Agro-based Clusters: A Tool for Competitiveness of Indian Agriculture in the ERA of Globalisation

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Abstract

In order to be able to be competitive in the global as well as domestic markets, new tools are needed to enhance its capacity to meet global challenges. Among various tools, development of agro-based clusters has emerged as a potential tool for agricultural development. An agro-based cluster (AC) is simply a concentration of producers, agribusinesses and institutions that are engaged in the same agricultural or agro-industrial subsector, and interconnect and build value networks when addressing common challenges and pursuing common opportunities. The present paper is an endeavour to analyse the significance of agro-based cluster development on the basis of available documentary evidence of contribution of clusters in agricultural development. The reviewed literature propounds that the cluster development can act as an important tool in development of agriculture. Farmers and small and medium agro-enterprises can benefit from participation in agro based clusters as a well-developed concentration of related agribusiness spurs increased productivity through specialized inputs, access to information, synergies, and access to public goods and more rapid innovation through cooperative research and competitive striving. Also, clusters can contribute to develop national or regional brand identity. Moreover agro-based cluster growth seems to have positive spill-over effects on local and rural development. However agro-based clusters need to be induced and fostered through public and private entities owing to lack of managerial competence and information among the stakeholders.

Keywords: Agro-based clusters, competitiveness, Indian agriculture.
1. Introduction
Globalization has resulted in aggravated competition for Indian agriculture in international markets. To remain competitive in global markets it is necessary to build capacities in the system so that it is able to withstand the forces of globalization and compete wherever possible. Though India has a number of policies for agricultural development, the problem of isolation and disintegrated implementation of policies remains a problem in holistic development of agriculture. In order to be able to be competitive in the global as well as domestic markets, new tools are needed to enhance its capacity to meet global challenges. Among various tools, development of agro-based clusters has emerged as a potential tool for agricultural development. The present paper is an endeavour to analyse the significance of agro-based cluster development on the basis of available documentary evidence of contribution of clusters in agricultural development.

2. Concept of Clusters
The concept of ‘clusters’ has obtained due attention of the policymakers in the last two decades. Worldwide clusters have been considered potential drivers of competitiveness. A nation’s economy contains a mix of clusters of industries connected through vertical and horizontal relationships (Porter, 1990). Cluster initiatives are also considered to be efficient policy instruments in that they allow for a concentration of resources and funding in targeted areas with a high growth and development potential that can spread beyond the target locations.

Clusters are geographic concentrations of interconnected companies and institutions in a particular field (Porter, 1998). Clusters can be an array of linked industries and other entities important to competition. Clusters also often extend downstream to channels and customers and laterally to manufacturers of complementary products and to companies in industries related by skills, technologies or common inputs. Many clusters include governmental and other institutions, such as universities, standard-setting agencies, think tanks, vocational training providers, and trade associations that provide specialized training, education, information, research and technical support. Clusters promote both competition and cooperation. Rivals compete intensely to win and retain customers. Yet there is cooperation, much of it vertical, involving companies in related institution and local institutions. Competition can coexist with cooperation because they occur on different dimensions and among different players (Porter, 1998). Benefits of clusters accrue to informal contacts represent an important channel of knowledge diffusion. Rosenfield (1997) extended the concept of clusters arguing that clusters are not just related and supporting industries, but rather related and supporting institutions that are more competitive by virtue of their relationships.
2.1 Clusters - A potential driver of agro-industrial competitiveness
Cluster approaches recognize that all the actors in the agricultural value chain are often more innovative and successful when they interact with supporting institutions and other actors in the supply chain. By promoting vertical and horizontal links between local agricultural enterprises, as well as supporting relationships between them and facilitating organizations (e.g. local governments, research institutes and NGOs), cluster policies promote the diffusion of innovation, as well as the use and generation of important local externalities. Burger et al (2001) attribute the success of Indonesian small firms in competing even under the increasing competition induced by globalization and liberalized markets to clustering and small firms’ subcontracting with larger urban and export firms in buyer-driven market channels with an explanation that large firms subcontract to cut costs, and prefer to contract with firms in clusters to further cut transactions costs. Cluster policies are argued to be crucial, especially for small-scale farmers and agribusiness, as they enable them to engage in higher productivity, more market oriented and higher value-added production. Accordingly, central and local governments have discovered that cluster promotion is a valuable tool to support agricultural enterprises in their territory and help them link to global agricultural value chains in a more efficient and sustainable manner (Nogales, 2010).

2.2 Agro-based Clusters- Extension of Cluster concept to agriculture
An agro-based cluster (AC) is simply a concentration of producers, agribusinesses and institutions that are engaged in the same agricultural or agro-industrial subsector, and interconnect and build value networks when addressing common challenges and pursuing common opportunities (Nogales, 2010).

The inter-connections among small scale growers in the cluster represent horizontal linkages. To attain formality, the growers can take the shape of cooperative, producer companies, producer groups, self-help groups. Alternatively grower associations can be formed. Growers of Maharashtra Grape cluster are closely knit in the form of Maharashtra State Grape Growers’ Association (MRDBS), the seeds of apple cluster in Santa Catrina in Brazil can be traced back to Sao Paulo based agricultural cooperative, COTIA.Governments frequently find that organizing their support activities around clusters is easier and more focused and effective than other strategies to support the development of the agricultural sector (Nogales, 2010). The producer-processor relationship can be explained in terms of vertical linkages.

Strategic placement of agro-processing units in the cluster has a great significance. The development of Dragon Head Enterprises in Chinese context is noteworthy in agro-based cluster concept. Agricultural dragon-head enterprise is defined as a company which is mainly specialized in processing or distribution of agricultural products and can organize and lead farmers to market. Formal contracts or informal relationships are used to connect the households and other enterprises in the sector to the Dragon head enterprises (Yu et al, 2013)
Support service providers consist of financial services, research and development institutions and business development services. Financial service providers comprise of banks and other financial institutions like cooperative credit institutions. Institutional support, in the form of technology extension services provided by universities, research centres or producers’ associations and cooperatives plays a major role in upgradation of clusters (Giuliani et al 2005). The collaboration of Maharashtra Grape Cluster with the research institutions has been able to mitigate the gap between Indian grape quality and international standards. The research support to the grapes cluster is best exemplified by the establishment of national research centre for grapes within the building of MRDBS which conducts research on both the vineyards managed by MRDBS and those owned by individual farmers, while it undertakes all of these activities with close collaboration with exporters.

2.3 Potential Benefits of Agro-based Clusters
A well-developed concentration of related agribusiness spurs increased productivity through specialized inputs, access to information, synergies, and access to public goods; more rapid innovation through cooperative research and competitive striving; and new business formation as a consequence of competition, demand for services, and the attraction of investors; this dynamic in turn spurs innovation (Theus and Zeng). Rubzen et al (2013) recorded the benefits of clusters as an improvement in productivity as well as farmer income. Further they also proposed spillover effect in the form of increased farm employment. Clustered firms can modify the direction of policy through collective action. A shift in cultivation from annual to perennial crops in Petrolina-Juazeiro in Brazil also influenced the research agenda of the Center for Research of the Tropic Semi-Arid (CPATSA), the main public sector agricultural research agency acting locally to shift its research focus from annual crops to fruits (Gomez, 2004). The expansion of fruit production in Brazil has been accompanied by an increase in the number of agricultural input stores and investments by national and multinational agricultural input suppliers. In Petrolina-Juazeiro, stores organize workshops on main crops in each project; choose growers for field trials to whom they provide technical assistance throughout cycle. In Rio Grande do Norte, Input suppliers in this case serve as the main liaison between growers (including SMEs) and multinational seed distributors who then market successful varieties and continue their variety improvement program for the region. Further, these suppliers hold seminars to showcase new products (Gomez, 2004). Felzensztein et al (2009) reported enhanced reputation or credibility of the firms and products, buying intermediate goods from other firms, providing access to better specialised suppliers, and finding new customers in new markets as the main externalities that the respondent’s firms found more useful as benefits of geographical co-location. Farmers and small- and medium-sized agribusiness can benefit from participating in ACs as it allows them to achieve scale economies and share costs related to training, info sharing, certification and technology application. Participation in ACs affects farm management, new technology adoption and environmental practices, profitability and smallholder farmers’ access to markets.
However, finally, the progress and growth of ACs seem to have many spillover benefits on local and rural development. ACs can contribute to create national/regional brand identity. In the current competitive marketplace where product differentiation is essential to agribusiness’ prosperity, ACs are crucial to creating national or regional brand identities.

2.4 Need for external assistance in Agro-based cluster development

In most developing countries, it is doubtful that agricultural clusters will evolve naturally owing to lack of managerial competence and information. Additionally, the generally precarious financial position of farmers and a built-in bias against risk-taking and innovation are likely to preserve the rural status quo in the absence of outside intervention. As a consequence, clustering in the agricultural sector will most likely need to be induced by an external agent, which according to the research undertaken could be the government, large local firms and international investors (FDI), or a mix of these three types of actors (Nogales, 2010). The Programa de Fruticultura de Clima Temperado (PROFIT), administered through the state’s Agricultural and Research Agency (EPAGRI) played a crucial role in development of apple cluster of SC (Gomez, 2004). In western Africa, competitive agricultural systems and enterprises CASE approach which advocates agribusiness cluster coordination among various stakeholders, including small farmers, local entrepreneurs, business development services, traders, bankers, research and extension services and market information systems has been found to be effective in fostering agro-based clusters (Alidou et al., 2010).

3. Conclusion

The reviewed literature propounds that the cluster development can act as an important tool in development of agriculture. Farmers and small and medium agro-enterprises can benefit from participation in agro based clusters as a well-developed concentration of related agribusiness spurs increased productivity through specialized inputs, access to information, synergies, and access to public goods and more rapid innovation through cooperative research and competitive striving. It allows them to achieve scale economies and share costs related to information sharing and technology application. Also, clusters can contribute to develop national or regional brand identity. Moreover agro-based cluster growth seems to have positive spill-over effects on local and rural development. However agro-based clusters need to be induced and fostered through public and private entities owing to lack of managerial competence and information among the stakeholders. Further, public policies may be the catalysts but the real drivers are market demand and entrepreneurial spirit.
References