

Agro-based clusters in developing countries: staying competitive in a globalized economy



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by

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Acronyms

ABIOVE	Brazilian Association of Vegetable Oil Producers
ABPM	Brazilian Apple Producers' Association (Associação Brasileira de Produtores de Maçã)
AC	agro-based cluster
ACOPAFLOR	Colombian Association of Floriculture Professionals (Asociación Cooperativa de Profesionales de la Floricultura Colombiana)
ADC	Andean Development Corporation
AFIPEK	Association of Fish Processors and Exporters of Kenya
AI	Agricluster Initiative
ANAPO	Oilseeds and Wheat Producers Association, Bolivia (Asociación de Productores de Oleaginosas y Trigo)
APEDA	Agricultural and Processed Food Products Export Development Authority, India
APL	Clean Production Agreement, Chile (Acuerdo de Producción Limpia (de salmón))
APROVALE	Association of fine wine producers of Vale dos Vinhedos, Brazil (Associação dos Produtores de Vinhos Finos do Vale dos Vinhedos)
ASOCOLFLORES	Colombian Association of Flower Exporters (Asociación Colombiana de Exportadores de Flores)
CCDV	Technological-Entrepreneurial Consortium – Centre for the Technological Development of the Chilean Wine Industry (Centro Cooperativo para el Desarrollo Vitivinícola)
CCV	Chilean Wine Corporation (Corporación Chilena del Vino)
CDO	Controlled Denomination of Origin
CENAVIT	Bolivian National Centre of Viticulture (Centro Nacional Vitivinícola, Bolivia)
CI	Cluster Initiative
CIAT	International Centre for Tropical Agriculture (Centro Internacional de Agrícola Tropical)
CIDA	Canadian International Development Agency
CIPM	Cluster Initiative Performance Model
CNPUV	National Centre for Research on Grape and Wine, Brazil (Centro Nacional de Pesquisa de Uva e Vinho)
CODEVASF	San Francisco River Valley Development Agency, Brazil (Companhia de Desenvolvimento dos Vales do São Francisco e do Parnaíba)
CORFO	Chilean Economic Development Agency (Corporación de Fomento de la Producción de Chile)
CRF	Coffee Research Foundation, Kenya
DFID	Department for International Development, United Kingdom
DOC	Controlled Designation of Origin (Denominación de Origen Controlada)

ECLAC	Economic Commission for Latin America and the Caribbean
EMBRAPA	Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária)
EPRP	Export-led Poverty Reduction Projects (implemented by ITC)
EPZA	Export Processing Zones Authority of Kenya
EXPOFLORES	Association of Flower Producers and Exporters of Ecuador, (Exportadores de Flores)
FDI	Foreign Direct Investment
FTC	Fondo para la Transformación y el Crecimiento, Argentina
FUNDACRUZ	Santa Cruz Agricultural Development Foundation, Bolivia (Fundación de Desarrollo Agrícola de Santa Cruz, Bolivia)
GAP	Good Agricultural Practices
GLOBALGAP	Global Partnership for Good Agricultural Practices
GTZ	German Agency for Technical Cooperation (Gesellschaft für Technische Zusammenarbeit)
HACCP	Hazard Analysis and Critical Control Point
IBRAVIN	Brazilian Institute of Wine (Instituto Brasileiro do Vinho)
ICAR	Indian Council of Agricultural Research
ICT	information and communications technology
IDB	Inter-American Development Bank
IDIT	Industrial and Technological Development Institute of Mendoza, Argentina (Instituto de Desarrollo Industrial y Tecnológico, Mendoza)
IDR	Rural Development Institute, Argentina (Instituto de Desarrollo Rural)
IDS	Institute of Development Studies, United Kingdom
IICA	Inter-American Institute for Cooperation on Agriculture
IKED	International Organisation for Knowledge Economy and Enterprise Development
INAVI	National Institute of Viticulture, Uruguay (Instituto Nacional de Vitivinicultura)
INTA	National Institute of Agricultural Technology, Argentina (Instituto Nacional de Tecnología Agropecuaria)
INTESAL	Salmon Technological Institute, Chile (Instituto Tecnológico del Salmón)
INV	Argentinian National Wine Institute, Argentina (Instituto Nacional de Vitivinicultura)
ISCAMEN	Agricultural Quality and Safety Institute of the province of Mendoza, Argentina (Instituto de Sanidad y Calidad Agropecuaria Mendoza)
ITC	International Trade Centre (UNCTAD/WTO)
ITP	Integrated Territorial Programmes, Chile (also known as PTI, Programa Territorial Integrado)
ITU	Technological Institute of Mendoza, Argentina (Instituto Tecnológico Universitario)
KPCU	Kenya Planters Co-operative Union
KWV	Cooperative Viniculture Organization of South Africa (Koöperatieve Wijnbouwers Vereniging van Zuid-Afrika Bpkt)
LAC	Latin America and the Caribbean
LVFO	Lake Victoria Fisheries Organization
MNC	multinational corporation

MRDBS	Maharashtra State Grower Grapes Association, India (Maharashtra Rajya Draksha Bagaitdar Sangh)
MT	metric tonne (1 000 kilograms and equal to 2 205 lb)
NCDC	National Cooperative Development Corporation, India
NGO	non-governmental organization
NHB	National Horticulture Board, India
POIC	palm-oil industrial cluster, Malaysia
PPP	public-private partnership
PSU	Pennsylvania State University, United States of America
R&D	research and development
RIMISP	Latin American Centre for Rural Development (Centro Latinoamericano para el Desarrollo Rural)
SAG	Phytosanitary and Agriculture Service, Chile (Servicio Agrícola y Ganadero)
SAGPyA	Secretariat of Agriculture of Argentina (Secretaría de Agricultura, Ganadería, Pesca y Alimentos)
SAWIS	South African Wine Information Service
SGS	Société Générale de Surveillance
SIS	Subnational Innovation System
SME	small- and medium-sized enterprise
UNCTAD	United Nations Conference on Trade and Development
UNCuyo	National University of Cuyo, Argentina (Universidad Nacional de Cuyo)
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VALEXPORT	An association of fruit and vegetable growers and exporters in the São Francisco River Valley, Brazil
WBI	World Bank Institute
WTO	World Trade Organization

Executive summary

Although there is a wealth of research and initiatives relating to clusters in general, remarkably little attention has been paid to clusters in the agricultural sector¹. This might be because the notion of cluster is closely related to competitiveness and innovation, and thus it has been traditionally applied to sectors that focus on innovation as a core value, such as information technology, electronics, car manufacturing, biotechnology, and oil and gas industries.

However, agriculture in the twenty-first century is reinventing itself as a new global business reshaped by globalization, standardization, high-value production, massive growth in demand (both for the food and the biofuel industries), retail and packaging innovations, and a ramp up in efficiency. Faced with constant productivity and market pressures, the “new agriculture” needs new tools to enhance its competitiveness and innovation capacity. One of these tools is the promotion of clusters. 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.

AC initiatives are starting to be seen as a key approach to help advance the agricultural sector of many countries. The promotion or inducement of such clusters has various advantages relative to other approaches. In particular, 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 universities), cluster policies promote the diffusion of innovation, as well as the use and generation of important local externalities. ACs can also enhance access to markets and information. Cluster policies are argued to be crucial for small-scale farmers and agribusiness, as they enable them to engage in higher productivity, and 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.

Promoting ACs in developing countries is not easy. On the contrary, it is likely to be quite a challenge. The existing literature shows that clusters in developing countries (including those in the agricultural sector) are usually more dominated by smaller-scale firms, are organized in a more informal manner, have weaker linkages among actors, face more difficulties in achieving a critical mass of firms and have been specialized in lower-value niches, although

1 The agricultural sector is understood in this paper as extended agriculture, including forward linkages to food and non-food agro-industries.

they are now increasingly entering higher-value markets. Consequently, it is far more difficult to promote clusters in developing countries than in developed ones. Another way to interpret this is that clusters in developing economies require more support.

This is why various institutions have become involved in supporting developing country clusters, including ACs. These include both international agencies and national donor agencies. The fact that the Inter-American Development Bank's (IDB) portfolio of cluster initiatives in the region is US\$380 million gives an indication of how important the cluster approach has become. All the agencies tend to share a similar methodology and a national multisectorial clustering scope. However, they differ in a variety of ways. In particular, differences can be found in their implementing partners, their focus, and the importance of cluster initiatives in their overall policy reform proposals.

The experience of these institutions suggests a number of lessons to be learned. These include the fact that policies and programmes for supporting agricultural clusters (i.e. AC initiatives) are very much needed in developing countries to overcome market, government policy and systemic failures. However, external support to clusters might do more harm than good if it is not carefully planned. The present research has shown that in order to achieve their intended positive effects, AC initiatives should, in a nutshell, improve incentives for producers and agribusiness; provide core public goods; enhance the climate for private investment in agriculture; build effective institutions; and reduce the environmental drag. Similarly, given the differences between clusters in developing countries, a one-size-fits-all approach should be avoided. Donors and international organizations are also finding that converging their efforts and models towards joint initiatives can be beneficial. Other key lessons include the need to look beyond public financing to increased policy involvement and to recognition of the contribution of clusters in export strategies and policies.

The current research shows that clustering in the agricultural sector presents many benefits, such as creating an enabling environment for interfirm cooperation, facilitating the diffusion of innovations, and acting as a means to efficiently channel public support to increase competitiveness in the agricultural sector. Farmers and small-scale firms can benefit from participating in ACs, as they enjoy evident joint-action advantages and agglomeration economies. The study also highlights that collective action undertaken by cluster participants is the cornerstone of ACs, and describes the complementary roles played by the government, private sector (especially farmers, industry and interprofessional associations) and academic, and research institutions in the development of agricultural clusters. It indicates that ACs tend to develop, by and large, around high-value export-oriented agricultural products, while many domestic-oriented incipient clusters do not seem to have a bright future ahead of them.

The research underlines, as well, how AC policies require embracing multiple subjects. Moreover, it demonstrates how clusters face multiple challenges, ranging from issues relating to economies of scale and foreign competition, to those relating to the need to improve food safety and introduce new market-driven products. In response to these challenges, today's agricultural clusters often focus more on better meeting consumer demands than on increasing efficiency and productivity.

Other interesting lessons are that ACs can contribute to the increasingly important creation of a regional/brand identity, and that they are often linked to other clusters, such as tourism. Finally, ACs can develop around different elements, varying from clusters based on particular products to those based on particular practices (such as organic foodstuffs) or social or ethnic groups.

Of course, not everything about ACs is perfect. There are, as well, some dangers associated with clusters in the agricultural sector. For instance, the clustering of related firms and enterprises can help to magnify any negative environmental impact (although, through clustering, firms and enterprises can also help work together to mitigate these impacts). Clusters could also magnify economic impact on a particular area in the case of market collapse. In some cases, clustering can also hinder the dynamism of an area. Although clusters aim to promote “co-opetition” (actors within the cluster demonstrating a balance between competition and cooperation), there is a danger in some cases of too much cooperation within a cluster. This can reduce the dynamism of the cluster. A balance is also needed in terms of links to those inside or outside of the cluster. Cluster policy tends to concentrate mostly upon promoting linkages between actors inside a cluster. These links can be vital for innovation, but links to those outside the cluster can also be important sources that should not be neglected.