

## MODULE 3 The Diagnostic Study



The diagnostic study is not an academic exercise in gathering information for its own sake. It is, rather, an action-oriented and participatory exercise whose aim is to provide practical information that is sufficiently accurate to be easily and readily used in the formulation and implementation of cluster development activities.

Thus the diagnostic study is used to:

- identify the main strengths and weaknesses, opportunities and threats (SWOT) of a cluster;
- promote dialogue between cluster-based stakeholders in order to create consensus around a shared development vision;
- identify priorities and generate concrete proposals for activities that will feed into the cluster action plans; and
- collect information that will be used to establish a baseline for monitoring and evaluation (M&E).

The information collected during the cluster selection process constitutes the basis on which the diagnostic study is built, but the diagnostic study provides a more detailed and accurate picture of the cluster than the one that emerged from the selection process. Another important distinction is that different informants are consulted: in the cluster selection process the primary informants are representatives of national or regional governments (since the aim is to identify the clusters in a country/region with the greatest potential for pro-poor growth outcomes); in the diagnostic study the main counterparts are cluster stakeholders.

### 1. Preparation of the diagnostic study

#### 1.1. Who is responsible for the diagnostic study?

Responsibility for undertaking the diagnostic study generally rests with the cluster development agent (CDA) or with people working directly under his/her supervision. The diagnostic study would not be undertaken by the CDA only if expertise were required that the CDA did not possess. However, even in such cases, the CDA may be best placed to undertake the diagnostic study, calling on the expertise of consultants for certain specialised tasks. In any cases, the CDA should be selected and hired prior to the start of the diagnostic study.

The diagnostic study offers the first chance for the CDA to establish contact with local stakeholders, to build up relations

of trust with them and to make the cluster development concept better known. Diagnostic studies are highly participatory in nature. A considerable part of their value, in fact, lies in the high level of involvement of cluster stakeholders. Thus, a strong emphasis is placed on trust-building and consultation in both the gathering and dissemination of the results among cluster stakeholders.

The diagnostic study should make use to the maximum extent possible of information already available. Hence, the first step is a review of existing material on the cluster. In some cases this will be sufficient for an initial profile of the cluster. In most cases, however, further research will be required.

Whether available sources are sufficient or additional research is required, the diagnostic study should be seen not a one-off practice ending with the delivery of a report but rather as an ongoing exercise through the life of the initiative. That is, as opportunities, constraints and needs change over time – often in response to project activities and joint actions – so there is a need for new data collection to complement existing information.

Thus, the cluster development process and the diagnostic study are organized in feedback loops where (1) analysis informs action, (2) results are assessed and (3) new information becomes available to adjust plans and action, as shown below.

## 1.2. How long should the diagnostic study take?

The diagnostic study starts at the beginning of a cluster development initiative. However, there is no need to put a freeze on project activities or joint activities until it has been completed.

Where cluster stakeholders identify and agree on a pressing issue to be addressed, the CDA can immediately move into action, even while the diagnostic study is still being undertaken. The results of this activity may, indeed, feed additional and perhaps richer information into a more detailed and rooted diagnostic study.

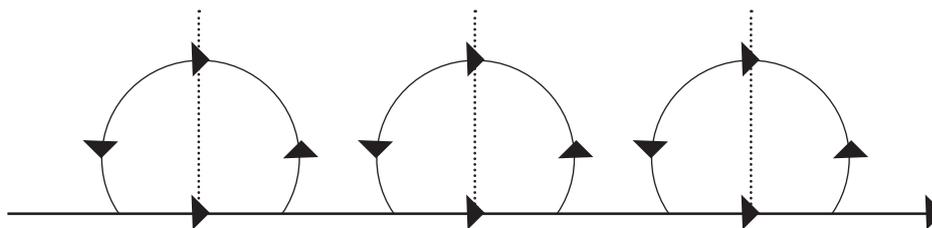
While the diagnostic study plays a pivotal role in the UNIDO methodology, it should not absorb too much of the time and resources available. At the beginning, a relatively quick study lasting two to four months should provide the bulk of the information necessary to identify the main constraints and opportunities.

Devoting too long to the diagnostic study (over four months) presents a number of dangers:

- it runs the risk of alienating cluster stakeholders if they are not quickly engaged in actions that demonstrate tangible benefits;
- it consumes resources that could be used as seed capital to finance activities; and
- it means that insufficient resources may be available to gather further information later in the life of the initiative.

Nevertheless, the diagnostic function spans the entire duration of the cluster development initiative. In a cyclic flow, new information is collected, fed back into the diagnostic study and used to re-orient action (Fig1).

Fig.1: The cluster development process





### Box 1: The diagnostic study - A participatory and decentralized exercise: An illustration based on UNIDO experience in the RAAN cluster, Nicaragua.

The cacao cluster of the RAAN region, Nicaragua, consists of a large number of small communities of producers spread over a large area and connected to each other by poor infrastructure. The geography of the area posed a challenge to the CDA when it came to the formulation of the diagnostic study, as he could not easily travel from one village to the other. Hence, the CDA resorted to a decentralized approach to the gathering of information.

First, he organised a plenary meeting where producers travelling from different villages got to know each other and were sensitized on the approach. They were then involved in the formulation of a data collection sheet relative to the cacao plantations.

This yielded several benefits. On the one hand, the producers could share their valuable knowledge on the cultivation of cacao with the CDA and among each other. On the other hand, the definition of shared criteria for data collection promoted dialogue among the representatives of different communities. After travelling back home, the participants were then asked to organize smaller working groups in their respective communities to collect data: a relatively easy exercise, that required little supervision by the CDA, but kick-started the establishment of producers' networks within the communities. At the end, the data were fed back to the CDA and discussed in joint workshops among the representatives of different villages.

Overall, the organisation of the working groups and the decentralized nature of data collection allowed the CDA to reach out to a large number of communities which had otherwise been difficult to mobilize.

## 2. Areas to be investigated for the diagnostic study

### 2.1. History of the cluster

An understanding of the history of a cluster – why it formed where it did and what have been the key factors in determining its evolution – can provide important insights into its potential for growth. That is, the potential for development of a cluster is likely to be conditioned by whether the cluster formed as a result of proximity to raw materials, proximity to market, concentration of specific skills, government edict or some other factor.

Similarly, researching critical moments and factors in the evolution of a cluster – particularly emerging new opportunities and constraints – and how the cluster responded to these - can generate insights into its future growth potential and the physical and cultural factors that may need to be addressed for it to achieve this potential.

The study of the cluster's history may reveal evidence of past positive examples of collaboration between cluster stakeholders that can be used to encourage further cooperation and coordinated responses to challenges. Identifying enterprises and institutions that have played a leading role in the evolution of the cluster can also be important as these can act as catalysts to:

- mobilize other cluster stakeholders;
- generate demonstration effects; and
- in the case of institutions, take on responsibility for cluster development while reaching out to a large number of other stakeholders.

Conversely, a failure of cluster enterprises to collaborate and develop joint initiatives in the face of either constraints or opportunities may indicate that a cluster development initiative may struggle to grow roots and take hold.



### Box 2: Revising the history of a cluster for a diagnostic study

A handy starting point for the diagnostic study is the depiction of origin and turning points in the history of the cluster. Through this assessment the CDA explores how the cluster has reacted to changes and what are the strengths and weaknesses of the cluster governance system.

**Origins.** The diagnostic study does not aim at a detailed overview of the history of the cluster from the inception to nowadays. It rather seeks to understand what factors have driven the concentration of a critical mass of enterprises in the same locality and given rise to the cluster. Factors often driving the development of clusters are:

- the proximity to primary resources and the local availability of raw material
- the presence of industry specific skills
- policy initiatives

Often a combination of factors is behind the emergence of a cluster. Understanding the origins of the cluster can help the CDA to understand specific challenges and opportunities that producers are facing. Clusters that emerged by virtue of supportive geographical or historical conditions and without direct government support may display a higher degree of self-reliance and self-sufficiency in the organisation of its production activities and a stronger predisposition towards collective problem solving.

However, drawing conclusions about the strength and weaknesses of a cluster from its origins only is likely to generate oversimplifications. Such an analysis offers a static picture that needs to be complemented with information on the evolution of the cluster, particularly its response to turning points.

**Turning points.** Clusters experience over time positive or negative changes that affect their internal organisation and performance. Some important turning points are:

- the emergence of new buyers or new market opportunities,
- the emergence of new competitors, fall in product price or depletion of natural resources, and
- changes in the policy framework

Exploring the turning points in the cluster history is likely to help in identifying enterprises and institutions that played a leading role in addressing change. These may be leverage points in mobilizing other cluster stakeholders; generating demonstration effects and taking responsibility for cluster development.

## 2.2. The cluster economic system

The diagnostic study provides a comprehensive understanding of the cluster's economic system. The diagnostic study focuses on examining four key elements:

- Production systems;
- Linkages;
- Institutions; and
- Framework conditions

Within each of these four elements, a range of variables need to be examined in detail (Box 3) to be able to arrive at a thorough overview of the cluster’s economic system. These variables are summarised in the figure below:

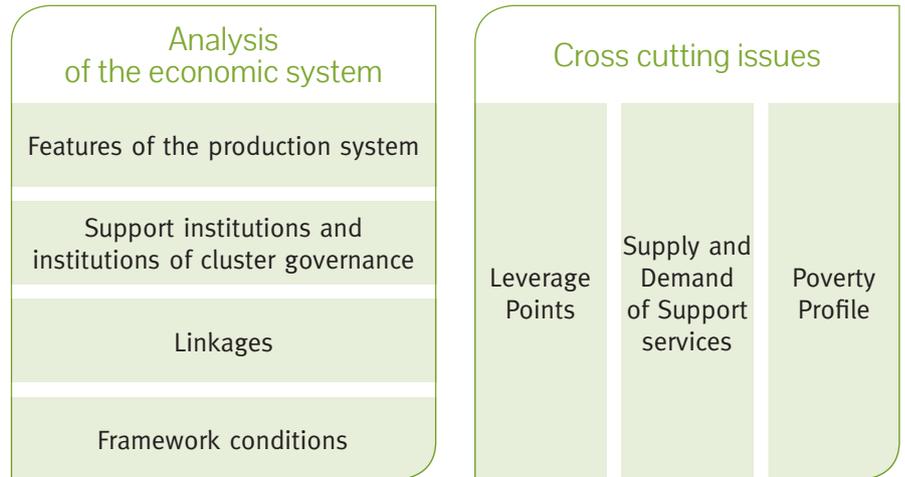
Fig. 2: The diagnostic study  
Examining the key elements of the cluster economic system

A. Features of the production system	B. Linkages	C. Support institutions and institutions of cluster governance	D. Framework conditions
<ol style="list-style-type: none"> <li>1. Economic actors</li> <li>2. Competitors</li> <li>3. Products</li> <li>4. Markets</li> <li>5. Production processes</li> <li>6. Raw materials</li> <li>7. Environmental management and energy efficiency</li> <li>8. CSR activities</li> </ol>	<ol style="list-style-type: none"> <li>1. Value chain analysis:               <ul style="list-style-type: none"> <li>• Value addition</li> <li>• Chain governance</li> </ul> </li> <li>2. Internal linkages:               <ul style="list-style-type: none"> <li>• Vertical linkages</li> <li>• Horizontal linkages</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Public authorities</li> <li>2. Service providers               <ul style="list-style-type: none"> <li>• Training providers</li> <li>• Financial services providers</li> <li>• BDS providers</li> </ul> </li> <li>3. Business Associations and Chamber of Commerce</li> <li>4. Other institutions of social capital</li> </ol>	<ol style="list-style-type: none"> <li>1. Policy framework</li> <li>2. Security</li> <li>3. Infrastructure</li> </ol>

The diagnostic study also needs to explore some important cross cutting issues to all the elements of the analysis above, in order to ensure that each cluster can realize its growth and development potential. In particular, it will need to:

- identify leverage points – that is, leading institutions and enterprises that can become the spearhead of the cluster development initiative;
- assess the match between services and institutional support on offer and those that are required; and
- establish the poverty profile (Box 5) with a view to identifying how poor people potentially associated with the cluster development initiative are likely to be affected and/or can be integrated into cluster activities.

Fig.3:  
Cross-cutting issues  
in the analysis of the  
economic system



### Box 3: Analysing the economic system for a diagnostic study (I)

The core of the diagnostic study is the analysis of the cluster's economic system. This requires a detailed investigation of:

**1. The production system.** This section explores the cluster characteristics that are likely to have a strong influence on its actual and potential competitiveness.

The **economic actors** of the clusters are the first feature of the production system to be analysed. These actors include the enterprises, the entrepreneurs and the workforce. The diagnostic study seeks to identify leaders and laggards among enterprises and entrepreneurs and to understand the profile of market leaders and innovators in the cluster. This will help determining the factors that contribute to, or hold back competitiveness and allow for an assessment of the demand for BDS. The analysis of the workforce in turn, throws light on factors that constrain or enhance the employability and the availability of skills, their distribution in the workforce and the quality of the match between the skills that are available with those required.

The strengths and weaknesses of the cluster vis-à-vis current and potential **competitors** outside the cluster, is also a feature to be examined. Gathering information on cluster **products** will likewise be required to determine the degree to which products meet market requirements and how to custom production to better meet consumers' preferences. Clusters have different types of customers including individual clients, large buyers, traders and wholesalers. They often have different requirement in terms of prices, volumes, standards, etc. The study thus aims to understand the attributes and characteristics of the cluster's various **markets**.

A detailed assessment of **production processes** is also a part of the study, as to understand how the technology used affects the cluster's competitiveness and its impact on the levels and patterns of poverty. It should also explore how production processes are organized, and what the level of specialization is, with a view to identify improvements in technology (including equipment, skills and organization) that could help the cluster to innovate more and become more competitive.

Understanding the sourcing of **raw materials** and other **inputs** is important. What these are, where they come from, how they are delivered, whether or not bottleneck exits or whether increasing local sourcing is possible are some of the issues to investigate. Likewise, the diagnostic study seeks to determine whether **environmental management** and energy efficiency are issues addressed by the cluster and to explore the possibilities of improving the performance in these areas. Finally this section looks at the behaviour of cluster enterprises towards their workforce, society and the environment to understand if **Corporate Social Responsibility (CSR)** practices are in place and what aspects drive voluntary compliance or neglect.



### Box 3: Analysing the economic system for a diagnostic study (II)

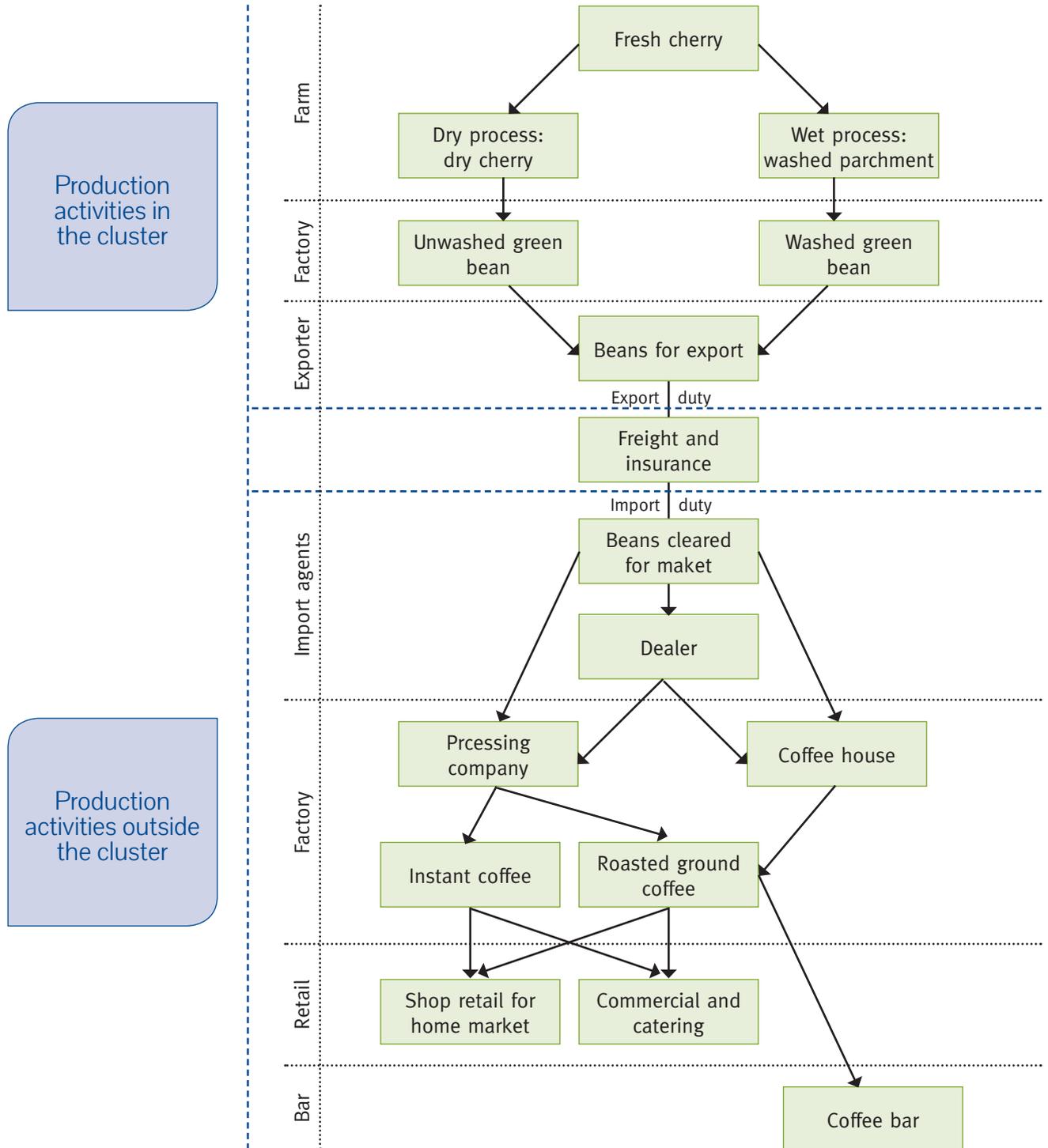
**2. The linkages.** Cluster-based actors can participate in multiple, often overlapping, value chains. The diagnostic study will therefore include an analysis of linkages along the **value chain(s)** to which the cluster belongs. Value chain analysis is a useful tool to understand how economic benefits are distributed among enterprises at different stages in the value addition process. Drawing a map of the cluster's relevant chain(s) begins by identifying the main products generated by the cluster and listing the sequence of backward and forward linkages involved in their production, from the provision of inputs through to final sale. The process also involves identifying services providers, regulators as well as the extent to which enterprises' needs are met by existing institutions/providers. This analysis seeks to identify opportunities for the cluster to move into higher value-adding activities and to single out what features of value chain governance may promote or inhibit value addition in the cluster. An evaluation of the **internal linkages** in the cluster should follow covering both vertical (i.e. between buyer enterprises and the local suppliers) and horizontal (among cluster-based enterprises located at similar stages of production) linkages. This evaluation should provide information about the existing level of interaction and trust between cluster-based enterprises. This analysis can be summarized in a Value Chain Map (Fig. 4). Such a map is a powerful visual, which provides an overview of relationships and linkages in the whole production process.

**3. The institutions.** The CDA aims to understand to what extent local institutions offer access to information, knowledge, technologies, services and financial resources that meet the needs of the cluster and support innovation. Further it attempts to establish if there is a gap between the demand for and provision of services, the nature of this gap and how it can be bridged. Finally, the analysis of the institutional landscape seeks to identify support institutions that may play an effective role in cluster governance by promoting collective actions. The institutions examined in this section include: relevant public authorities (i.e. government and regulatory bodies at the local, national and/or international level); service providers (i.e. providers of training, financial services, BDS, business associations and chambers of commerce) and other institutions that promote the development of social capital.

**4. The framework condition.** These are actors and issues that have an impact on the overall context in which the cluster operates but often fall beyond the direct control and influence of cluster stakeholders. The aim of this section of the diagnostic study is to identify ways in which framework conditions present bottlenecks to the development of the cluster and to identify potential ways of addressing them. These conditions include: the **policy framework** in which the cluster operates, the **security** level and the **infrastructure and basic services** available to the cluster.

Fig. 4:  
The Coffee Value Chain –  
An Illustration

## The Coffee Value Chain





#### Box 4: Cluster development initiatives and pro-poor impact: Between working with the poor and working for the poor

Like with most private-sector based poverty reduction initiatives, the pro-poor impact of cluster development may not follow automatically or may materialize only in the medium to long term. This is not a weakness of private sector or cluster development initiatives but a reflection that true and permanent reduction of poverty levels often requires a process of structural transformation that can only be achieved in time.

Indeed, a sustained reduction of the levels of poverty requires accumulating skills, gaining the ability to undertake new process and functions in production chains, increasing competitiveness, among a number others processes. All of which, by definition, demand time. At the same time, however, UNIDO cluster development initiatives seek to be broad based and specifically target poverty reduction. A key channel of transmission from cluster development to pro poor impacts is the creation of more and better employment opportunities, but also the strengthening of the institutional framework and support services in a cluster can yield direct benefits for the poor. For example, when the institutional and infrastructure upgrading in a cluster helps provide better access to poor population to key services.

While in the long term the development of a competitive private sector is expected to contribute to poverty reduction, there is a risk that in the short term the poor are excluded from the growth process, since there is no automatic 'trickle-down' from cluster development to pro-poor impact. A trade-off may exist when firms increase their returns and profit by shifting to more capital intensive production (growth) but, in so doing, shrink the labor force. *Capabilities constraints* are possible whereby a thriving private sector generates opportunities yet the poor are unable to take advantage of the same due to low levels of education, poor health conditions or discrimination.

Cluster development practitioners need therefore to be aware of these risks and closely monitor the effects of cluster development initiatives upon the poor. It is also important to differentiation between *working with the poor* and *working for the poor*. Having a positive impact on poverty levels and characteristic does not necessarily require working with the poor. While the working with the poor, e.g. by improving the capacities of and collaboration among poor entrepreneurs, is likely to have more visible, shorter term and direct effects on poor stakeholders of clusters, other initiatives that have a pro poor impact although they do not directly target the poor are also possible. For example, a cluster initiative may be aiming at improved the performance of SMEs in a labour intensive sector. In the long term, improved business performance of those cluster companies is then likely to contribute to increased and/or better employment of poor workers.

When working with the poor, pro-poor impacts are likely to be observed and measurable in the life-span of the initiative, as opposed to other initiatives where the causal link between pro-poor impacts and the cluster initiative is less discernible.

Cluster initiatives that are designed to explicitly trigger pro-poor impact and to offset the risks of excluding poor population of the growth process follow:

- an impact-oriented cluster selection process;
- a capability approach;
- a right based approach.



**Box 5: The poverty profile in the diagnostic study:  
Analysing poverty in the cluster and the potential impact upon it of a cluster development initiative**

The poverty profile is a critical cross-cutting theme that runs throughout the diagnostic study, touching on many of the variables on which information is gathered.

To ensure that the diagnostic study fully reflects the poverty dimension of the cluster and the correctly assess the possible impact on the poor of the cluster development initiative, it is suggested to include yellow text boxes with issues and questions relating to the poverty profile at the end of each section for which it is considered necessary and appropriate.

The specific definition of poverty should be made on a case-by-case and country-by-country basis based on the discussion about the multidimensional character of poverty and on how to measure poverty.

The adoption of a participatory poverty assessment methodology is key to the undertaking of a poverty profile analysis, as it ensures that the voices of the poor are taken into account. This can take the form of focus group discussions guided by the CDA in which the interviewees are chosen from among the representatives of the various cluster poverty segments, complemented with interviews of selected representatives of cluster enterprises.

Experience suggests that it is generally preferable for men and women to meet separately to avoid gender-related distortion of findings.

Useful information relating to poverty can be gathered from trade unions, NGOs, business associations, microfinance institutions, private foundations and local government. Institutions that have expertise in poverty reduction, even if not specifically in the context of cluster development, can also be valuable informants.