

Productivity and Growth in Organic Value-chains (ProGrOV)



Networks organization along organic foods value chains in Kenya

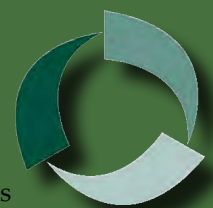


The author during a visit to one of the organic farmers in the region

Research results from the ProGrOV project

In this issue - and in forthcoming issues - *ICROFS news* will bring a number of articles with results from the ProGrOV project presented by the MSc students from Uganda, Kenya, Tanzania and Denmark.

The ProGrOV project is about improving productivity and growth in existing organic value-chains in Uganda, Kenya and Tanzania by way of developing agro-ecological methods governance and management of chains, and by capacity development regarding research focussed on organic and interdisciplinary approaches.



Networks organization along organic foods value chains in Kenya; Case: Kales in Nairobi



By Josphat Njenga Gichure, University of Nairobi, Kenya

An MSc student from the DANIDA project ProGrOV has done a survey of certified organic farmers and marketing outlets around Nairobi. The survey was conducted between February and April, 2012 with kales as a case study.

The results show that there was poor and uneven access to information for producers and other weak chain members due to fragmentation of producers and traders and distant markets. The study recommends reorganization of the network structure to facilitate information flow and minimize exploitation of farmers so that all stakeholders benefit from the network structure.



Kale is among the most preferred green leafy vegetables in Nairobi, reasons being it's nutritious and acts as a source of income to peri-urban traders and farming households. Food supply chains consist of sub-networks in production, distribution and marketing whereby each relationship in the structure has a unique context.

Operations in the networks are based on actors' functional role; interests, goals, rules and power relations define this role. The aim of this study was to describe the network organization of stakeholders along organic products value chains.

Network organization of organic value chains in Kenya

There are two facets of inter-organizational relationships; relationships can be arranged as chains (vertical ties) or as networks (horizontal ties) based on the reason for interdependence. Figure 1 is a generic diagrammatic representation of the organic kales value chain network.

A network has three main elements namely; actors, activities and resources. The

level of dependency among actors depends on criticality of the resources in that value chain. Some relations are based on loyalty and trust, while others depend on opportunism. Strong ties share more voluntary, supportive information as they form a solid basis for trust whereas weak ties enhance access to a wider source of

resources.

Actors with better position in a network have more control and can collaborate with other network members.

Organic kales supply chains in Kenya

A food supply chain shows the movement of food from the primary production all the way to the ultimate

consumer. The products physical flow downstream while information flows is both upstream and downstream.

The organic kales supply chain in Nairobi has several actors; producers, input providers, traders and consumers. Agrochemical shops, sector support groups/ organizations and

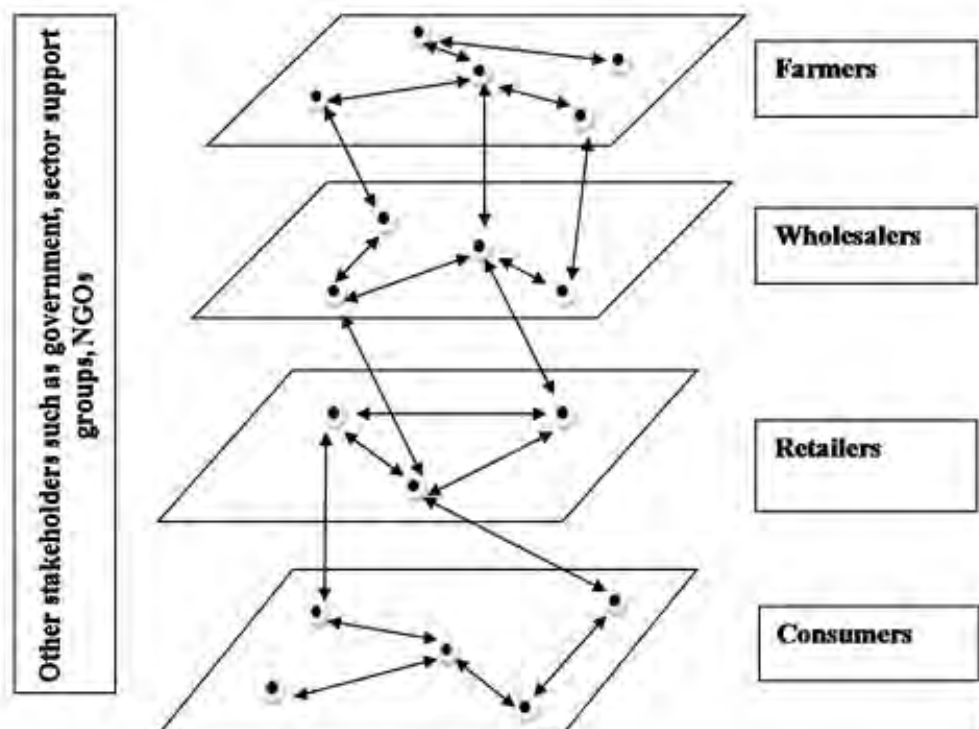
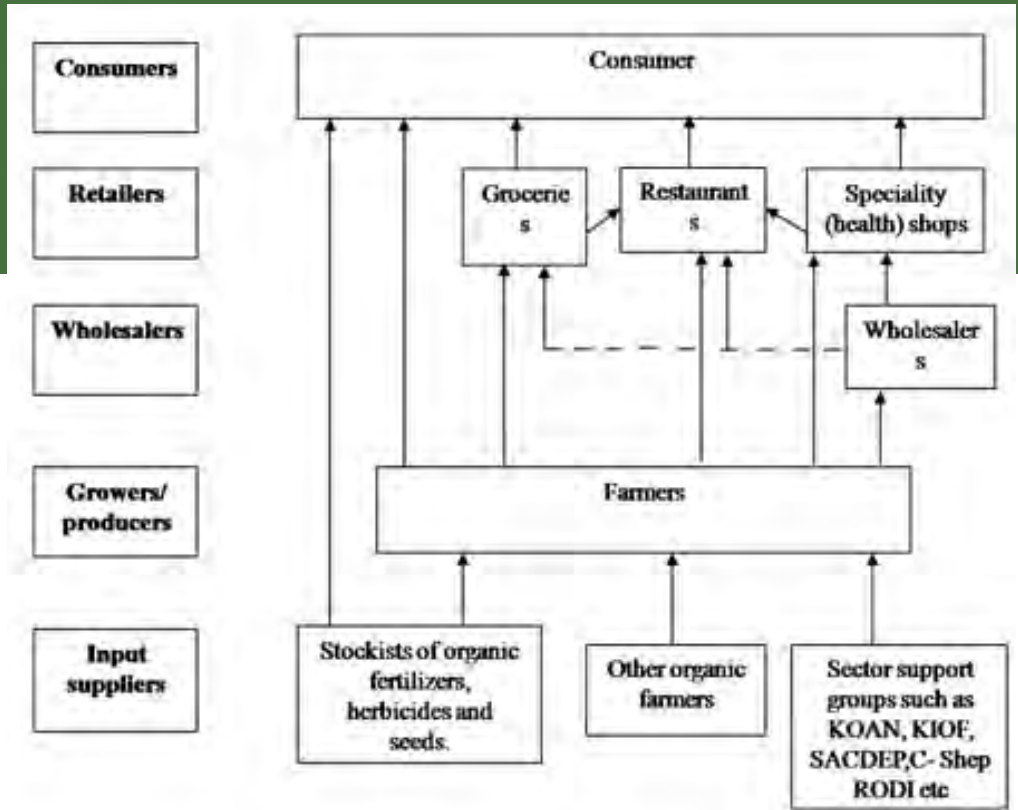


Figure 1: Schematic representation of organic food value chain networks (based on Lazzarini et al., 2001)

Figure 2: Organic kales supply chain in Nairobi (Source, Author)



social networks (neighbours and other farmers) provide the main primary inputs to farmers. Green groceries, restaurants, specialty shops and wholesalers acted as the main traders (figure 2).

Approximately 79 percent of farmers are organized into farmer groups. About only a third had farm size exceeding an acre. Most of the organic produce was sold directly to consumers either at the farmers market, basket schemes, home deliveries, farm gate sales or through conventional vegetables market.

Approximately 70 percent of the farmers sell organic kales at the organic farmer markets every weekend on Saturday. In Nairobi, there are three farmer markets; in Karen, Hurlingham and Thika. Karen and Hurlingham farmers' markets are within 10 kms from Nairobi's CBD while Thika farmers' market is approximately 40 kms from Nairobi.

Excess produce is sold to retailers (specialty outlets, groceries, restaurants and supermarkets). Almost 50 percent of farmers also sell organic kales through mid-

lemen, about 13 percent use basket schemes, 10 percent sell to wholesales while only 7 percent sell to supermarkets.

Measure of centrality

Measure of centrality in social networks describes actors' positions and integration relative to others in the network. Degree centrality measures the ties of an actor in relation to other actors in the network. Closeness centrality measures the possibility of interactions with other actors based on a minimum number of

intermediaries, that is, the reachability of the actors including indirect ties. Betweenness centrality measures an actor's position on the geodesic paths by expressing the number of shortest paths between network actors that pass through a given organization.

Centrality measures of the organic kales value chain

The degree centrality was 67.3 ± 14.5 percent, Network centralization was 42.3 percent which shows the stakeholders are somehow linked to one another.

Closeness centrality was 76.3 ± 8.2 percent which showed that most stakeholders were near the middle of the network structure and required fewer connections to link to everyone in the network. However, network centralization based on closeness centrality measure was about 26.87 percent indicating that although there were many connections among stakeholders, actors were still fairly far from each other. Based on betweenness centrality, centralization was approxi-



Organic farmer market in the Nairobi region



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mately 2.41 percent which was quite low. Although this may encourage creativity, it can reduce exploitation among members. Between-ness centrality shows an actor's importance as a connector between other actors in the network.

The centrality of individual actors varies rather considerably hence the benefits of networking are rather unequally distributed along the value chain. The National Organic Agriculture Movement (KOAN), farmer groups (Ngong Farmers group, Muhuri Road group and Thika Farmers group), large sector support NGOs and the organic certification organization (Encert) were most central. On the other hand, certified retail outlets (Zucchini, Kalimoni, Healthy U and Bridges), government extension officers, the organic farmers'

markets and agricultural training institutes were at the network periphery. From this, large sector support NGOs, farmer groups and KOAN were regarded as the most influential and had access to more information in this network.

Despite the fact that farmers are centrally located in the network with a high centralization, most farmers are smallholders making them disadvantaged as they have limited access to information, technology, and other network resources which restricts their ability to network individually. This means they are inadequately organized which is a pointer to insufficient development of the sector. In addition, their central position in the network encourages exploitation by other network actors and hence they can't benefit from the network

structure. Furthermore, most farmers are in groups and have limited access to directly interact with other stakeholders.

Reorganization of the network structure is needed

Along organic value chain, there was uneven access to information for producers and other weak chain members due to fragmentation of producers and traders and distant markets. This increase costs associated with access to information. The study recommends reorganization of the network structure to facilitate information flow and minimize exploitation of farmers so that all stakeholders benefit from the network structure. In addition, farmers' groups should provide information such as market information, training on food safety and quality and post-harvest

products handling. These will provide farmers with them an opportunity to minimize exploitation. In addition, implementation of group activities during production, marketing and certification should be encouraged.

Joshpat Njenga Gichure has during his studies at University of Nairobi been supervised by Professor Jonathan Nzuma, University of Nairobi, Professor Kostas Karantininis, University of Copenhagen, and Analytical Consultant Paul R. Kledal, Institute of Global Food & Farming Ltd.

Mr. Njenga's fellow students in the ProGrOV project will graduate over the coming 3 years and more results from this will be presented in ICROFS news in the coming issues.

About ProGrOV
 The results are from the first graduated MSc student from ProGrOV. The ProGrOV project aims to increase organic agricultural productivity and develop the organic business, improve livelihoods and build capacity for sustainable development in the East African Region. It focuses on increasing productivity and growth in organic value chains through research addressing development of agro-ecological methods, governance and management of organic value-chains, and capacity development using participatory and interdisciplinary approaches.



More information
 Read more about ProGrOV: <http://www.icrofs.org/Pages/Research/progrov.html>



The project is a collaboration between Universities in Uganda, Kenya, Tanzania and Denmark. It is funded by the Danish Ministry of Foreign Affairs and coordinated by ICROFS.