
- While mobilising resources (financial, technical and HR) to implement development initiatives, seek appropriate contributions from core firms and large buyers

CHAPTER 6

Documentation, Monitoring and Evaluation

1. Introduction

As in any developmental initiative, cluster development too needs to be systematically documented, monitored and evaluated. For the lessons from the process of developing a cluster could be applied to other clusters for increased efficacy. Further, the agencies that fund the exercise need to be satisfied about the efficacy of the application of funds. This section deals with the terminology, need and approach to documentation, monitoring, and evaluation.

2. Terminology

Documentation

This refers to the process of collection, compilation and presentation of data starting from cluster selection to the outcome of the exercise.

Monitoring

It is a dynamic process during a project's lifetime, wherein data is collected at pre-decided intervals and compared with corresponding targets in the action plan. Monitoring is a support tool which helps manage a project and is a source of self-reflection – i.e., where do we stand?

Evaluation

This refers to the process of assessment of the impact of cluster development initiatives, keeping in view pre-stated objectives. This apart, evaluation throws light on the extent of utilisation of resources (as against the planned targets). The extent of sustainability of developmental efforts is an important component of evaluation.

Table 2.19 Basic features of monitoring and evaluation

Monitoring	Evaluation
Continuous: at a given frequency	Periodic: important milestones
Documents progress	In-depth analysis of achievements
Focuses on inputs and outputs	Focuses on impacts and outcomes
Alerts managers to problems	Provides managers with strategy and policy options
Self-assessment	External analysis

3. Documentation – Need and approach

3.1 Why documentation?

- For the CDA and the implementing agency, the major purpose of documentation is to draw lessons from the experience of developing a cluster and apply the same elsewhere for better efficacy.
- Documentation could also be applied by the implementing agency to assess the performance of the CDA on a continuous basis and reward him/her accordingly.
- For the sponsors, it helps in accessing necessary information to monitor the progress of the project and effect mid-course corrections wherever necessary.
- Proper documentation is the basis of monitoring individual activities and the project as a whole.

3.2 Approach

The process of documentation begins at the time of selecting clusters and concludes with the preparation of the end-of-the-project report. Broad indications on areas of documentation are given as follows:

Table 2.20 Documents

Theme	Areas of documentation
Selection	Cluster selection criteria
	Process of selection and parties involved
	Records of relevant meetings
Diagnostic study	Cluster profile
	National/international industry scenarios
	Scenarios of other similar clusters
	Presence of local/national institutions in the cluster
	Intra and inter stakeholder analysis
	Socio-economic BR behaviour
	Cluster socio-cultural BR behaviour
	SWOT Analysis
	Vision and Strategy
	Cluster map
	Tentative action plan for short/medium/long term agenda
Action plan	Objective: define the desired outcomes of the interventions
	Activity matrix: including rationale therefore
	Time frame of activities
	Tentative budget
	Resource requirement: HR, material and financial
	Mechanism for coordinating the activities
	Target beneficiaries: who, how many and nature of beneficiaries
	Measurable output
Implementation	Schedule of implementation of activities
	Record of each activity, including events within an activity
	Implementing partners: who and their roles
	Copies of contracts with the partners
	Financials: projected and actual budget for each activity
Output and Outcome	Qualitative and quantitative data on the outcome of each activity as also the overall outcome of the entire project

4. Monitoring[31]

4.1 Introduction

Monitoring measures

- Whether the implementation system for a given activity is efficient.
- Whether the activities are taking place as per the pre-decided schedule.
- Degrees to which the activities are translating into anticipated outputs, e.g., steps taken for green technology, energy efficiency, promotion of adult literacy, gender sensitisation, etc.
- The extent to which the outputs are getting translated into key impact indicators of the project, e.g., degree of reduction of pollution, strong labour union, enhanced welfare indices of work force, reduced level of corruption, etc.
- Financial prudence in terms of extent of utilisation of the budget.

Monitoring provides a common reporting structure which makes benchmarking with other cluster/networks/regions much easier. While the CDA is expected to monitor the activities on a continuous basis, formal monitoring involving the entire project team should take place at least once every quarter.

4.2 Mechanism

The CFP is the right platform to oversee M&E activities. The IA has to ensure the following:

- The CDA gathers information, analyses and presents the same to the CFP.
- The meetings are held at least once every three months, or more often if necessary.
- A well spelt out agenda is circulated to all the members well in advance.
- Proceedings of the meeting are maintained by the CDA. This forms the basis for the IA to appraise the SFP at regular intervals.

4.2 Monitoring Tools

While it is the task of the CDA to monitor the progress of the intervention, senior officials of the implementing agency are to be involved in the process. For the implementing agency is ultimately responsible for the outcome. Noted below are the tools, mainly in the form of formats for presenting the information on the progress of the interventions. For the sake of convenience, the tools are classified into the following:

31 This section draws from 'Pro-Poor Cluster Development Methodology of UNIDO', Dr Tamal Sarkar, Foundation for MSME Clusters.

- Activity review: Implementation of activities as per plans.
- Output review: Degrees to which the activities are translating into anticipated outputs.
- Outcome review: Degrees to which the activities and the related outputs are contributing to accomplishment of the overall objectives of the interventions.
- Financial review: Proper utilisation of the budget.

The details are as follows:

4.3.1 Activity review

Monitoring the implementation schedule will help in the following manner:

- Facilitate timely commencement and completion of the activities.
- While minor deviations will give us lessons, the major ones will prompt corrective actions.
- Relevance of a given activity comes to the fore. For when an activity is not getting implemented, it could mean that it was wrongly conceptualised.
- Alternately, there may be a requirement for inclusion of certain activities not originally planned. If so, they need to be included once the requirements are clear. These could be approved during the CFP meeting and budget may be reallocated for that purpose. If the programme is further flexible, then additional budget may also be allocated.

The following table could be applied:

Table 2.21 Activity review (Quarter _____, Year_____)

(To be Prepared by CDA and Validated by IA)

	Activity as per Action Plan approved by PSC (at the beginning of year and during the course of the year)	Time Plan (Qtr.)	Activity Completed as per time plan (Yes/No)	(Yes=1/ No=0)
1.				
2.				
3				
..				
..				
	Total			
	Percentage of activities done as per time plan			
	Score: A/B = Score 1, C/D = Score 0			

Explanatory Notes

- Time Plan: This is the time frame for commencement and completion of an activity as approved by CFP.
- Activity completed as per time plan: An activity is said to have been implemented as per planned schedule if it has been completed within the time limit as indicated against the activity in the action plan approved by CFP. Suppose an activity is slated to be completed by Q2 and in Q2 review, it is not done. The percentage of activities done will be calculated based on the possible activities that can be completed, by that quarter, as per the approved action plan.
- Percentage of activities done as per time plan:

  (Total score ÷ Number of activities) * 100
- Grading of Activities: If percentage of activities done as per time plan is between 0–25%= Grade D, 26–50%= Grade C, 51–75%= Grade B and 76–100%= Grade A.
- Score: If grade is A or B, give score '0' and if grade is C or D, give score '1'.

In terms of drawing lessons and taking corrective steps, the CDA has to compile qualitative data. For each activity not implemented as per schedule, the reasons have to be indicated.

4.3.2 Output Review

Review of output is different from the review of activities in the sense that the focus is on the results of an activity, not on the activity per se.

Output is the result of the process. An outcome is a level of performance, or achievement. For instance, when an awareness workshop on impact of improper effluent disposal is held, the output is in terms of how many participated and understood the theme. How many participants were prompted to take affirmative action to alleviate the problem of effluent disposal is the outcome.

This section covers formats for review of outputs, of the common facility centre (if any) and the extent of interactions with the support system.

4.3.2.1 Format

There could be one or more activities leading to one or more outcomes. The formats for recording the outputs vary depending on the nature of activities. For instance, as indicated in the table below, there could be many activities that can lead to, say, promotion of any of the five outcomes including improved environmental conditions, promotion of a strong labour union, enhanced welfare of workers, improved social environment and reduced corruption. The following table illustrates the format:

Table 2.22 Output review (Quarter _____, Year_____)

(To be Prepared by CDA and Validated by the IA)

Activities (Quarter wise)	No. of Beneficiary Firms	No. of Beneficiary Workers
Exposure to new knowledge/practices		
Training for usage of new knowledge		
Network created and trained		
BDS/BDS providers introduced		
New technology/machinery introduced		
Linkage provided to socially responsible buyers		
Creation of business		
Total number of beneficiaries in the quarter		
Total cumulative number benefited for all quarters		

Explanatory Notes

Beneficiary: These are the firms directly benefited by a given intervention like a workshop. It may well be the case that some of the entries (except for the last two rows) are not relevant for a cluster.

Exposure to knowledge/practices: This is an outcome of many activities such as familiarisation visits to other clusters, participating in a workshop or seminar and the like.

Networks created: Formation of SHG, NGO, consortium and the like.

Total number of beneficiaries in the quarter: A firm could participate in more than one activity or event directed towards one or more outcomes. No firm should be counted more than once while filling this row.

Total cumulative firms benefited for all quarters: No firm should be counted more than once for this purpose. For example, if a firm is already counted as a beneficiary in any previous quarter, it should not be counted again for the current quarter.

4.3.2.2 Common Facility Centre

Not all cluster development programmes involve setting up of common facility centres (CFCs). Wherever such an activity is planned, special care has to be exercised in monitoring the same. For this involves commitment of substantial funds for creation of fixed assists. The following format could be used:

Table 2.23 Review of CFC (Quarter _____, Year_____)

(To be Prepared by CDA and Validated by the IA)

	Yes/No
Establishment of CFC	
Has the SPV been formed?*	
Has the CFC been identified?	
Has project report been prepared?	
Has machinery, land and building for CFC been identified?	
Has bank loan (if any) cleared?	
Has contribution of stakeholders been received?	
Has order for machinery been placed and machinery delivered?	
Is the CFC in working condition?	
Overall Status: CFC in use**	Score: Yes=1/No=0

*Special Purpose Vehicle (SPV) refers to the institutional arrangement for implementation and operation of CFC.
**Overall status for usage of CFC: This indicates the application of CFC for intended use. For instance, if it is a common effluent treatment plant, the usage is measured by whether the plant is functional. However, if answer to any of the issues is in the negative, then the CFC is not established and ineffective as of now and the overall status will be 'No', with score '0'. If answer to all issues are 'Yes', then overall status will be 'Yes' and score will be '1'.

4.3.2.3 Interaction with support institutions

The cluster development plan could include activities that call for assistance from financial institutions (either for funding or for expertise), R&D institutions, training and educational institutions and the like. The extent of interaction with such institutions for rapport building and, in turn, for seeking their inputs, influences the success of BR interventions. Such interactions need to be monitored for impact assessment. The following format could be used:

Table 2.24 Degree of interaction with technical, financial and other support institutions

(Quarter _____, Year_____) (To be Prepared by CDA and Validated by the IA)

Name of Institution	Type of Activities	
	Till Last Quarter	Additions in Current Quarter

Notes:
Use Acronyms – A: Awareness Creation, TR: Training, E: Exposure, F: Financial Support, TH: Technology, (Please add more).
Give number of joint programmes/activities in parenthesis

4.3.2.4 Trust building

Building trust among the stakeholders is a crucial step in the cluster development process. For, joint actions to address SEE issues are possible only when there is a high level of trust among cluster stakeholders. Further, once the implementing agency withdraws from the cluster, the sustainability of developmental efforts depends largely of the level of trust among the stakeholders. Thus, the processes of trust building need to be monitored closely.

There are formal indicators of the level of trust such as the number of networks created; number of persons involved in taking up collective action; amount of resources formally invested in common ventures and the like. It is however not always feasible to measure trust only through formal indicators. The degree of informal interactions, extent of sharing of information among stakeholders and the like, could also serve as indicators of the level of trust. Some of the developments that can help capture the strength among the stakeholders are illustrated below:

- Cluster principal stakeholders start having formal or informal interactions on the intended subject matter during social gatherings, functions and meetings.
- Number of ethical leaders in the cluster who discuss and take up measures for social responsibility issues.
- Creation or revival of focused networks/associations in the cluster to take up cluster SEE issues.
- Increased level in the number of BR activities being taken up on common and individual platforms.
- Increased level of participation of members in different networks/associations in decision making and execution.
- Increased level of stakeholder commitment in terms of resources, financial or non-financial, for common activities.
- Stronger cooperation among the stakeholders resulting in a greater and more transparent flow of information.

The following format could be used to judge these indicators:

Table 2.25 BR cooperation matrix of a hypothetical cluster

Principal stakeholder → / Stakeholders ↓	A_1	A_2	NW_1	NW_2	T_1	T_2	FI_1	FI_2
A_1	NA							
A_2		NA						
NW_1			NA					
NW_2				NA				

Score values:
0 – no linkage and/or open conflict
1 – Stakeholders barely know about each other; no impact on the cluster as a whole
2 – Positive linkages and some history of mutual help; some impact on the cluster
3 – Strong propensity to cooperate based on a supportive history
4 – Excellent existing linkages with significant impact on the cluster as a whole
NA = not applicable.
Note: A_1 and A_2: Associations present in the cluster
NW_1 and NW_2: Networks present in the cluster.
T_1 and T_2: Linkages of technical institutes in the cluster
FI_1 and FI_2: Linkages of financial institutes with the cluster

4.3.3 Outcome Review

As indicated earlier, output is the result of the process where as an outcome is the level of performance, or achievement. Measures or indicators of outcomes depend upon the nature of the activity, its objectives, and relationship with accomplishment of the concerned overall developmental goal, which is normally long term in nature.

An illustration of the review of one of the BR related activities, namely labour welfare is shown as follows:

Table 2.26 Outcome review

Review points / Sub activities	Indicators	Outputs		Outcomes	
		Target	Achievement	Target	Achievement
Freedom of association/ labour union	Stakeholders awareness Appropriate grievance-redressal mechanism in place.	100 stakeholders sensitised 100 MSMEs accepted/ modified grievance redressal mechanism		100 firms started following minimum standards of statutory compliances 5000 workers have access to minimum standards of statutory compliances	
Elimination of all forms of forced and compulsory labour	Stakeholders awareness Appropriate action by MSMEs	100 stakeholders sensitised 100 MSMEs acting to eliminate compulsory labour Setting up mechanism for elimination of forced or compulsory labour			
Wages and Benefits	Stakeholder awareness Appropriate action by MSMEs	100 stakeholders sensitised Compliance by 100 MSMEs			

Alternatively, wherever it is possible to establish causal relationships, the following tabular format could be used:

Table 2.27 Outcome Review (Quarter _____, Year_____)

(To be Prepared by CDA and Validated by IA)

Attributes (Outcome increase due to CDP for the stated quarter only)	Value Number	No of Firms benefited	No of Workers benefited	
			Total	Of which, women
Improved environmental conditions				
Reduced emission of green house gases				
Slag disposal system implemented				
Wastage reduction				
Energy efficiency improved				
Strong labour union				
Fair wages received				
Working days as per rules				
Over time offered				
Welfare schemes introduced				
Improved working conditions				
Skills developed				
Medical absenteeism reduced				
Adult literacy improved				
Codes of conduct introduced				
Buyer compliance adhered				
Legal compliance popularised				
Total number of families benefited	NA			
Cumulative families benefited for all quarters	NA			

4.3.4 Financial review

This involves:

- Taking stock of budgeted expenditure and actuals for each activity.

- Sanctioned budget, utilisation, and reasons for deviations, if any, for the cluster development project as a whole.
- Funding pattern with a focus on extent of contribution of stakeholders (other than main funding institution).

4.3.4.1 Financial review of each activity

The following format may be used:

Table 2.28 Monitoring expenditure on each activity

Activity title:
Implementation schedule: From ……. to ……..

Sl. #	Account head	Budgeted expenditure	Actual expenditure	Deviations	Reasons for deviations

Where the activity is spread over several weeks or months, the expenditure is to be tracked based on monthly cash flows and complied as per the above format once the activity is completed.

4.3.4.2 Overall budget

For tracking the budget for the entire cluster development project as a whole, the following format could be used:

Table 2.29 Expenditure review for the project

Sl. #	Activity	Budgeted expenditure	Actual expenditure	Deviations	Reasons for deviations
Total					

This exercise is to be carried out on a quarterly basis to facilitate comparison with quarterly cash flows. On conclusion of the project, the data is to be compiled as per the above format.

4.3.4.3 Funding pattern

Funds for the project could come from various sources, including stakeholders. Further, the share of funding sources could vary, depending on the nature of activity. For instance, a common facility centre for day-care, targeted at the children of the workers, could attract higher level of external funding as compared to a community hall. Such patterns need to be observed to draw lessons for other projects. Following is the suggested format:

Table 2.30 Sources of funds (activity-wise)

S. No.	Activity	Total budget	Contribution			
			External funding agency	Other support institutions	Cluster stakeholders	Others
1						
2						
.						
.	Total budget					

For the project as a whole, the utilisation of funds needs to tracked regularly through a quarterly statement as under:

Table 2.31 Fund usage (Quarter _____, Year_____)

(To be Prepared by CDA and Validated by the IA)

Sl. #	During the quarter	Cumulative (for all quarters)	Remarks
Funds sanctioned			
Funds disbursed			
Funds utilised			

5. Evaluation

The process of documentation and monitoring put together facilitates project evaluation. This section deals with the following:

- What to evaluate?
- Who evaluates?
- Indicators for evaluation
- Data for evaluation
- Participatory Evaluation

5.1 What to evaluate?

Evaluation is a process that takes place both during the lifetime of the project and on its conclusion. It is a summation of:

- *Efficiency:* degree of achievements in terms of outcomes as per Project document and the reach thereof.
- *Leveraging:* degree of involvement of cluster stakeholders in owning up various project level and follow-up activities.
- *Sustainability:* likelihood of continuation of joint activities promoted by the project.
- *Project fall* out in terms of replication and/or policy level changes.

Alternatively, the assessment could be categorised into three – Process review, output review and outcome review.

5.2 Who evaluates?

The CFP is the right platform to evaluate the output of the various activities and their ultimate outcome. The role of the CDA will be responsible for the following:

- Gathers information, analyses and presents the same to CFP.
- Organise meetings of CFP at least once every three months or more often, if necessary.
- Prepare and circulate a well spelt out agenda to all the members well in advance.
- Maintain a record of proceedings of meetings.

Periodic evaluation is required to effect mid-course correction if need be. The exercise of evaluation is not confined to the end of the project. The IA is required to apprise SFP of the status of the activities that have been undertaken or have not been undertaken as per the action plan. As an image building exercise, whenever an activity leads to a significant outcome, IA could inform SFP. Likewise, whenever an activity does not lead to desired outcomes SFP needs to be apprised so that IA can seek additional support.

5.3 Indicators for evaluation

Evaluation is based on indicators of two types – output indicators and impact indicators. Efficiency and leverage indicated in section 5.1 above are covered through outcome evaluation where as the overall impact including project fallout is covered through output evaluation. The indicators could be broadly classified as follows:

- Level of awareness of SEE issues.
- Desire for involvement in tackling SEE issues.

- Extent of direct involvement in initiating joint actions to tackle the issues.
- Outcome of such initiatives.
- Ultimate output or impact of the initiatives on the well-being of the community, including the workforce and of various stakeholders including core firms.
- Sustainability of the developmental efforts.

The nature of indicators could vary depending on the opportunities and challenges in a given cluster. An illustrative list of such indicators for interventions to promote socially responsible behaviour is noted below:

Table 2.32 Indicators for evaluation of BR initiatives – an illustrative list

Project / Activity/ Theme	Activity focus	Output	Impact indicators
Child Labour	Sensitisation of stakeholders Children shifted from child labour to informal/ formal education	Number of stakeholders sensitised	600 children shifted from child labour to informal/ formal education Number of enterprises employing children has reduced from 70 to 30%.
Social compliances	Firms complying with buyer's code. Firms obtaining standard social codes certifications	25% of firms complying with buyer's code. 20 firms obtaining standard social codes certifications	As a result of compliance, 35% of the firms linked to markets About 60% of workers getting all statutory benefits
Pollution	Sensitisation of stakeholders Technical inputs	Three awareness programmes about pollution control covering owners of about 80 firms. 200 workers trained in operating pollution control devices.	50 % of the total solid waste generated by the cluster is being disposed in a systematic manner About 40 % of firms have proper air pollution control equipment
Health Care	Sensitisation of stakeholders Improved access to healthcare facilities	1000 workers benefited from training programmes on occupational health & safety training 10 health camps organised	Incidence of absenteeism among workers due to health issues reduced by a third.

For a given project, the CDA is required to develop the list of the indicators as illustrated in the table above.

5.4 Data for evaluation

The base data for such evaluation could be sourced from:

- Tabular formats filled-in as a part of the monitoring process.
- Information gathered while documenting the project (see section 3 above) including opinions/impressions of the CDA.
- Primary data collection.

Following is a brief:

5.4.1 Tabular formats filled-in as a part of the monitoring process

Following data from the monitoring process has to be culled out:

- Activity indicators:

  Percentage of activities done as per time plan drawn from Table 2.16; Activity Review (section 4.3.1); along with lessons as recorded by CDA.
- Assessment of output indicating number of beneficiaries (wherever relevant) (section 4.3.2.1).
- Efficacy of Common Facility Centre (if any) (section 4.3.2.2).
- Sufficiency of the interactions with the support institutions (section 4.3.2.3).
- Extent of trust among the stakeholders (section 4.3.2.4: Table 2.20 Format for CDA for monitoring trust level in the cluster).
- Assessment of outcomes (section 4.3).
- Judicious use of financial resources committed for project implementation (section 4).

Thereafter, the CDA is required to compare the actuals with the projections as per the cluster action plan. For instance, mobilising stakeholders' opinions, as a precursor to encouraging them to commit financial resources to set up a common effluent treatment plant could be a part of the action plan. The ultimate output as indicated in the action plan could be improved quality of ground water leading to better health and improved access to environmentally conscious large buyers. The data from the monitoring process could indicate the number of firms that participated in the awareness workshop(s), number of stakeholders making financial contribution to set up the CFC, implementation of the CFC and the like. The evaluation has to focus on the extent to which the awareness on effluent disposal has percolated down to all the concerned individuals, the efficacy of the CFC in tackling the issue and the extent to which it has translated into ultimate output.

5.4.2 Information gathered while documenting the project

The CDA is required to document the following:

- The process of selection of the cluster
- Diagnostic study: the process and findings
- The process of preparation of the action plan and the contents
- Implementation of the action plan
- Output in terms of the immediate results produced by a given activity
- Outcome of individual interventions and of the project as a whole

While the hard data on the above could be culled out of monitoring reports, the most important contributions of the documentation to the process of evaluation are the process data and the record of the lessons emerging from implementation of individual components of the action plan.

5.4.3 Primary data

To take care of any data gaps and to authenticate the evaluation process, the CDA may like to gather primary data. This is more relevant for assessing those indicators that are more opinion based. For instance, to assess the level of awareness of SEE issues among the stakeholders, their participating in the workshops/seminars could be the yardstick. However, not all stakeholder groups or all members of a given group may have the opportunity to participate in such awareness workshops. Amongst those who participate, there could be some still lacking awareness. In such as case, primary data collection through stratified sampling could provide an insight. There will also be evaluation of various project fallout and policy level impacts which can be verified by discussing with a range of policy level persons and with similar or other industries/clusters that surround the cluster.

5.5 Sustainability

The process of cluster development initiated by the implementing agency has to be carried forward in the long run after the agency withdraws. The sustainability of such efforts could be manifested in several forms as under:

- Cooperation among firms in the form of networks, joint activities, consortiums, and associations.
- Cluster management/administration units that may have been created and thriving.
- New support institutions/private entities that have joined the cluster, or have been created in it.

- Emergence of specialised support service providers (if missing before the intervention) and their active involvement in the development process.

The cluster stakeholders themselves could come together in one form or the other to attain sustainability of developmental efforts. In any cluster, there could be such stakeholders or intermediaries (other than individual firms) as under:

- Networks/associations of firms
- Support institutions: Promotional bodies (such as export promotion councils for instance), development finance institutions, state-sponsored R&D institutions and the like
- Service providers and
- CD institutions

Presence of these intermediaries in sufficient numbers and their capacity will vary over the period of intervention. Even at the conclusion of a programme, with a duration of say three years, by an implementing agency, these intermediaries might not have matured fully.

To assess the preparedness of these intermediaries who will ensure self-governance in the cluster, one can use a tool called the sustainability index. The index measures the degree of sustainability of operations by the cluster itself at any point of time. The index can be constructed at regular intervals during implementation. Details of the index are provided in Annex XIII.

In a demand driven methodology, the importance of networks/associations will be the maximum, as demand from their side will make the other intermediaries move. The support institutions and the service providers will have to address those needs promptly to keep the momentum of business cooperation going. The CD institutions will need to coordinate these mechanisms and create an enabling environment for smooth operations.

We can thus provide the highest weight to networks/associations (60 per cent), followed by support institutions and service providers (30 per cent) and CD institutions(10 per cent), to demonstrate their importance in the sustainability index. In each group one can divide a total weight of 100 for that group among various group members as per their importance with respect to criticality and cluster coverage. A weighted value of each member of a group can be derived by assigning a weight pattern as given in the table below. The sum total of weighted index of each group can then be further weighted by 60 per cent for the group of networks/associations, 30 per cent for the group of support institutions and service providers and 10 per cent for the group of CD institutions. The gross value of the index will indicate the preparedness of the cluster with respect to self-governance.

Allocation of score for an intermediary in each group is provided in the table as follows:

1. Enterprises' Representatives

Score	Features
0	Not existing.
1–2	Just established and/or dormant.
3–4	Regular meetings being held; discussions on provisional agenda; limited commitment of funds by participants; office bearers selected.
5–6	Short-term agenda endorsed by members; some activities started under near-complete support(financial and/or technical) of the implementing agency; positive feedback from members that increasingly contribute financially; growing membership.
7–8	Medium-term agenda endorsed by members; overall activities partially sustainable financially; capacity to network with support institutions/BDS providers without implementing agency support; target membership achieved.
9–10	Full financial sustainability; complete endorsement of cluster development approach; long-term agenda endorsed by members; full networking capacities; participation in coordinated cluster-wide activities.

2. Support/Service Providers

Score	Features
0	Not existing locally; totally detached from potential consumers.
1–3	Provider created locally; preliminary discussions with potential customers coordinated by UNIDO.
4–6	Pilot services along new format launched; significant funding support from implementing agency; feedback from users acknowledged as guide for further customisation of services.
7–9	Pilot services turned into routine; increasingly sustainable commercially; autonomous networking for funds/expertise; new services launched on a regular basis.
10	Fully endorses cluster development approach; high demand among customers; fully pro-active with other local support institutions; investment of own funds for cluster development, open to introduction of new services.

3. CD Institution

Score	Features
0	Not existing.
1–3	Preliminary interactions with CDA; limited interactions with cluster actors.
4–6	Coordination of pilot activities under CDA guidance; linkage with sponsors through implementing agency; linkages with policy makers established.
7–9	Autonomous dialogue with policy makers and support institutions; legitimised with majority of cluster actors.
10	Fully acknowledged as coordinating agent by most cluster actors; economically sustainable with its own contribution to cluster development; long-term coordination capacities created; fully competent on cluster development methodology.

An illustration with reference to Chanderi Handloom cluster, applying the above system is as follows:

Table 2.33 Sustainability indicator – an illustration of the Chanderi Handloom Cluster

(To be Prepared by the CDA and Validated by IA)

	Weight	Score		Weighted Score	
		Jun–03	Jun–06	Jun–03	Jun–06
Networks/Associations of stakeholders					
Silk Club	30	3	4	5.4	7.2
Bunkar Vikas Sansthan 1	20	0	7	0.0	8.4
Bunkar Vikas Sansthan 2	10	0	4	0.0	2.4
20 well functioning SHGs	10	0	7	0.0	4.2
20 not well functioning SHGs	10	0	3	0.0	1.8
40 Likely SHGs/networks	20	0	0	0.0	0.0
Total				5.4	24.0
Support Institutions					
Government Training Centre	5	5	6	0.75	0.9
Weavers Service Centre	10	3	10	1.8	3.0
National Institute for Fashion Technology (NIFT)	5	2	2	0.6	0.3
MPHSVN (a marketing NGO of the State Government)	10	6	7	3.6	2.1

	Weight	Score		Weighted Score	
		Jun–03	Jun–06	Jun–03	Jun–06
NMDFC (a specialised financing organisation)	10	0	5	0.0	1.5
Small Industries Development Bank of India (SIDBI)	10	0	5	0.0	1.5
NABARD	5	0	4	0.0	0.6
BASIX	5	0	10	0.0	1.5
Dept. of Rural Industries	10	8	8	4.8	2.4
Fab India (a high-end marketing entity)	5	0	10	0.0	1.5
Women Weaves (a marketing NGO)	3	0	5	0.0	0.45
Dastkar	2	0	5	0.0	0.3
SEWA Ahmedabad (a marketing NGO)	2	0	5	0.0	0.3
Crafts Council Kolkata (a marketing NGO)	3	0	5	0.0	0.45
Future market linkages (unexplored as of now)	15	0	0	0.0	0.0
Total				11.55	16.8
Brokering Institutions					
Chanderi Development Foundation	50	0	3	0.0	1.5
Likely brokering institution	50	0	0	0.0	0.0
Total				0.0	1.5
Grand total				16.95	41.3

Source: Sarkar, Dr Tamal, 'Pro poor cluster development methodology of UNIDO', Foundation for MSME Clusters.

5.6 Participatory evaluation

Many a time, the voice of the poorest, underprivileged and women gets overshadowed by the powerful opinions of the rest of the stakeholders. This could happen despite efforts to draw a representative sample at the time of gathering primary data. Hence a participatory approach to evaluation will be ideal to understand the status of accomplishment of the overall project objective, especially in terms of promoting socially responsible behaviour.

Participatory appraisal is an approach used by non-governmental organisations (NGOs) and other agencies for developmental projects. The approach is different from the regular evaluation process in the sense that it incorporates knowledge and opinions of disadvantaged communities who are expected to benefit from the project. It relies heavily on participation by

the communities, as the method is designed to enable local people to be involved, not only as sources of information, but also as partners with the evaluation team in gathering and analysing information. Generally a local team (speaking the local languages) best conducts such an appraisal with a few outsiders present, a significant representation of women and a mix of sector specialists and social scientists, according to the subject.

While the CDA is the focal point for carrying out evaluation, the process of participatory evaluation needs to be guided by the concerned expert. A local NGO could be assigned the task of participatory appraisal.

Annex I

Relevant social sector schemes that are applicable in MSME clusters

Sr. No.	Name of Scheme	Objective/focus of the scheme
Ministry of Woman and Child Development		
1.	Employment-cum-income Generating Unit for Women (NORAD) www.wcd.nic.in/rus15.htm http://planningcommission.nic.in/plans/annualplan/ap2021pdf/ap2021ch5-6-1.pdf	Formulation and documentation of projects Provide tie-up of marketing arrangements Providing skills, management and training
2.	SWAYAMSIDHA (IWEP)- Integrated scheme for women's empowerment (IWEP) www.wcd.nic.in/iwepdraft.htm	Establishment of self-reliant women's Self-Help Groups (SHGs); Women will be encouraged to form groups according to their socio-economic status and felt needs, after which they will network with other groups. In addition to empowering SHG members per se, by federating and networking strong pressure groups for women's empowerment/rights will be formed. Creation of confidence and awareness among members of SHGs regarding women's status, health, nutrition, education, sanitation and hygiene, legal rights, economic upliftment and other social, economic and political issues. Strengthening and institutionalising the savings habit in rural women and their control over economic resources. Improving access of women to micro-credit. Involvement of women in local-level planning. Convergence of different agencies for women's empowerment and integrated projects accessing delivery of different schemes from a single window. Inculcating a subsidy-free approach to women's empowerment.

Sr. No.	Name of Scheme	Objective/focus of the scheme
3	General Grant-in-Aid Scheme for Assistance to NGOs/Voluntary Organisations http://labour.nic.in/cwl/Grant-In-Aid.pdf www.wcd.nic.in/us9.html#b9	To prohibit child labour in hazardous employment and regulate their working conditions in other employment/ occupations. To formulate income generating schemes and other action projects for women labour.
4	Support to training and employment programme for women (STEP) www.wcd.nic.in/rti_step.pdf http://www.wcd.nic.in/rti_stepenclosure1.pdf http://www.wcd.nic.in/rti_stepenclosure2.pdf	To mobilise women in small viable groups and make facilities available and access to credit. Provide training for skill upgradation, enable groups of women to take up employment-cum-income generation programmes by providing backward and forward linkages. Provide support services for further improving training and employment conditions for women.
5.	Crèche & Hostel, for working women www.wcd.nic.in/us12.hctml	To provide accommodation for single working women, unmarried, widows, divorced, separated, married when husband is out of town: Accommodation to women who are being trained for employment provided the training period does not exceed one year. The number of working women falling in this category should not be more than 30% of the total number of women in the hostel. Accommodation to the girl students for a period of five years on the condition that first preference will be given to working women only. In case of any vacancies accommodation will be provided to the students also but amongst them, preference will be given to those studying in post-school professional courses. The category of women who are being trained for employment and the girl students together should not be more than 30% of the total number of women in hostels.

Sr. No.	Name of Scheme	Objective/focus of the scheme
6.	Rashtriya Mahila Kosh (RMK) www.wcd.nic.in/ar2007/English/Chapter/ch11.pdf	RMK extends micro-finance services through a client friendly, without collateral and hassle-free loaning for livelihood activities, housing, micro-enterprises, family needs, etc. RMK has also taken a number of promotional measures to popularise the concept of micro-financing, thrift credit, formation and stabilisation of Self Help Groups (SHGs) and also enterprise development for poor women.
7.	Scheme of Assistance to Voluntary Agencies for Early Childhood Education for 3–6 Age Group Children www.wcd.nic.in/us17.html	A significant start will be made for the development of early childhood education (ECE) for the first generation learning families in backward areas. First programmes of training of ECE teachers and early childhood education centres as adjuncts of primary/middle schools will be started under the State Sector of Plan. Secondly, UNICEF has agreed to extend assistance for the development of ECE programmes in 11 states during the 1981–83 period of Master Plan of Operation. Significant inputs have been offered by UNICEF on workshop/seminars for developing and producing training materials, orienting administrative and supervisory personnel, providing short-term training of early childhood educators and supplying play materials and equipment of a selected number of ECE centres in each of the 11 states.
8.	National crèche fund scheme, 1994 www.wcd.nic.in/childdet.htm	To meet the growing demands for crèches and to provide day care facilities to the children in the age group of 0–5 years.

Sr. No.	Name of Scheme	Objective/focus of the scheme
9.	Gender Budgeting Scheme http://wcd.nic.in/schemes/gbscheme.pdf	To initiate an integrated approach and guide the Gender Budgeting Cells (GBCs) setup by different Central Ministries/Departments by disseminating the concept, tools and strategy of gender budgeting. To coordinate and monitor gender budgeting exercises of GBCs and facilitate gender budgeting analysis. To organise workshops to facilitate capacity building and training for various stakeholders including officials of Central and State Governments, PSUs, corporate sector, Panchayati Raj Institutions (PRIs) and NGOs, etc. To provide assistance to develop training modules/ packages, training material and information booklets and manuals for gender budgeting for all stakeholders To encourage State Governments and PRIs in evolving plans and strategies for undertaking gender budgeting by providing assistance, support and consultancy services for organising workshops, seminars, training programmes, etc. To provide assistance to support research studies, surveys, etc., to research institutes, NGOs, etc., for gender budgeting. To pilot action on gender sensitive review of national policies such as fiscal, monetary, environment, trade etc. To pilot action on gender review and gender audit of important legislations Guide and undertake collection of gender disaggregated data. Conduct gender based impact analysis, beneficiary needs assessment and beneficiary incidence analysis Collate and promote best practices on gender budgeting.
10.	Scheme for welfare of working children in need of care and protection http://wcd.nic.in/schemes/workchild.pdf	Provision of opportunities including non-formal education, vocational training, etc., to working children to facilitate their entry/re-entry into mainstream education in cases where they have either not attended any learning system or where for some reasons their education has been discontinued, with a view to preventing their continued or future exploitation.

Sr. No.	Name of Scheme	Objective/focus of the scheme
11.	Balika Samridhi Yojana http://wcdhry.gov.in/balika_samridhi_yojana.htm	To change negative family and community attitudes towards the girl child at birth and towards her mother. To improve enrolment and retention of girl children in schools. To raise the marriage age of girls. To assist the girl to undertake income generating activities.
12.	Kishori Shakti Yojana http://wcd.nic.in/KSY/ksyintro.htm	To improve the nutritional, health and development status of adolescent girls, promote awareness of health, hygiene, nutrition and family care. Link them to opportunities for learning life skills, going back to school, help them gain a better understanding of their social environment and take initiatives to become productive members of the society.
13.	Integrated child development services scheme http://wcd.nic.in/icds.htm	To improve the nutritional and health status of children in the age-group 0–6 years. To lay the foundation for proper psychological, physical and social development of the child. To reduce the incidence of mortality, morbidity, malnutrition and school dropout. To achieve effective coordination of policy and implementation amongst the various departments to promote child development. To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.
Central Social Welfare Board		
14.	Working women's hostel scheme www.wcd.nic.in/cswb1.htm#Support	To provide assistance to organisations to enable them to provide safe and secure hostel facilities for working women.
15.	Crèches (Rajiv Gandhi National creche scheme for the children) www.wcd.nic.in/cswb1.htm#Support	Provide assistance to NGOs for running crèches for infants (0–6 years). Provide assistance to ensure sleeping facilities, health care, supplementary nutrition, immunisation, etc., for running a creche for 25 infants for eight hours i.e., from 9:00 am to 5:00 pm.

Sr. No.	Name of Scheme	Objective/focus of the scheme
Small Industries Development Bank of India (SIDBI)		
16.	Mahila Vikas Nidhi (MVN) (Enterprise Promotion) http://www.sidbi.in/MVN.ASP http://www.smallindustryindia.com/schemes/tread.html	MVN is SIDBI's specially designed fund for economic development of women, especially the rural poor, by providing them avenues for training and employment opportunities.
17.	Micro Credit Scheme (Entrepreneur Development) http://www.smallindustryindia.com/schemes/microfinance.htm http://www.sidbi.in/Micro/index.htm	To create a national network of strong, viable and sustainable Micro-finance Institutions (MFIs) from the informal and formal financial sector to provide micro-finance services to the poor, especially women. To support and promote men and women of low-income families to develop micro enterprises through entrepreneurship development to create employment and income generating opportunities to reduce poverty.
18.	Scheme for Energy Saving in MSMEs http://www.smeforum.in/index.php?option=com_content&view=article&id=171:sidbi-financing-scheme-for-energy-saving-projects-in-msme-sector&catid=36:across-the-globe&Itemid=110	The Japan International Cooperation Agency (JICA) has extended a Line of Credit to Small Industries Development Bank of India (SIDBI) for financing energy saving projects in Micro, Small and Medium Enterprises (MSMEs) Sector. The project is expected to encourage MSME units to undertake energy saving investments in plant and machinery/production process to reduce energy consumption, enhance energy efficiency, reduce CO_2 emissions and improve profitability in the long run.
Ministry of Youth Affairs & Sports		
19.	Scheme for Assistance to Youth Club www.yas.nic.in/yasroot/schemes/clubs.html http://goicharters.nic.in/youthaffairs.htm	In order to enable youth to mobilise themselves for their own as well as the community's welfare.

Sr. No.	Name of Scheme	Objective/focus of the scheme
Ministry of Social Justice and Empowerment		
20.	Scheme for Grant-in-Aid to Voluntary Organisations Working for Scheduled Castes http://www.socialjustice.nic.in/ngosch1.pdf	The main objective behind the scheme is to involve the voluntary sector and training institutions of repute to improve educational and socio-economic conditions of the target group i.e., Scheduled Castes with a view to upgrade skills to enable them to start income generating activities on their own or get gainfully employed.
21.	Assistance to NGOs working for SC ST & OBC http://www.socialjustice.nic.in/obcngosch.pdf	To involve the voluntary sector to improve educational and socio-economic conditions of the target group, with a view to upgrade skill to enable them to start income generating activities on their own.
22.	Scheme of Assistance for the Prevention of Alcoholism & Substance (Drugs) Abuse http://www.socialjustice.nic.in/drugsabuse.pdf	To support activities of non-governmental organisations, working in the areas of prevention of addiction and rehabilitation of addicts. Create awareness and educating the people about the ill-effects of alcoholism and substance abuse on the individual, the family and society at large. Develop culture-specific models for the prevention of addiction and treatment and rehabilitation of addicts. To evolve and provide a whole range of community based services for the identification, motivation, detoxification, counselling, after care and rehabilitation of addicts. To promote community participation and public cooperation in the reduction of demand for dependence-producing substances, collective initiatives and self-help endeavours among individuals and groups vulnerable to addiction and considered at risk. To establish appropriate linkages between voluntary agencies working in the field of addiction and government organisations.

Sr. No.	Name of Scheme	Objective/focus of the scheme
23.	Income Generating Programmes for the Disabled http://www.karmayog.org/library/libartdis.asp?r=152&libid=128	Promote economic development activities and self-employment ventures for the benefit of persons with disability. Extend loan to persons with disability for upgradation of their entrepreneurial skill for proper and efficient management of self-employment ventures. Extend loan to persons with disability for pursuing professional/technical education leading to vocational rehabilitation/self-employment. To assist self-employed individuals with disability in marketing their finished goods.
24.	Scheme of assistance to disabled persons for purchase of Aids/ Appliances http://www.socialjustice.nic.in/adipmain.php	To assist needy disabled persons in procuring durable, sophisticated and scientifically manufactured, modern, standard aids and appliances that can promote their physical, social and psychological rehabilitation, by reducing the effects of disabilities and enhance their economic potential.
25.	Deendayal Disabled Rehabilitation Scheme to promote Voluntary Action for Persons with Disabilities (Revised DDRS Scheme) http://www.socialjustice.nic.in/ddrs.php	To create an enabling environment to ensure equal opportunities, equity, social justice and empowerment of persons with disabilities. To encourage voluntary action for ensuring effective implementation of the People with Disabilities (Equal Opportunities and Protection of Rights) Act of 1995.
26.	Integrated Programme for Older Persons http://www.socialjustice.nic.in/ipop.php	To improve the quality of life of the elderly by providing basic amenities like shelter, food, medical care and entertainment opportunities and by encouraging productive and active ageing by providing support for capacity building of Government/Non-Governmental Organisations/Panchayati Raj Institutions/local bodies and the community at large.
Department of Elementary Education and Literacy, and Department of Secondary and Higher Education, Ministry of Human Resource Development		
27.	Integrated Education for Disabled Children (IEDC) http://www.education.nic.in/iedc_sch_draft.asp	To educate students with disabilities in accordance with the principles of inclusive education by incorporating the 'social model of disability' – the scheme aims to create an environment that respects and values diversities and attempts to increase enrolment, retention and achievement of students with disabilities in general education/regular schools.

Sr. No.	Name of Scheme	Objective/focus of the scheme
28.	Scheme of Support to Voluntary Agencies for Adult Education and Skill Development http://education.nic.in/MHRD.pdf	To improve the occupational skills and technical knowledge of neo-literates and trainees and to raise their efficiency and increase productive ability. To provide academic and technical resource support to zilla saksharata samities in taking up vocational and skill development programmes for neo-literates in both urban and rural areas. To serve as nodal continuing education centres. To organise training and orientation courses for key resource persons, master trainers on designing, development and implementation of skill development programmes. To organise equivalency programmes through 'open' learning systems. To widen the range of knowledge and understanding of the social, economic and political systems. To promote national goals such as secularism, national integration, population, etc.
29.	Environmental Orientation to School Education http://www.iesglobal.org/environemntal-orientation.htm	To promote experimentation and innovation, and to complement in diverse ways the goals spelt out in NPE-86 and NCF-2005 for creating environmental consciousness and related behavioural practices among students. Some of the activities envisaged under the scheme are: Encouraging and undertaking curriculum enrichment projects in the area of environment, including making environmental education an integral part of curriculum in school education, leading to development of local-specific teaching-learning materials (e.g., brochures, posters, maps, charts, art and artifacts, models, audio and video materials as well as CDs and websites), organisation of exhibitions, literary gatherings, dramas, debates and discussions, dances, film shows, street-plays, melas and other such activities including those which the panchayats may suggest. Action research/experimental/innovative activities, including activities aimed at generating good primary data on local environmental parameters wherever necessary involving the panchayats.

Sr. No.	Name of Scheme	Objective/focus of the scheme
30.	Scheme on Non-Formal Education http://www.education.nic.in/cd50years/r/2P/8R/2P8R0301.htm	The broad aim of the scheme is to effectively involve voluntary agencies, public trusts, non-profit making companies, social activist groups etc., in the implementation of non-formal education programme for elementary age-group children. There are two types of non-formal centres: one run under SSA, and the other under the National Child Labour Project (NCLP). Under both the schemes, NGOs run the centres with funding from the government.
Ministry of Development of North Eastern Region		
31.	Capacity Building and Technical Assistance http://mdoner.gov.in/index2.asp?sid=263	To provide employable skills to the youth of the region, entrepreneurial skills, competencies that will enable them to become self-employed, organise job fairs within and outside the region, disseminate information and counseling on options relating to career, education including vocational and technical education, both in physical and electronic form, assist in surveys, evaluation in the field of skills and competencies, assist institutions/organisations in the public/private/non-profit/joint sector who can assist in testing of competency levels and certification so as to enhance employability especially in the unorganised sector, assist in providing any other specialised inputs required for human resource development for building of skills and capacities in any sector that is critical for the development of the region, provide technical assistance for development of human resources and capacity building. Emphasis of the scheme will be on actual delivery of skills and not only on sensitisation or advocacy.
National Minorities Development and Finance Corporation		
32.	Educational Loan Scheme http://www.nmdfc.org/schems&prog.html http://www.nmdfc.org/refer_manuals11.html	To facilitate job-oriented education amongst the weaker sections of Minorities.
Ministry of Environment and Forests		

Sr. No.	Name of Scheme	Objective/focus of the scheme
33.	Industrial Pollution Abatement through Preventive Strategies http://moef.gov.in/report/0910/Annual_Report_ENG_0910.pdf#page=5	To assist the primary small units and some medium scale units who do not have access to the requisite technical expertise to achieve waste minimisation but excludes procurement of equipment and hardware. Establishing and running Waste Minimisation Circles (WMCs) in clusters of small & medium industries. Capacity building in the area of waste minimisation/cleaner production through training. Waste minimisation demonstration studies in selected industrial sectors. Preparation of sector specific technical manuals on waste reduction, reuse and recycling. Awareness programmes and preparation of compendium of success stories on cleaner production/waste minimisation.
34.	Common Effluent Treatment Plants (CETP) http://envfor.nic.in/funding/chap2.pdf	To encourage use of new technologies for CETPs for existing units in SSI clusters, a scheme for financial assistance has been formulated. This promotional scheme is being instituted and will be implemented during the Tenth Five Year Plan. To reduce the treatment cost to be borne by an individual member SSI to a minimum while protecting the water environment to a maximum. Wastewater treatment and water conservation are the prime objectives of the CETP.
35.	Clean Technologies http://moef.gov.in/report/0910/Annual_Report_ENG_0910.pdf#page=5	To develop and promote programmes for clean technologies. To develop tools and techniques for prevention of pollution. To formulate strategies and programmes in sustainable development.
36.	GRANT-IN-AID for Greening India http://envfor.nic.in/funding/chap3.pdf	To create an enabling environment through capacity building at various levels for tree planting, and production and use of quality planting material. To make available quality planting material by establishment of high tech nurseries. To create awareness amongst people for improved technology of tree planting and use of quality planting material. To develop and facilitate linkages between production systems of quality planting material and user groups. To contribute towards increase in tree cover in the country by focusing on non-forest lands.

Annex II

Sampling method in mapping of energy in Jalandhar Sports Goods Cluster

The first step was followed by dividing the population into sub-groups of:

- Inflatable Balls
- Wood Based Products
- Protective Equipment

The second step incorporates selection of subjects based on a proportion and herein the categorisation was done on basis of turnover. This is:

- Medium units (50 to 500 million)
- Small units (0.5 to 50 million)
- Micro units (upto 0.5 million)

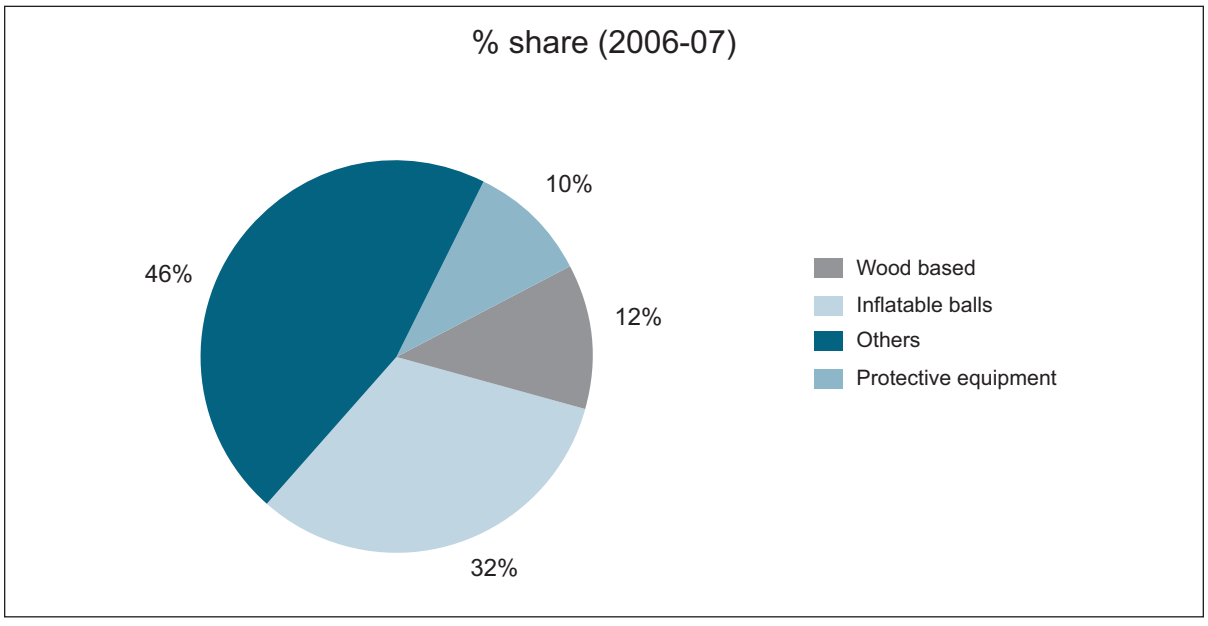


Table: Summary of sampling

Size-category	Sample	Population	Product category	Sub-product category	Sample % of population
Medium	11	35	Wood based products sample = 4	Bats sample = 2	32 %
				Hockey sample = 2	
			Inflatable ball products sample = 5	Footballs sample = 2	
				Basketball/Rugby sample = 3	
			Protective equipment sample = 2	Protective equipment sample = 2	
Small	9	130	Wood based products sample = 4	Bats sample = 2	7 %
				Hockey sample = 2	
			Inflatable ball products sample = 3	Footballs sample = 2	
				Basketball/Rugby sample = 1	
			Protective equipment sample = 2	Protective equipment sample = 2	
Micro	10	495	Wood based products sample = 4	Bats sample = 2	3.5 %
				Hockey sample = 2	
			Inflatable ball products sample = 4	Footballs sample = 2	
				Basketball/Rugby sample = 2	
			Protective equipment sample = 2	Protective equipment sample = 2	

Annex III

Jalandhar Sports Goods Cluster – illustration of impact of cluster operations on the community & the environment (2008)

Activity area Operations and Processing

Type of activities performed	Societal impact	Environmental impacts
1. Use of electrical, diesel, solar and biomass energy in wood base sports goods manufacturing processes – cutting, finishing, drying and boiling water for heat treatment of wood	Occupational Health Hazards: Repeated exposure to wood dust particles (<4 μm) can cause chronic bronchitis, emphysema, 'flu like' symptoms, and have more dangerous results decades after exposure such as cancer	**Air Contamination:** Spread of Saw dust in the atmosphere leads to deterioration of air quality **Noise Pollution:** The running machines produce a lot of noise. As there is no enclosure in which they are placed. The noise severely affects the workers working on the machines and people in their vicinity. Workers are usually not provided with ear plugs to prevent hearing damage. If they are, they do not find them convenient to use and put them on only when the supervisors are around **Solid Waste Generation:** Pieces of wood of various sizes are cut out as a result of cutting procedure. The larger pieces are used as fuel to heat water for boiling. The smaller pieces have no usability in the wood based firms. They are sold randomly to traders who come and collect them from the firms. The pieces are used further for various processes like clogs for nails and by carpenters for some random application. The most common use is as fuel **Air Pollution:** Pollution as a result of fumes generated by diesel generators

Type of activities performed	Societal impact	Environmental impacts
		Saving conventional sources of energy: Left over pieces from cutting of logs are used for this purpose. On one hand waste is being used but at the same time it is a very inefficient way of boiling water with most of the chambers fashioned in house without much technical expertise **Risk of Fire:** Risk of Fire with a huge mass of wood lying unattended most of the time **Deterioration of soil quality and Solid Waste Generation:** Ash is produced as a result of burning of wood. This ash is usually dumped near the factory premises. It deteriorates the soil quality in the dumping area and finer particles mix with air causing pollution
2. Use of electrical, diesel, solar and biomass energy in soccer ball manufacturing processes – lamination, drying, panel cutting, screen printing, kit preparation and quality check	**Noise Induced Hearing Loss (NIHL):** Noise-induced hearing loss (NIHL)is hearing loss due to exposure to either a sudden, loud noise or exposure to loud noises for a period of time. A dangerous sound is anything that is 85 dB [sound pressure level (SPL)] or higher **Exposure to chemicals:** The chemicals used for screen reclamation can be some of the most hazardous products in a screen printing facility. Typically, highly volatile solvents are used. These cleaners may contain chemicals that are harmful to the health of employees if inhaled, ingested, or absorbed through the skin. If they are not disposed of properly, these products may also harm the environment **Posture and lighting:** Uncomfortable sitting position throughout the day can cause serious back and spine problems Inadequate lighting whilst doing minute work, like painting/printing on the balls, can cause ophthalmic ailments	**Solid waste generation:** Each unit produces hundreds of kilos of waste each day which is sold to traders who further sell it for fire-fuel purposes. The open burning of waste causes air pollution; the products of combustion include dioxins which are particularly hazardous **Air pollution:** Pollution as a result of fumes generated due to diesel generators **Noise pollution:** The running machines produce a lot of noise. As there is no enclosure in which they are placed the noise severely affects the workers working on the machines or people in their vicinity. Workers are usually not provided with ear plugs to prevent hearing damage. If they are, they do not find them convenient to use and put them on only when the supervisors are around **Saving of conventional source of energy:** Since solar energy is used to dry the laminated sheets, there occurs a saving of electricity which otherwise is used to induce heat in a closed room where the laminated sheets are spread for drying

Annex IV

Analysis of socio-economic and socio-cultural BR issues in the Sponge Iron Industries Cluster, Rourkela, India

1. Introduction

Sponge iron, or Direct Reduced Iron (DRI), is a metallic product formed by direct reduction of iron ore at temperatures just below the fusion point of Iron. The name sponge iron is derived due to its porous nature. Sponge iron is an alternative to steel melting scrap. India has become the world's largest producer of sponge iron. The Rourkela Sponge Iron Cluster contributes over nine per cent of the total national sponge iron production.

2. Geographical location

Rourkela, the industrial capital of Orissa is situated in its north-western part in the mineral rich (iron ore, coal, manganese, limestone, dolomite mines) district of Sundergarh. Located 350 km from the state capital of Bhubaneshwar, it is well connected by road and rail with other parts of the country. It lies on the Calcutta-Mumbai trunk rail route.

3. Economic profile

Due to encouragement provided by state policies, a large number of sponge iron units came up in and around Rourkela, catering to large- medium- and small-scale customers. Most of the 46 sponge iron units are located in the Rourkela Industrial Estate, Kalunga Industrial Estate, and Kormanda, Rajgangpur, Bonai and Bisra areas. Most of the units are 7–8 years old and are of medium scale. The production capacity varies from 50 TPD to 400 TPD. Total production at cluster level is 4,600 MT/per day. Total turnover/per day of the cluster is Rs. 7.82 crore.

4. Raw materials

Direct reduction processes are very sensitive to chemical and physical characteristics of raw materials used in the process. Iron ore or pellets, reductant natural gas or non-coking coal and limestone/dolomite are the main raw materials. Iron is procured from Khandhar, Gandhamardhan, Kounjer, and Budvill through OMCL. The coal available to the cluster is low in quality (mostly

E/F grade) which bears high ash and low fixed carbon content. Coal is procured from Mahanadi Coal Fields. Dolomite is procured from Birmitrapur.

5. Manufacturing process

All the Rourkela sponge iron units employ the coal-based direct reduction process. This process utilises non-coking coal as a reducing agent along with lumpy rich grade iron ore. The reduction is carried out in an inclined horizontal rotary kiln, which rotates at a predetermined speed. Coal based direct reduction technologies involve reduction of iron oxides in the rotary kiln by using non-coking coal as reductant. Limestone or dolomite is used as de-sulphurising agent. The normal operating practice is to feed the kiln with the desired proportion of iron oxide, non-coking coal and limestone or dolomite.

The charge is first heated in the preheat zone and the reduction of iron ore is effected by reducing gases derived from coal gasification. The heat for the process is provided by burning coal volatiles and excess carbon monoxide emerging from the charge. A temperature profile ranging from 800-1,050 degree centigrade is maintained along the length of the kiln at different zones and as the material flows down due to gravity the ore is reduced. The hot reduced sponge iron along with semi-burnt coal, discharged from kiln is cooled in a water-cooled cylindrical rotary cooler to a temperature of 100–200 degree centigrade.

The discharge from the cooler consisting of sponge iron, char and other contaminations is passed through magnetic separators so that sponge iron can be separated from other impurities. Subsequently the sponge iron is stored in bins through conveyor belts. The gas (CO_2 and high ash content) generated in the process (in the kiln) are in the temperature range of 950-1,000 degree centigrade. These are taken through heat exchangers and cooled to 120–150 degrees centigrade and then passed through ESP/bag filters where the ash and coal dust is separated from the gas and the CO_2 is exhausted into the atmosphere.

6. Cluster vision

'To see Rourkela Sponge Iron and allied industries cluster to be environmentally responsible where the impacts have been minimised while ensuring enterprises, the workers and the local community around it to prosper'.

7. Social and environmental impact

The following matrix explains the social and environmental impacts of the activities of the sponge iron production units:

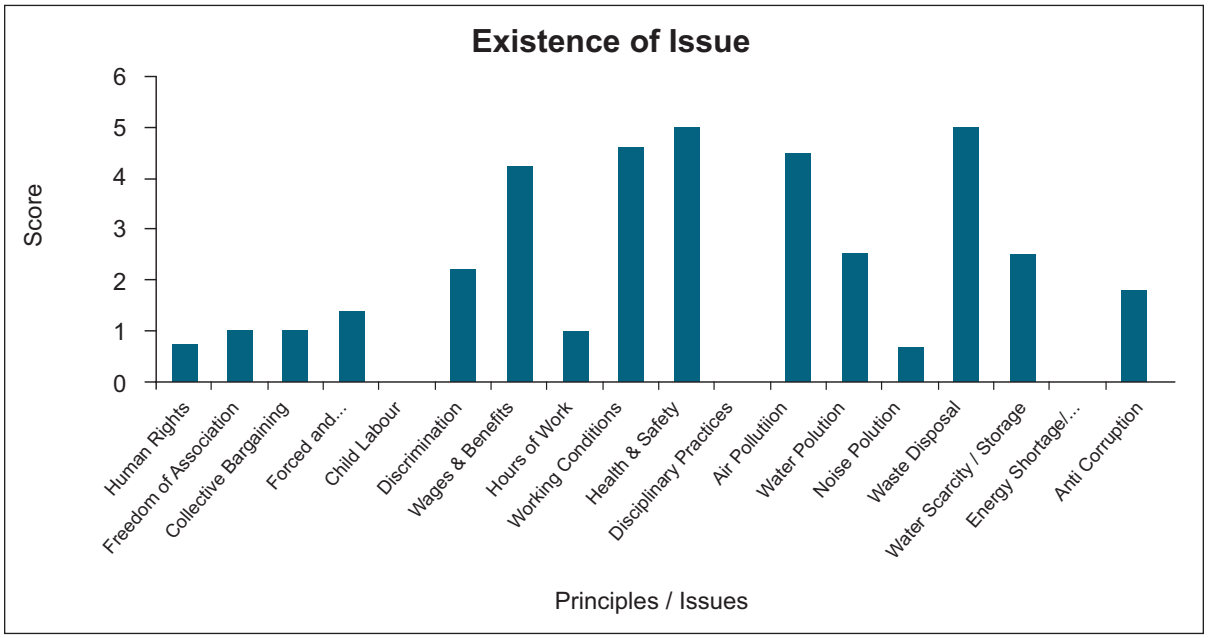
Sponge Iron Unit: Environmental impact of energy sources at different stages

Production processes	ESR concern areas	Possible impacts on environment	Possible impacts on society
Raw Material Handling	Generation of coal dust Excessive noise Workers health and safety	Air pollution Solid waste disposal	Workers health and safety Adverse health Impact on community, vegetation and natural habitat
Manufacturing Process	Coal dust generation Iron ore/powder generation Char/sludge generation Excessive heat Noise pollution Working conditions	Air pollution Solid waste disposal	Workers health and safety Adverse health Impact on community, vegetation and natural habitat Working conditions and working hours Low wages
Hot Gas Treatment	CO_2 Emission Ash and coal dust	Air pollution	Workers health and safety Adverse health Impact on community, vegetation and natural habitat

8. Understanding socio-cultural ESR issues by using Cluster Responsibility Perceptions Based Score Card (CRPBSC)

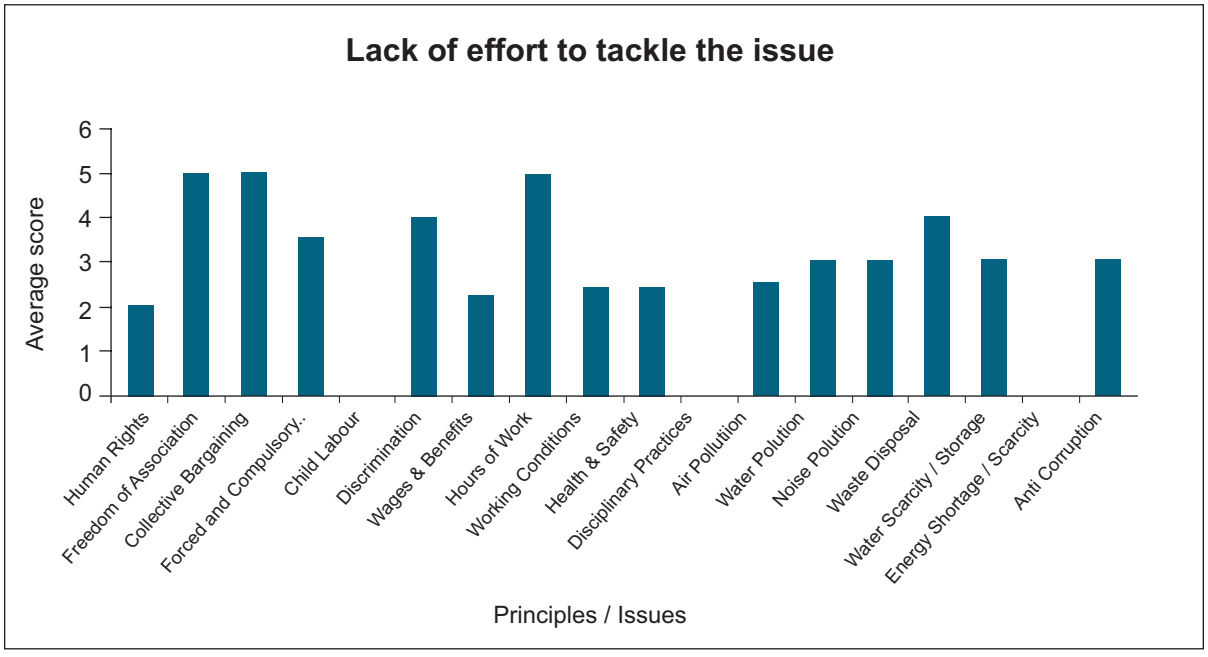
Based on inputs of the local industry leaders, government officials, representatives of local self government and the like, the cluster's Responsibility Behaviour as captured by the Cluster ESR Score Card information diagnostic tool is depicted in graphical form as follows:

8.1 Severity of the ESR issues faced by the cluster based on the average response of the relevant stakeholders is 'most severe':



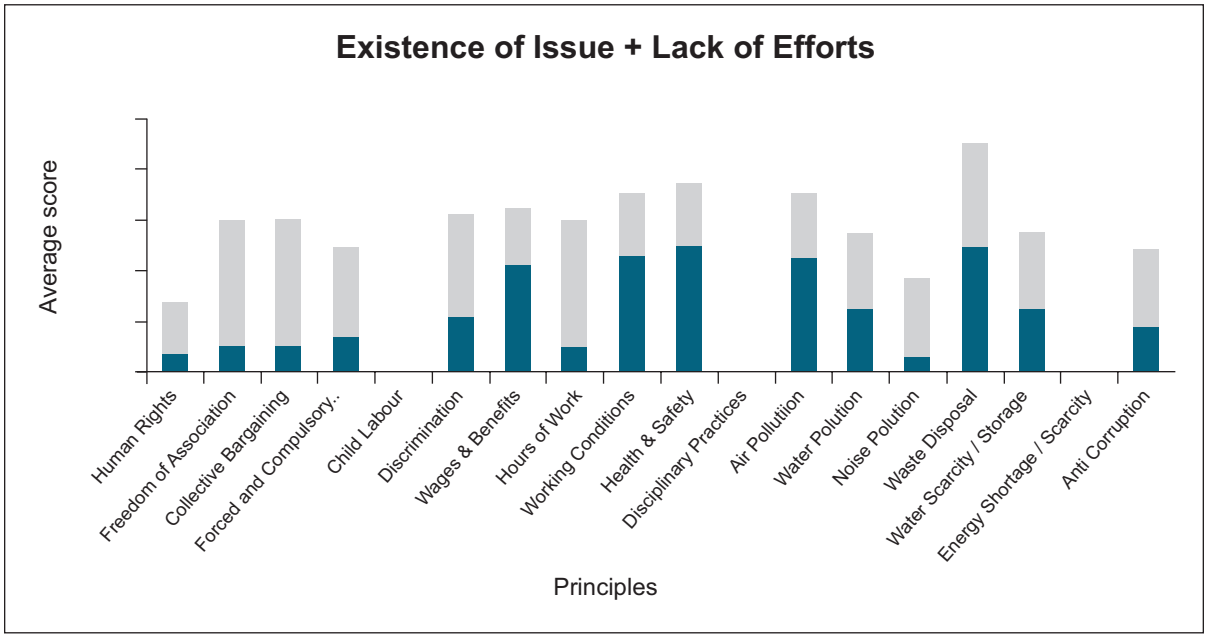
8.2 Activity undertaken to tackle/address the issue by the cluster stakeholder's individually or collectively till date:

CSR Score card showing lack of efforts to tackle the issue at Rourkela



8.3 Priority for action based on the severity and activity undertaken to tackle the ESR issue so identified:

CSR Score card showing existence of issues + lack of efforts at Rourkela



8.4 Analysis of CRPBSC issues in order of their existence and lack of efforts:

Criticality order	Name of the issue (Aspects)	Social and environmental impacts
1	Waste disposal	Adverse impact on human beings, natural habitat and vegetation in the local area
2	Health and safety	Workers health and safety problems
3	Air pollution	Adverse impact on human beings, natural habitat and vegetation in the local area
4	Working conditions	Adverse impact on the workers health
5	Wages and benefits	Poverty and social problems arising out of poverty like education to children, proper diet, health care, housing, drugs, women and child care issues, etc.
6	Discrimination	
7	Freedom of association and collective bargaining	Exploitation of the workers and social issues arising out of it

Annex V

Cluster profile: Rourkela Sponge Iron Cluster

(As updated on.....)

A. General Information

1. Location (as per administrative block along with the district): Rourkela – Sundergarh District

2. Principal Product/s: Sponge Iron

3. What type of Cluster is it?

   a) Industrial : √

   b) Artisan :

   c) Rural :

4. What is Number of Firms (Principal) in the cluster? – 45

5. What type of Firms exist in the cluster? (in % age)

   a) Micro : 0%

   b) Small : 6.67%

   c) Medium : 88.89%

   d) Large : 4.44%

6. What is the ownership pattern and their numbers (in %age)?

   a) Proprietorship :

   b) Partnership :

   c) Private Limited : 43

   d) Public Limited : 2

7. Specify the no. of companies certified

   a) ISO 9001 : 3 (OCL, Adhunik and Scan)

   b) ISO 14001 :

   c) OHSAS 18001 :

   d) SA 8000 :

   e) Any other management system :

8. Which are the corporate/large buyers sourcing from the cluster (both national and international)?

   a) National :

   b) International :

   None, as they are supplying to secondary steel producers – induction furnances, steel melting shops, etc.

9. How important is the product in the value chain/supply chain of the corporate/large buyer? If possible draw a value chain diagram.

   Very important raw material in the steel production.

10. What type of raw material is being used in the cluster?

    a) Coal

    b) Iron Ore

    c) Dolomite (as catalyst)

11. What is the cluster turnover (in INR Million)? :

12. What is the domestic/export contribution of the cluster (in % of its turn over)?

    a) Domestic : 100%

    b) Export : 0%

13. Does the cluster have a Common Facility Centre? If yes, specify

    a) Name(s) of the Common Facility Centre :

    b) The purpose of the centre :

    c) For how long it has been working :

    d) Benefits derived from the centre :

14. Does the cluster have Common Testing Laboratories (CTLs)? If yes, specify:

a)	Number of common testing laboratories	:
b)	Name(s) of the CTLs	: RITES Chemical
c)	Type of tests being carried out	: Physical Testing Laboratory

15. What are the R&D institutes in the cluster? If yes, specify:

a)	Name(s) of R&D Institutes	: None
b)	Type of R&D activities being carried out	:

16. Are there Industrial Training Institutes/Vocational Training Institutes/Polytechnics/ Engg. Colleges/other Technical Institutes operating in the cluster? If yes, specify the various courses/trainings being offered by them.

a)	No. of ITIs/VTIs with the name of trades	: 23 ITI, 4 diploma institutes
b)	No. of Polytechnics with the name of trades	:
c)	No. of Engineering Colleges with the name of trades	: 3 engineering colleges including 1 NIT
d)	Any other technical institute with name of course	: Indian Institute of Production Management and Workmen's Training Institute Jan Shiksha Sansthan (An institute of People's Education sponsored by the Govt. of India, Ministry of HRD)

17. What are the various government/regulatory departments functional in the cluster with respect to the industrial activity (Tick mark)?

a)	Inspectorate of Factories	√
b)	Department of Labour	√
c)	Pollution Control Board	√
d)	Labour Welfare	√
e)	Employment Exchange	√
f)	WESCO	√
g)		

18. No. of workers in the cluster and their institutional representatives:

a) Male/female ratio : 90% male and 10% female

b) Type of workers skilled, semi-skilled and un-skilled
: 0% skilled; 90 % semi-skilled; 10% un-skilled

c) Migratory labour or not (% age of total labour)
: 60 %

d) Employment of physically handicapped and disabled
: 0

e) Presence of home workers (no. and percentage of total workforce)
: 0%

f) Presence of contractors/sub contractors and the workforce supplied by them
: 80% of the workforce is through contractors

g) Presence of trade unions their names and approximate number of members:

1.

2.

3.

19. Presence of industrial associations – name of the associations and number of members:

a) RSMA (Rourkela Sponge Iron Manufacturer's Association) – part of Chambers of Commerce. All 45 industries are members.

b)

c)

d)

20. Presence of NGOs : None

a) Human rights :

b) Child labour/child rights protection :

c) Women issues :

d) Health & safety issues :

e) Education :

f) Poverty alleviation :

g) Environmental issues :

h) Community and social welfare :

i) Any other :

B. Information on Human Rights

1. a) Have there been any incidences of Human Right Violations reported in the cluster in the past 1 to 2 years?

   1) No √

   2) Yes

   3) Not Aware

   b) If yes, then give a brief of the issues leading to the incidence and how it was resolved? NA

C. Information about Labour

❖ **Freedom of Association and Right to Collective Bargaining**

1. Are the workers, employees and staff of the firms operating in the cluster organised?

   a) Labour union √

   b) Worker's association √

   c) Workers' committee

   d) No organisation

   e) Any other way (Specify)

2. a) Have there been incidences of industrial disputes – strike, walk out or protests in the past 1 to 2 years in the cluster?

a) No √

b) Yes

c) Not aware

b) If yes, then give a brief of the issues leading to the incidence and how it was resolved? NA

❖ **Forced and Compulsory Labour**

1. a) Have there been incidences of forced and bonded labour in the past 1 to 2 years in the cluster?

1) No

2) Yes

3) Not Aware

b) If yes, then give a brief description of the issues leading to the incidence and how it was resolved?

❖ **Child Labour**

1. a) Is child labour employed in the cluster?

1) No √

2) Yes

3) Not aware

b) If yes, what is the:

1) % age of child labour (as a % age of total workforce):

2) For what activity?

2. How effective is the government enforcement against child labour?

a) Not at all effective

b) Partially effective (satisfactory)

c) Very effective

❖ **Discrimination**

1. Is there equal salary/wages for equal work for male and female workers in the cluster?

   a) Yes

   b) In most cases √

   c) No

Compensation and Benefits/Wages and Benefits

1. What is the state/national government approved rate of minimum wages for workers in the cluster (in INR Per day)

   a) Unskilled : Rs. 70 per day for 8 working hours

   b) Semi-Skilled :

   c) Skilled :

2. What are the state/national government specified statutory benefits applicable for workers in the cluster (Tick)

   a) ESI

   b) PF

   c) Bonus

   d) Gratuity

   e) Maternity Benefits (For female Workers)

   f) Sick Leave

   g) Privilege leave

   h) .....

   i) .....

3. What is the state/national government specified overtime rate for workers?

   a) Twice the normal rate of wages

   b) 1.5 times the normal rate of wages

c) Same as the rate of wages

d) Not specified

❖ **Hour of Work/Working Hours**

1. What is the state/national government specified number of working hours for workers in the cluster

   Table for working hours – working time including breaks and no. of OT hours – shift system

   Shift – 6.00 AM to 2.00 PM, 2.00 PM to 10.00 PM and 10.00 PM to 2.00 AM. Half an hour break in between.

   General shift 9.00 AM to 6.00 PM. Lunch – 1.00 PM to 2.00 PM

   – Excluding overtime – is equal to the legal hours of work

   – Including overtime – is above 4 hours per day

2. When is the weekly off-day for cluster firms?

   General shift – Sunday, other shifts by rotation staggered

<u>Health & Safety</u>

1. a) Have there been any health & safety incidents reported in the cluster in the last 1-2 years?

   1 or more.

   b) If yes, then give a brief of the issues leading to the incidence and how it was resolved?

   The kiln gets choked by solidification of iron ore and coal and needs to be cleaned by accreation by workers manually. During accreation cutting, the solidified waste sometimes falls down on the workers causing injury and death as has happened recently, where there have been 2 deaths.

2. How are medical emergencies of workers in clusters handled by cluster firms? (Tick mark)

   a) First aid facility inside their facility

      1. First aid kits available √
      2. First aid trained person available √
      3. Medical room with doctor available

b) Tie up with doctor

c) ESI hospital √

d) Government hospital

e) Referral hospital

f) No such provision

3. How are fire emergencies handled by cluster firms?

a) Fire fighting facilities available within the facilities

1. Fire extinguishers available √

2. Sprinklers available

3. Fire alarm available

4. Fire exits available

5. Fire evacuation plans available

6. Persons trained on usage of fire fighting equipment √

b) Dependent on the Fire Department

c) No such provision

4. How effective are the health & safety inspections conducted in the cluster by the government ?

a) Very effective

b) Effective (satisfactory)

c) Not at all effective

D. Information on Environment

❖ Chemicals

1 i) What are the different types of hazardous chemicals being used in the cluster?

a.

b.

c.

ii) If hazardous chemicals are being used, which part of the process are these relevant?

Do the chemicals being used in the cluster have any negative impact on the health of workers using it or on air pollution or water pollution or community environment in and around the cluster?

❖ **Waste**

1. i). Does the cluster have a common ETP plant?

   a) Yes

   b) In process of being made

   c) No √

2. Does the cluster have a Common Solid Waste treatment plant?

   a) Yes

   b) In process of being made

   c) No √

3. Does the cluster have an approved landfill?

   a) Yes

   b) In process of being made

   c) No √

4. If no to above 2 questions on waste then what is the system of disposing waste?

   a) Waste disposal not required

   b) No system of waste disposal exists √

   c) Transferred to landfills in other clusters or adjoining area

   d) Burnt in the incinerator by individual units

5. Is there a system of monitoring waste disposal in the landfills?

   a) Yes

   b) No √

❖ **Energy**

1. What are the total energy requirements of the cluster?

   a) For Micro Enterprises : ---------- KWhs/Units

   b) For Small Enterprises : ---------- KWhs/Units

   c) For Medium Enterprises : ---------- KWhs/Units

   d) Total of above three : ---------- KWhs/Units

2. Which are the major consumption points for energy in the processes?

3. What are the different energy sources in the cluster to meet its energy requirements (of total energy)?

   a) State electricity utility : ---------- %

   b) Captive power plants : ---------- %

   c) Solar energy : ---------- %

   d) Wind energy : ---------- %

   e) Energy from bio-mass : ---------- %

   f) Any other sources (name) : ---------- %

4. What type of fuels are being used in the cluster?

   a) Coal :

   b) Diesel :

   c) Petrol :

   d) Wood :

   e) By-products of wood :

   f) LPG :

g) Any other :

5. Risk and its management

6. Have there been any environment related incidents reported in the cluster in the last 1-2 years? (e.g., effect of hazardous chemicals/raw materials on workers, cases of water pollution and its adverse effect on living beings, cases of air pollution and its adverse effect on living beings, waste disposal problems, improper management/utilisation of our natural resources like water, forest and land etc.)

   a) No

   b) Yes

   c) Not aware

7. If yes, please specify the issues leading to the incidence and how it was resolved?

8. How effective are the environmental inspections conducted in the cluster by the government?

   a) Very effective

   b) Effective (satisfactory)

   c) Not at all effective

9. Does the government have a disaster management plan to handle environmental mishaps in the cluster?

   a) Yes

   b) Not aware

   c) No

10. What are the environmental protective initiatives taken by the government?

    a) Rain water harvesting

    b) Re-forestation

    c) Energy efficiency

    d) .....

11. Does the government offer any incentives for the use of environmental/energy friendly technologies by industry?

    a) Yes

    b) Not aware

    c) No

E. Information on anti-corruption

1. Have there been any incidents of corruption or bribery reported in the cluster in the last 1-2 years?

    a) Yes

    b) No √

    c) Not aware

2. If yes, then give a brief of the issues leading to the incidence and how it was resolved?

F. Any other information on the cluster

General Comments

1. Age of cluster: The Rourkela Sponge and Iron Cluster has been in existence for about 5 years.

2. Any historical/geographical reasons for its establishment: The presence of coal and iron ore in a 200 km radius has led to the start of this cluster.

3. Nature of enterprises owners – progressive/dynamic/self satisfied/religion effect: Most of the industrialists/entrepreneurs are groups of traders, who wanted to do backward integration. The mentality is to look for short-term profit rather than long-term sustainability.

4. Nature of working processes/operations – polluting/clean/working condition/any specific: The sponge iron industry is a highly polluting industry – air pollution, waste generation, working conditions and H&S issues are known to all stakeholders.

5. Due to sporadic disposal of waste and pollution, the land for cultivation has been spoiled.

6. Government is trying to identify land areas for waste disposal through consultation.

7. Previously the area was a cement grinding cluster with a number of mini cement plants.

G. **Specific Comments** (Any specific information about the cluster with respect to human rights, labour, environment and anti-corruption not covered by the questions above can be mentioned here)

1) Human Rights

Fair consultation with tribals is not there. Approval for land acquisition not through multi-stakeholder consultation, but only NOCs from Village Panchayats, which is not appropriate.

2) Forced Labour

Wages not paid timely or as per law.

3) Discrimination

Migrant labour preferred by industrialists over local labour, as there is no liability for injury, etc., due to lack of collective association. The Collector & District Magistrate are trying to work out a way through the local employment exchange.

4) Wages and Benefits

Audit committee set up by Collector and District Magistrate for audit on minimum wages, payment of wages, wages slips, ID cards etc.

Annex VI

Sample format for listing and prioritisation of SEE issues

1. Introduction

Socio-cultural ESR issues	Ranking by:			Socio-economic ESR issues	Ranking by:		
	Cluster firm ranking	Agencies other than cluster firms	CDA		Cluster firm ranking	Agencies other than cluster firms	CDA
Education, health care, poverty, women & child, addiction, geriatric care, etc.				Technology, raw material, wastage, occupational hazards, health & safety, pollution, productivity, unfair labour practices, child labour, corruption, infrastructure, unfair trade practices, utilisation of scarce natural resources etc			

Annex VII

List of possible BR activities in clusters

Social Responsibility Area	Particulars of activities
Socio-economic ESR issues	Ethical issues related to marketing and after sales & services
Labour Welfare	Improvement in working conditions Health & safety training Fair wages Skills up gradation facilities for the workers Special facilities for women workers Group social security (life and medi-claim insurance) for the workers/artisans in the unorganised sector Avoiding gender discrimination of any type
Health care for worker/community	Raising awareness through lectures, seminars and workshops Adolescent health education and counselling Organisation of health camps for the workers, and their families Mobile diagnostic and treatment facilities Convergence of other organisations on health care initiatives Creation of infrastructure and facilities on health care
Education	Scholarships/stipends/stationery/uniform and other help for children of workers and weaker section of the society Tuition centres for workers children's in child labour intensive clusters Non-formal education, adult education, personality development, etc. Vocational training Environmental orientation to school education

Social Responsibility Area	Particulars of activities
Women & children	Construction and running of short stay homes for women and girls
	Assistance for women and children in difficult circumstances
	Employment-cum-income generating opportunities for women
	Activities related to women's empowerment
	Prevention of atrocities on women
	Training and employment programme for women
	Crèche facilities for working women
	Early childhood education for 3-6 age group children
Environment	Activities related to pollution – air, water, land and noise
	Activities related to waste management – ETP plants, landfills, incinerators, chemical disposal, etc.
	Proper and optimum utilisation of natural resources; non-use of restricted items and materials
	Rain water harvesting
	Water-shed management
	Aforestation
Energy	Raising awareness through lectures, seminars, workshops, camps or any other appropriate means about energy-saving measures
	Energy audits
	Energy-efficient technologies
	Use of alternative sources of energy
	Conversion of by-products and waste into energy
Generic social issues	Actions to mitigate:
	Alcohol and drug addiction and abuse
	Child marriage
	Dowry etc.
	Human rights violations
Weaker sections of Society	Income generating programmes for the disabled
	Voluntary action for persons with disabilities
	Education and rehabilitation of disabled children
	Care for the elderly and senior citizens

Annex VIII

Resource/knowledge organisations supporting social welfare activities relevant to cluster development

Area of welfare activity	Resource / Knowledge organisations	Brief detail
Women Welfare	National Resource Centre for Women (NRCW). http://nrcw.nic.in/about.asp?linkid=45	The objectives of the NRCW are to: Create an information base and disseminate information in the fields of women's development and also facilitate generation of data on contemporary issues of women in development; Provide networking facilities to institutions and individuals actively engaged in the field of women's empowerment; Assimilate the gender perspective in policies, planning, implementation and monitoring in selected sectors.
	Self Employed Women's Association (SEWA) www.sewa.org/aboutus/index.asp	It is an organisation of poor, self-employed women workers. At SEWA workers organise themselves to achieve their goals of full employment and self reliance through the strategy of struggle and development. The strategy is carried out through the joint action of union and cooperatives. The SEWA movement is enhanced by its being a sangam or confluence of three movements: the labour movement, the cooperative movement and the women's movement.
	National Institute of Public Cooperation and Child Development (NIPCCD) www.nipccd.nic.in	NIPCCD is devoted to promotion of voluntary action, research, training and documentation in the overall domain of Woman and Child Development. It is an autonomous institution and function under the aegis of Ministry of Woman and Child Development, Govt. of India.

Area of welfare activity	Resource / Knowledge organisations	Brief detail
Child Labour	Child Relief and You (CRY) www.cry.org	CRY targets underprivileged Indian children, including child workers. The NGO carries out child development initiatives all over India. It is based in Maharashtra.
	CINI ASHA http://www.cini-india.org/asha.asp	The NGO seeks to improve the quality of life of socially disadvantaged children living in urban areas through education, health and social mobilisation. The primary beneficiaries of CINI ASHA programmes are street children, children living in slums and squatter colonies, and children of sex workers. The NGO is based in West Bengal.
	Concerned for Children Working (CWC) http://www.workingchild.org/	CWC works with local governments, community and working children themselves to implement viable, comprehensive, sustainable and appropriate solutions in partnership with all the major actors, so that children do not have to work. CWC works in Karnataka.
	Prayas http://www.prayaschildren.org/	Prayas works with destitute, street, and working children. It addresses issues related to lack of sensitivity and infrastructure for their rehabilitation, education, and reintegration. Prayas covers Delhi, Bihar and the earthquake-affected areas of Gujarat.
	Centre for Rural Education and Development Action (CREDA) http://www.credaindia.org/01_about/about.htm	The NGO's work focuses on child labour related activities. It has undertaken projects for the elimination and rehabilitation of child labour around Varanasi (Uttar Pradesh).
	Salaam Balak Trust	This NGO works with street and working children in and around New Delhi railway station. It provides basic services to the children, including formal and non-formal education.
	M. Venkatarangaiya Foundation	One of the primary goals of the Foundation is to eliminate child labour by universalising school education. The Foundation mainly works in Andhra Pradesh.
	Butterflies http://www.butterflieschildrights.org/	Butterflies is a registered voluntary organisation working with street and working children in Delhi since 1989.
	Literacy India	NGO founded in 1995 to provide education to underprivileged children (especially girls), to eradicate child labour etc.; activities: spreading awareness, creative workshops, open school, schooling, sponsorship, vocational training etc.

Area of welfare activity	Resource / Knowledge organisations	Brief detail
Backward Class	National Schedule Castes and Schedule Tribes Finance and Development Corporation (NSFDC) http://nsfdc.nic.in	NSFDC was set up by the Government of India in 1989 as a Government Company under Section 25 under the Ministry of Social Justice and Empowerment. It is involved in the following activities: Financing income generating schemes for SCs through the State Channelising Agencies (SCAs) and other recognised institutions nominated by the respective state/UT government. Provide Micro-Credit Finance to the target groups through SCAs. Provide grants for skill development programmes through SCAs etc.
	National Backward Class Finance and Development Corporation (NBCFDC) http://www.nbcfdc.org.in/main.html	NBCFDC is a Govt. of India Undertaking under the aegis of Ministry of Social Justice and Empowerment. The objective is to promote economic and developmental activities for the benefit of Backward Classes and to assist the poorer section of these classes in skill development and self employment ventures.
Drugs Abuse	National Centre for Drug Abuse Prevention (NCDAP) http://ncdap.nisd.gov.in/	NCDAP is working under the aegis of National Institute of Social Defence (NISD). It is striving to bring about a qualitative improvement via the internet & build a community to work towards a nation free from substance abuse. It facilitates others to support those who need help.
Rural Development	Council for Advancement of Peoples Action & Rural Technology (CAPART)	CAPART is a registered society under the aegis of Ministry of Rural Development. At present CAPART provides assistance to the NGOs for implementation of various developmental schemes of Government of India.

Area of welfare activity	Resource / Knowledge organisations	Brief detail
Social Welfare	National Institute of Social Defence (NISD) www.nisd.gov.in	NISD is an autonomous body engaged in offering advisory services to MSJ&E, Government of India. It is engaged in developing preventive, rehabilitative and curative tools, programmes and policies in the field of social defence.
	Professional Assistance for Development Action (PRADAN)	Voluntary organisation working in villages in 26 districts in 7 Indian states to alleviate poverty among rural poor & tribals; promotes self-employment schemes (sericulture, leather, poultry, mushroom cultivation), banking, water conservation etc.
	India Vision Foundation (IVF)	Organisation founded by Dr. Kiran Bedi, IPS to work for prison reforms, drug abuse prevention, child welfare, crime prevention, empowerment of women, rural development, physically & mentally disabled, sports promotion.
Health	National Institute of Health & Family Welfare (NIHFW) http://www.nihfw.org	NIHFW is an apex technical institute, funded by Ministry of Health and Family Welfare for promotion of health and family welfare programmes in the country through education, training, research, evaluation, consultancy and specialised services.

Area of welfare activity	Resource / Knowledge organisations	Brief detail
Environment	Awaaz Foundation	Awaaz Foundation is a NGO in Mumbai, India, which builds awareness, carries out advocacy, and is involved in educational projects to protect the environment and prevent environmental pollution.
	Centre for Science and Environment (CSE) http://www.cseindia.org/	The Centre for Science and Environment (CSE) is a public interest research and advocacy organisation based in New Delhi. CSE researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable.
	Green Coalition Network http://www.greencoalition.net/contact.html	Green Coalition is an independent non-governmental advocacy organisation founded in the year 2000 dedicated in improving public health standards, protecting the environment and promoting sustainable development and ethical business.
	The Energy and Resources Institute (TERI) www.teriin.org	TERI was formally established in 1974 with the purpose of tackling and dealing with the immense and acute problems that mankind is likely to face within in the years ahead: (i) on account of the gradual depletion of the earth's finite energy resources which are largely non-renewable and (ii) on account of the existing methods of their use which are polluting.
	Centre for Environmental Education (CEE)	They mainly aim to create environmental awareness in the communities, conduct widespread environmental education and training programmes through a very vast network. They have a vast range of publications – books, posters, educational packages, bibliographies and directories. There is also a large computerised database – the Environment Education Bank, which has a collection of more than 800 environment concepts, about 2,500 environment related activities and 100s of case studies.
	BEE http://www.bee-india.nic.in/	The Government of India set up BEE in 2002 under the provision of the Energy Conservation Act 2001. The mission of BEE is to assist in developing policies and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act, 2001, with the primary objective of reducing energy intensity of the Indian economy.

Annex IX

Action plan superimposed on time frame – an illustration

Rourkela Sponge Iron and Allied Industries Cluster Action Plan

Activity		Tentative
Objective	Activity	Coordination man-day
Short-Term Cluster Action Plan (0 to 1 year duration)		
To start pilot initiative no. 1 on periphery development on the multi-stakeholder concept in one of the blocks of Rourkela. This will act as a model for replication and up-scaling in the other four blocks around Rourkela.	Phase 1 (2.5 months) To set up a society of the Sponge Iron Units and Allied Industries in Lathikatta Block of District Sundergarh (Orissa). Ensure industry's contribution for development activities and deposit in the account of the society. The District Collector issues a letter of support for the proposed model. The industry society sets up the secretariat, recruits and puts in place a working system with complete allocation of duties and responsibilities for the same. Phase 2 (9.5 months) To take up PRA activities in selected villages and identify needs in the areas of health care, education, sanitation and potable water, skill development, infrastructure development, etc. An action plan with complete detailing of periphery development areas, activities/sub activities, tentative budget, relevant resources and measurable target output for the project period prepared and approved. To set up systems and procedures for internal and external monitoring To promote and strengthen community based organisations such as cooperatives, SHG federations, associations and take ownership and responsibility for the development activities in the block. Activities planned in the action plan are implemented in the villages. The industry society is strengthened in its capacity for planning and implementation of development activities. District and Block administration continue to extend support to the initiatives. Sensitise about waste disposal and air pollution issues in the cluster and initiate awareness/solution activities for the same. Sensitisation about new technologies for air pollution control, dust control and utilisation of iron ore dust, etc. Industry enhances credibility and acceptance by the people in the periphery. To develop the initiative journey document and ensure that industry continues to fulfil its social responsibility. Replication of such initiatives in other blocks.	Industry= 2.30 l acs UNIDO= 14.30 lacs 1 UNIDO CDA for S. No 1 Total = 16.60 lacs

Budget (Rs.)		Relevant Resources			Measurable Target Output
	Capacity Building	Knowledge	Implementation	Funding	
	Industry = 2.70 lacs UNIDO = 5.30 lacs Total = 8 lacs	UNIDO, CDS, Other Knowledge Organisations	Industry	Industry, District Administration, UNIDO	A society with due support from the District Administration and having a professional secretariat, bank account, budget in place and proper system developed. PRA activities carried out and at least three to four areas identified, discussed, action plan prepared, adopted and implemented by the society for taking up periphery development. Internal and external monitoring system developed, pilot tested and implemented. Regular hand holding and capacity building of the society secretariat carried out, to make it ready to work independently within one year. At least one partnership between the society and some reputed knowledge organisation working in the areas related to the society. At least two to three initiatives in preliminary stage of implementation for issues related to waste disposal and air pollution. Pilot initiative journey document is completed and the society is accepted by the local community. At least one to two other blocks agree to start the initiative similar to the pilot model in their block.

Activity		Tentative
Objective	Activity	Coordination man-day
Medium-Term Cluster Action Plan (1 to 3 year duration)		
Consolidation of the existing activities of pilot initiative no. 1 of short-term cluster action plan up-scaling	Action plan for 2 years prepared, discussed, approved and implementation starts in the areas of health care, education and infrastructure by the pilot initiative society. Proper internal and external monitoring carried out. Regular hand holding and capacity building of the society secretariat in new areas of interventions.	Industry = 4.60 lacs UNIDO = 26.60 lacs 1 UNIDO CDA for S. No 2 and 3 Total = 31.20 lacs
Working on environmental issues for pilot initiative no.1 on waste disposal Air pollution Iron ore powder utilisation Energy efficiency	Identification of suitable solid waste (such as coal ash, tar/sludge and coal powder) disposal site and seeking necessary local govt. clearance for its transfer to the society of pilot model. Develop a system for the member firms for proper transportation of solid waste from the enterprises to the site and its proper cover as per the standards. Identification of suitable technologies and means of controlling coal dust – say sprinklers, geo-textile cover and its implementation in the cluster firms on pilot basis. Identification of suitable local and standard technologies e.g., ESP/Bag filters ash and coal dust from the outgoing flue gases being exhausted in the atmosphere and its implementation in the cluster firms on pilot basis. Identification of suitable technologies for the re-conversion of iron ore power into iron ore pallets of marketable standards and its implementation in the cluster firms on pilot basis. Exploring the options for installation of Waste Heat Recovery Boiler for captive power generation on collective basis in the cluster. Exploring the options for installation of Preheating Kiln for utilisation of the heat generated by hot flue gases being exhausted into the atmosphere.	
Up scaling of the periphery development pilot model in other blocks around Rourkela – initiative no. 2	The activities will be as contained at S. No. 1 and 2 of the above in phase I and Phase II of the Pilot Model Initiative No. 1 of Short-Term Action Plan. The activities will be spread over 2nd and 3rd year of the cluster development.	Industry = 4.60 lacs UNIDO = 24.60 lacs 1 UNIDO CDA for S. No. 4 Total = 31.20 lacs

Budget (Rs.)	Relevant Resources			Measurable Target Output
Capacity Building	Knowledge	Implementation	Funding	
Industry= 5.40 lacs UNDIO = 10.40 lacs Total = 15.80 lacs	UNIDO, Other Knowledge Organisations	Industry	Industry, District Administration, UNIDO	Action plan in the areas of health care, education, infrastructure developments implemented successfully and consolidation on qualitative aspect strengthened. At least 12 internal and 6 external monitorings carried out, their recommendation shared with members and corrective measures taken.
				Solid waste site identified and cluster firms develop a system for their solid waste disposal to the site. At least two technologies/ means identified for controlling air pollution and 1 or 2 firms start using the same on pilot basis. At least one technology identified for palletisation of iron ore and at least 1 firm starts using the same on pilot basis. Options for captive power plants and preheating kilns explored, their cost analysis carried out and shared with cluster firms for feasibility of implementation.
Industry= 5.40 lacs UNDIO = 10.40 lacs Total = 15.80 lacs	UNIDO, Other Knowledge Organisations	Industry	Industry, District Administration, UNIDO	2nd Year The tentative measureable outputs are as in S. No. 1 3rd year The tentative measureable outputs are as in S. No. 2

Activity Objective	Activity	Tentative Coordination man-day
Long-Term Cluster Action Plan (3 to 5 year duration)		
Working on policy and linkage level issues for pilot initiative no. 1	Identification of knowledge and technical institutions like TERI, NIT Rourkela, institutions/organisations working in the areas of air pollution, waste disposal management in relation to cluster environmental issues and their linkage to the cluster firms for collaborative working on pilot basis. Taking up issues with state and central government ministries/departments for policy level changes in existing schemes related to technology, funding in respect of issues related to pollution control, waste disposal management, energy efficiencies, health care, education, infrastructure development for the periphery areas and other social issues to make it multi-stakeholder friendly.	Industry = 4.60 lacs UNIDO = 26.60 lacs 1 UNIDO CDA for S. No 5 and 6 Total = 31.20 lacs
Consolidation of the existing activities of pilot initiative no. 1 of short-term cluster action plan Up-scaling in terms of quality	Action plan for 4 and 5 year prepared, discussed, approved and implementation starts in the areas of health care, education and infrastructure by the pilot initiative society. Proper internal and external monitoring carried out. Regular hand holding and capacity building of the society secretariat in new areas of interventions.	
Consolidation of the existing activities of pilot initiative no. 1 of short-term cluster action plan Up-scaling in terms of quality	Action plan for 4 and 5 year prepared, discussed, approved and implementation starts in the areas of health care, education and infrastructure by the pilot initiative society. Proper internal and external monitoring carried out. Regular hand holding and capacity building of the society secretariat in new areas of interventions.	Industry = 4.60 lacs UNIDO = 18.60 lacs 1 UNIDO CDA for S. No 7, 8 and 9 Total = 23.20 lacs
Working on environmental issues for pilot initiative no. 2 on Waste disposal Air pollution Iron ore powder utilisation Energy efficiency	The activities will be as contained at S. No. 3 of above for initiative no. 1. The activities will be spread over 4th and 5th year of the cluster development.	
Up-scaling of the periphery development pilot model in other blocks around Rourkela – initiative 3	The activities will be as contained at S. No. 4 of above for initiative no. 2. The activities will be spread over 4th and 5th year of the cluster development.	Industry = 4.60 lacs UNIDO = 14.60 lacs Total = 19.20 lacs

Budget (Rs.)	Relevant Resources			Measurable Target Output
Capacity Building	Knowledge	Implementation	Funding	
Industry= 5.40 lacs UNDIO = 10.40 lacs Total = 15.80 lacs	UNIDO, Knowledge Organisations, Technical Institutions	Industry	Industry, District Administration, UNIDO, Funding Organisations	At least one knowledge/technical institution each linked to the relevant environmental issues of the cluster and they start taking up pilot initiative in the cluster. Local/state/central government/ regulatory agencies start amending their existing schemes to make it applicable through cluster approach.
				Action plan in the areas of health care, education, infrastructure developments implemented successfully and consolidation on qualitative aspect strengthened. At least 12 internal and 6 external monitorings carried out, their recommendation shared with members and corrective measures taken.
Industry= 5.40 lacs UNDIO = 10.40 lacs Total = 15.80 lacs	UNIDO, Other Knowledge Organisations	Industry	Industry, District Administration, UNIDO	Action plan in the areas of health care, education, infrastructure developments implemented successfully and consolidation on qualitative aspect strengthened. At least 12 internal and 6 external monitorings carried out, their recommendation shared with members and corrective measures taken.
				The tentative measurable outputs will be as that of S. No. 3
Industry= 5.40 lacs UNDIO = 10.40 lacs Total= 15.80 lacs	UNIDO, Other Knowledge organisation	Industry	Industry, District Administration, UNIDO	4th Year The tentative measurable outputs will be of S. No. 4 5th year The tentative measurable outputs will be of S. No. 4

Annex X

Creating value: National Voluntary Guidelines for the Social, Environmental and Ethical Responsibilities of Businesses

Principles and core elements

Principle 1: Businesses should have governance systems underpinned by Ethics, Transparency and Accountability

Brief description of the principle

The principle suggests that businesses committed to sustainable operations should ensure that maximum emphasis is placed on taking decisions that are open, amenable to disclosure and visible to various interested publics. Furthermore, decisions taken by individuals or group of individuals would be open to scrutiny and would be taken on the basis of clear guidelines which are within the ambit of the law. Accountability also emphasises that decisions taken by a businesses, would be attributed to it, especially when it comes to ascertaining the impact of the business on society and the environment. In all its endeavours, businesses should function in ways that encourage openness and honesty. Businesses should inform all of its stakeholders of inherent risks and mitigate them where they occur.

Core Elements

- The social, environmental and ethical responsibilities of the business should be a core agenda of the Board.
- Businesses should behave ethically at all times.
- Businesses should be transparent in their decision-making processes in matters that impact society and the environment.
- Decisions taken by businesses that impact its stakeholders will be taken in the spirit of a free, prior and informed consultative process.
- Businesses should assure access to information about their decisions that impact stakeholders.
- Businesses should not engage in business practices that are abusive, unfair or anti competition.
- Businesses should truthfully discharge their financial obligations towards payment of government dues.

Principle 2: Businesses should promote safe and responsible design, manufacturing, energy and resource use, sourcing, distribution and disposal

Brief Description of the Principle

The principle recognises that the performance and long term competitiveness of an enterprise in relation to the markets, environment and the society in which it operates – including societies which it indirectly impacts as it sources raw-materials and goods across global supply chains have together become critical aspects of measuring the overall effectiveness and usefulness of enterprises, and of their ability to continue with a long term outlook.

The principle emphasises that as a part of their intention to function effectively in the long term; businesses would have to produce goods and services that are in alignment with the overarching expectations of the society, and are environmentally and socially safe.

Simultaneously, the principle emphasises that beneficial goods and services cannot be produced from processes that are inefficient, wasteful or otherwise insensitive to their impact on the environment.

Core Elements

- Businesses should ensure safety over the life-cycle of the product, and resource economy in the design of their products/services, and the attendant processes.
- Businesses must emphasise on producing goods and services through optimal energy and resource use (including water, productive and arable lands, and the like) so that the enterprise and its supply chain continuously improve their performance.
- While adopting technologies that minimise the generation of waste, businesses should ensure that the scientific treatment and disposal of effluents, manufacturing plant waste, plastics, oils, and other resource dross would be done in ways that do not adversely impact stakeholders or the environment.
- Businesses should facilitate the education of its existing and future consumers on safe methods of disposing of their products, at the end of their productive life cycles, in ways that do not harm people or the planet. 'Life-cycle thinking' would be an integral part of their manner in which companies would base their decisions.
- Businesses should develop and adopt environment friendly technologies.
- Businesses should continuously review and improve upon the process of new technology development and acquisition incorporating social, ethical and environmental considerations, while respecting the rights of communities and people who may be owners of traditional knowledge, and other forms of intellectual property.

Principle 3: Businesses should respect Workers' Rights

Brief Description of the Principle

The Principle encompasses all policies and practices relating to work performed within, by or on behalf of any business. The scope of the principle extends beyond the boundaries of relationship that an enterprise has with its direct employees or employees at the workplace that it owns or directly controls. The Principle incorporates work performed by others, including sub-contracted work and home based work.

Core Elements

- Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
- Businesses must not employ child labour, and forced labour or any form of involuntary labour, paid or unpaid.
- Businesses should provide and maintain equality of opportunities without any discrimination on any grounds during the course of employment.
- Businesses should provide a workplace environment that is safe, hygienic and humane and which upholds the dignity of workers. In doing so businesses should clearly define and communicate in writing regarding the employing authority, the scope and nature of the employment to prospective employees working for or on behalf of the company.
- Businesses should take cognisance of the work-life balance of its employees. No business should demand or require any of its employees or those working on its behalf to work beyond the statutory maximum.
- Businesses should:
    a. provide all workers at all stages of their work experience with access to their training and development of necessary skills for career advancement, on an equal and non-discriminatory basis;
    b. ensure that, when necessary, workers are helped to transition to new employment through skills recognition systems;
    c. establish joint worker-management programmes that promote well-being of the workers.
- Businesses should not tolerate any form of harassment, abuse or inhumane treatment to any of its employees and should also not place any of its employees at risk of any harassment, abuse and inhumane treatment in the discharge of their official duties and should take full responsibility to ensure that none of its representatives harass, abuse or treat inhumanely any third party.
- Businesses should provide facilities for the welfare of its employees and their families.

- Businesses should ensure timely payment of adequate wages to meet basic needs and economic security of the employees and their families.

Principle 4: Businesses should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged

Brief Description of the Principle

This principle recognises that businesses have responsibility to think and act beyond shareholder interests and should create value for all stakeholders.

Core Elements

- Businesses should proactively identify their stakeholders and understand their concerns.
- Businesses should enunciate policies if they help in responsively addressing the concerns of identified stakeholders.
- Businesses should create formal systematic processes to engage with the stakeholders especially in areas that are weakly governed or are acutely underdeveloped.
- Businesses should listen, frequently communicate, effectively share information and be responsive to stakeholder concerns.
- Businesses should resolve differences with stakeholders in a just, fair and equitable manner.

Principle 5: Businesses should respect Human Rights

Brief Description of the Principle

The Principle encompasses all the rights reflected in Universal Declaration of Human Rights adopted by the UN in 1948. The primary responsibility to ensure all human rights for all rests with the State. Its articles are applicable to 'every individual and every organ of society'. The International Bill of Rights covers civil, political, economic, social and cultural rights, including the right to development.

The Constitution of India, through its various provisions of fundamental rights and directive principles of state policy, enshrines the achievement of human rights for all its citizens.

The UN Human Rights Council, of which India is a member, unanimously adopted a framework report in June, 2008 by the SRSG on 'human rights and transnational corporations and other business enterprises', which encompasses the state duty to protect, the corporate duty to respect and access to remedies. The mandate has been extended to operationalise the above framework.

Core Elements

- Businesses should recognise and provide for comprehensive human rights for all.
- Businesses should appreciate that human rights are inherent, inalienable, universal, indivisible and interdependent in nature.
- Businesses should integrate human rights into its management systems.
- Businesses should develop an understanding of their sphere of influence vis-à-vis the human rights.
- Businesses should avoid complicity with human rights abuses by third parties.
- Businesses must provide for grievance redressal systems and mechanisms.

Principle 6: Businesses should respect and protect the environment

Brief Description of the Principle

The principle recognises that environmental responsibility is a prerequisite for sustainable economic growth and the well-being of societies and interconnectedness of environmental issues at the local, regional and global levels makes it imperative for businesses to address these issues in a comprehensive and systematic manner.

The principle encourages businesses to assume responsibility for the environmental impact of their products, services and activities related to their manufacturing and delivery and work towards improving their environmental performance on these accounts.

Core elements

- Businesses should take measures to check and prevent pollution; recycle, manage and reduce waste and measure and report its performance on these accounts.
- Businesses should manage natural resources in a sustainable manner and ensure optimal use of resources like land and water so that their access is not denied to local communities in their areas of operation.
- Businesses should proactively respond to the challenges of climate change by adopting cleaner production methods, promoting efficient use of energy and environmentally friendly technologies.
- Businesses should contribute in restoration and regeneration of the environment in their areas of operation and preservation of biodiversity.
- Businesses should develop environment management systems that enable them to tackle the human impact of natural disasters.

Principle 7: Businesses, when engaged in lobbying and policy advocacy, should do so in a responsible manner

Brief Description of the Principle

The principle recognises the fact that businesses operate in the specified legislative and policy frameworks prescribed by the Government which guide their growth and also provides for certain desirable restrictions.

The principle also acknowledges that such legislative and policy frameworks are developed in a collaborative manner with participation of the stakeholders.

The principle also takes into account that lobbying and/or policy advocacy is important and can be a powerful vehicle for growth and development of the business sector if undertaken in the spirit of positive partnership.

Core Elements

- Lobbying and/or policy advocacy position of a business entity should not be in conflict with any of the Principles stated in these guidelines.
- Businesses should utilise legitimate and ethical platforms for their lobbying and/or policy advocacy effort.
- Businesses should disclose their lobbying and/or policy advocacy positions on specific issues in a fair and transparent manner.

Principle 8: Businesses should contribute to the inclusive development agenda of the country

Brief Description of the Principle

The principle responds to the challenges of social and economic development being faced by India.

The principle builds upon the national development agenda that has been articulated in the Government policy from time to time.

The principle, while recognising the value of the energy and enterprise of the business sector, encourages businesses to take lead in contributing to the social and economic development of the country, especially that of the disadvantaged sections of society.

Core Elements

- Businesses must develop an appreciation and understanding of their impacts on development processes and focus their efforts and channelise their resources towards making positive and sustainable contribution in social and economic development.
- Businesses should align their practices to complement and support the developmental priorities at local and national levels.
- Businesses should innovate and invest in products, technologies and processes that promote alignment of their interests with that of society.
- Businesses should encourage and recognise voluntary developmental efforts of their employees.
- Businesses should make efforts to protect and enrich the historical and cultural heritage of the country.
- Businesses operating in regions that are weakly governed or that are acutely underdeveloped should be sensitive to local concerns.
- Businesses should be inclusive in their approach towards stakeholders and promote diversity through affirmative action.

Annex XI

Sourcing funds for cluster development: an illustration

Domestic and international marketing

Participation in domestic fairs	DC (Handicrafts), DC (Handlooms), State Govt., SIDBI
Conducting a market survey	SIDBI
Participation in international fairs	Market Development Assistance Scheme of Ministry of Commerce and Small Scale Industries
Buyer seller meet	NSIC, SGS Laboratories
Subcontracting exchange	Min. of Small Scale Industry
Common marketing website	SIDBI

Infrastructure development

'Shilp gram' or Industrial area	Integrated Infrastructure Development scheme (Min. of MSME), State Governments
Training institute	Min. of MSME, ICICI, SIDBI
Conducting feasibility study and making bankable proposal	Largely self-funded
Industrial park	Ministry of Textiles, Ministry of Food Processing, State Governments
Testing laboratory	Ministry of Food Processing, NABARD, SIDBI, State Governments
To strengthen infrastructure at export centres	Critical infrastructure balance scheme

Training

International training course with European collaboration	India-EU Partnership Programme
Training with science & technology imports	Dept. of S&T of Ministry of S&T, Minorities Finance Development Corporation
International Training on quality, technology, process	Senior Expert services (germany), similarly European and American services

Technology

Technology tie-ups with Europe	EBIC (European Business Information Centre) of EU
R&D for new machines	SIDBI, DST

Complete projects

Turnkey projects for area development or cluster development	USAID, Shell Foundation, EU, KVIC, DC (H), DC (MSME), State Governments

IT training and technical expertise

Information centre, training	Hewlett Packard, NABARD, Horticulture Board of State Governments
Internet connection with computer systems	SIDBI

Working Capital

Raw Material Bank	NSIC, SIDBI
Mutual Credit Guarantee Fund Scheme and Credit Guarantee Schemes	Minorities Finance Development Corporation, SIDBI, Credit Guarantee Fund Corporation of India
Micro-Credit Schemes with SHG Training	SIDBI, NABARD

Pollution control

Demo plant to highlight benefits to others	SIDBI, State Governments, DCSSI (Min. of MSME)
Awareness workshops on new technology process and equipment	
Subsidy to set up pollution control equipment for mass installation	Ministry of Environment

Quality certification

ISO Certification	Ministry of MSME, SIDBI (Rs. 75,000 scheme)
Good Manufacturing Practices (GMP)	State Governments like Government of Gujarat, EU assistance through FICCI Quality Form

Annex XII

Sports Goods Cluster, Jalandar, Punjab

Pattern of financial contribution by the funding agency (UNIDO) and Sports Goods Federation of India

Period	Sr No.	Particulars	Amount	SGFI	UNIDO	PUBLIC
01-12-2005 to 31-05-2006	1	Man days cost + capacity building + implementation cost	6,70,000	1,55,000	5,15,000	Nil
		TOTAL	**6,70,000**	**1,55,000 (23%)**	**5,15,000 (67%)**	**Nil (0%)**
01-09-2006 to 31-08-2007	1	Man days cost	6,09,519	1,82,854 (30%)	4,26,657 (70%)	Nil
	2	Office infrastructure/ stationary/electricity/ water/phone/email	2,00,000	60,000 (100%)	Nil	Nil
	3	Capacity building	5,73,000	2,35,550 (35%)	2,35,550 (35%)	2,01,900 (30%)
	4	Travelling (on actual)	1,00,000	50,000 (50%)	50,000 (50%)	NIL
		TOTAL	**15,75,811**	**6,66,394 (42%)**	**7,07,517 45%)**	**2,01,900 (13%)**
01-11-2007 to 30-09-2008	1	Man day cost	8,41,975	3,36,790 (40%)	5,05,185 (60%)	Nil
	2	Office/infrastructure/ stationary/office expenses	1,75,000	1,75,000 (100%)	Nil	Nil
	3	Capacity building	9,79,900	2,93,970 (30%)	3,91,960 (40%)	2,93,970 (30%)
	4	Travelling	5,00,000	3,00,000 (60%)	2,00,000 (40%)	Nil
		TOTAL	**24,96,875**	**11,05,760 (45%)**	**10,97,145 (44%)**	**2,93,970 (11%)**

Annex XIII

Sustainability index

Following are the suggestions regarding allocation of weightage among groups:

- Enterprises: 60%, to be sub-divided according to importance (criticality/coverage) among, e.g., consortiums, self-help groups, associations, etc.
- Support institutions/service providers: 30%, to be sub-divided according to importance (criticality/coverage) among, e.g., technical/financial institutions, BDS providers, etc
- Brokering units: 10%, to be sub-divided according to importance (criticality/coverage) among, e.g., coordination bodies, umbrella organisations, etc.

Allocation of score for an intermediary in each group

Enterprises' Representatives

Score	Features
0	Not existing
1-2	Just established and/or dormant
3-4	Regular meetings being held; discussions on provisional agenda; limited commitment of funds by participants; office bearer selected
5-6	Short-term agenda endorsed by members; some activities started under near complete support of implementing agency (financial and/or technical); positive feedback form members that increasingly contribute financially; growing membership
7-8	Medium-term agenda endorsed by members; overall activities partially sustainable financially; capacity to network with support institutions/BDS providers without implementing agency support; target membership achieved
9-10	Full financial sustainability; complete endorsement of cluster development approach; long-term agenda endorsed by members; full networking capacities; participation in coordinated cluster-wide activities

Support/Service Providers

Score	Features
0	Not existing locally; totally detached from potential consumers
1-3	Provider created locally; preliminary discussions with potential customers coordinated by UNIDO
4-6	Pilot services along new format launched; significant funding support from implementing agency; feedback form users acknowledged as guide for further customisation of services
7-9	Pilot services turned into routine and increasingly sustainable commercially; autonomous networking for funds/expertise; new services launched on a regular basis
10	Fully endorses cluster development approach; high demand among customers, fully pro-active with other local support institutions; investment of own funds for cluster development, open to introduction of new services

3. Brokering Institution

Score	Features
0	Not existing
1-3	Preliminary interactions with CDA; limited interactions with cluster actors
4-6	Coordination of pilot activities under CDA guidance; linkage with sponsors through implementing agency; linkages with policy makers established
7-9	Autonomous dialogue with policy makers and support institutions; legitimised with majority of cluster actors
10	Fully acknowledged as coordinating agent by most cluster actors; economically sustainable and own contribution to cluster development; long-term coordination capacities created; fully competent on cluster development methodology