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Collective Action among African Smallholders

Trends and Lessons for Future Development Strategies

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The combination of increasingly globalizing agricultural markets, rapidly modernizing local value chains, and urbanizing distribution channels presents African smallholders with considerably more complex challenges than those faced by Asian producers during the Green Revolution era. African smallholders today not only need to produce more efficiently but also need to contend with far more logistically complex and competitive markets. Growing specialization in distribution channels and logistics, rapidly changing and differentiated consumer preferences, and increasingly complex norms, standards, and other technical specifications place increasing demands on the production and management skills of the average smallholder. Due to their large number and geographic dispersion, smallholders are facing significant physical, institutional, and technical constraints in accessing technologies, markets, and services.

Overcoming the above obstacles at a critical scale and within a reasonable time frame calls for collective action. This Thematic Research Note reviews the evolution of collective action among smallholders. It assesses determinants of their success such as incentives, capacities, and social impediments. The Note also discusses lessons and options for future action. These include lessons from collective action for market participation by African smallholders, value chain penetration by developed country farmers, and natural resources management among pastoralist communities. The Note also looks at the possibility of using Information and Communications Technology (ICT) to build the institutional, commercial, and technical skills of smallholder producer organizations such as to help their members overcome the obstacles mentioned earlier and effectively integrate the rapidly modernizing agricultural value chains.

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A History of Cooperative Development in Africa

Fredrick Wanyama

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. It is based on the values of self-help, self-responsibility, democracy, equality, equity, and solidarity as well as the ethical ideals of honesty, openness, and social responsibility. These values and ethical ideals clearly make cooperatives the locus of collective action for smallholder producers in rural economies. However, the history of cooperatives in Africa suggests that collective action that is truly reflective of the above values and principles is a recent development that only has been chaperoned by the liberalization of the cooperative movement from the mid-1990s.

Cooperatives in Africa have their origins in the colonial period, when the government directed their formation. Interesting to note, state intervention in cooperative development continued even after independence, resulting in two eras of cooperative development in independent Africa: the first era from the immediate postcolonial period in the 1960s to the mid-1990s and the second era during the global economic reforms from the mid-1990s to the present. The first era was characterized by stringent government control over cooperative development through enactment of policies, legislation, and programs that promoted cooperatives as vehicles for accelerating state-led national economic development. The liberalization of the economy that facilitated the second era of cooperative development freed cooperatives from state control but also attracted new actors in the economic sectors where cooperatives hitherto enjoyed monopoly status.

In the agricultural sector, the marketing transaction process radically changed. Previously, the ownership of the produce rested with the state marketing board, which then delegated the same to cooperatives. Thus, cooperatives could claim ownership of the produce until the point of export, when ownership reverted back to the marketing board. But in the liberalized market system, the ownership of produce became rather disjointed. An individual farmer owned it up to the point when he or she sold it to the next owner, who could be a private buyer or a cooperative society. Cooperatives had, therefore, to compete with other players to buy and sell agricultural produce if they were to remain in business. This new transaction process could have far-reaching implications for the cooperatives. For instance, since membership in agricultural cooperatives was previously motivated by the desire to get access to the only marketing channel for produce, the availability of several market channels in the new era could significantly reduce cooperative membership as some members could opt to sell their produce to alternative buyers. Similarly, cooperative societies previously found it necessary to join cooperative unions to find a channel for primary processing and marketing of members' produce. With private buyers playing this role, societies could easily find no reason to belong to a union, especially a mismanaged and malfunctioning one. The ultimate end of such possibilities could go either way for cooperatives: failure to survive the competition or successful business organizations. How has this new environment worked for African cooperatives?

Overall, it seems that the liberalization of the economy and cooperatives is steadily offering many cooperatives the opportunity to reinvent their solidarity and generate collective action among their members to tap into economies of scale to improve the productivity of their members. The result is the increasing improved performance of such cooperatives as evidenced by their higher turnover, improved income for participating members, and improved provision of socioeconomic services to members and sometimes the wider community. One success story is Githunguri Dairy Farmers Co-operative Society in Kenya; formed in 1961 on state initiative, its membership now stands at more than 16,000 from the initial 31. The society's activity of marketing members' milk has blossomed since the completion of its own modern milk processing plant in 2004. It collects and processes an average of 170,000 liters of milk daily, up from about 25,000 liters in 1999 before the construction of its plant. It has a fleet of vehicles for transporting milk from 58 fully computerized collection centers to the plant. The plant processes four main branded products, namely, packed fresh milk, yogurt, ghee, and butter. The cooperative also supports its members in improving productivity through services like artificial insemination, extension, and animal feeds that are stocked in its 31 stores that straddle its area of operation. These services are availed to members mainly on credit that is recovered from the sale of their milk. These activities have seen a tremendous improvement in milk production by members, to which the cooperative has responded by offering competitive prices and promptly paying for members' produce. Some of the members who had become dormant before the construction of the plant have reportedly revived dairy farming. The annual turnover of the cooperative is more than

3 billion Kenya shillings (US\$34,883,721). The expansive activities of the cooperative are taken care of by a staff of about 300 employees who are recruited on the basis of an employment policy. Whereas lower-cadre staff members are recruited from within the Githunguri division, management staff members are sought nationally and appointed competitively on the basis of professional qualifications.

KuapaKokoo Limited in Ghana was started in 1993 as a limited liability company using a cooperative model and was transformed into an organization best characterized as a mix of a cooperative, a limited liability company, and a trust. With a membership of 45,000 spread across 1,650 village societies, it functions as a multipurpose cooperative union comprising (1) a farmers' union—a production cooperative, (2) KuapaKokoo Ltd.—a farmer-owned private licensed cocoa-buying company that serves as the commercial and trading wing of the farmers' union. (3) KuapaKokoo Farmers' Trust—a trust company for managing premiums from sales of cocoa to companies abroad through fair trade, (4) KuapaKokoo Credit Union—a savings and credit co-operative promoting savings and making credit easily accessible to members, and (5) Day Chocolate Company—a chocolate-manufacturing wing of the organization. The organization had 261 employees in 2006. This sophisticated cooperative organization provides a useful model for production and marketing cooperatives. A combination of its activities has seen the cooperative sell 38,000 tons of cocoa per year.

In Ethiopia, Oromia Coffee Farmers' Cooperative Union has improved on its coffee marketing, particularly in the export sector, during this era. With a membership of 208,728 coffee farmers and 84 permanently employed staff members as well as 1,200 seasonal employees, it has opened coffee shops in Europe and the United States, selling more than 4,900 tons of coffee annually and recording an average annual turnover of more than US\$37 million. In South Africa, 14 smallholder rooibos tea farmers decided to form the Rooibos Tea Cooperative in 2001 to establish a facility to process each member's tea before it was delivered to a marketing company to which some of the small farmers were contractually bound to deliver all their produce. However, there was unhappiness with the price it paid, and the cooperative opted to get a much better price by marketing its tea through an agent, under a fair trade label and as organically produced. During the first year of its operation the cooperative leased a centrally located facility to produce the tea and marketed it through the agent. So successful was this that the following year all the members were marketing their tea through the cooperative, and the cooperative realized a substantial surplus. The 100 South African rands (US\$15.60) entrance fee contributed by each of the 14 members gave an initial capital of 1,400 rands (US\$222.20) in 2001. At the end of 2004, its membership had increased to only 36, but the cooperative had a turnover of 1.25 million rands (US\$198,412.70) and assets worth 896,708 rands (US\$142,334.60), including a truck to deliver the tea, a welding machine, and a tractor used in the production of tea.

The list of successful cooperatives in the liberal era is, in fact, rather long. The liberalization of the economy and the cooperative sector is steadily offering some cooperatives the opportunity to reinvent their business ideals. The available data suggest that more of such opportunities are increasingly being used by well-organized cooperatives that have committed leadership and a clear vision of finding solutions to the daily problems of their members. This is conditioning such cooperatives to function as demand-driven and market-oriented business organizations, thereby remaining in tandem with the forces of liberalization. On the other hand, cooperatives that are not organized along these lines are losing their members due to their inability to provide the demanded services and subsequently closing down.

The Role of Cooperatives in Modernizing Supply Chains

Colin Poulton

Multiple trends observed in global agrifood markets during the past 30 years have been widely interpreted as threatening the survival and profitability of small farms. Rising incomes have increased demand for horticultural and livestock products but simultaneously have increased demand for food quality and safety. Trade and investment liberalization has allowed supermarkets to expand rapidly in many new markets, such that they now set the terms on which food producers supply these increasingly urbanized and affluent consumers. Trade liberalization also means that, even where a country's farm population overwhelmingly comprises smallholders, the country's farmers now effectively compete with farm enterprises of all sizes from other parts of the globe. More recently, a number of countries have encouraged large-scale investments in land, bringing new domestic competition to smallholder producers.

These trends have not affected all countries and regions equally. Thus, in much of Africa, growth in food demand is still driven as much by growth in population as in incomes, food quality and safety demands generally remain modest, and supermarket penetration is still limited. Nevertheless, nowhere is completely untouched by these trends, which will be reinforced by accelerated economic growth on the continent. If small farms are to generate rising incomes to contribute to growth and poverty-reduction objectives, then smallholders will have to respond to the increasing competitive pressures. Small farms' competitive advantages over large commercial farms lie principally in their low transaction costs in accessing and supervising motivated family labor and in their intensive knowledge of local agroecological conditions. However, their small scale leads to higher unit transaction costs in almost all nonlabor transactions: accessing technical and market information, capital, and inputs and output markets as well as ensuring product quality and safety. Thus, linkages that allow smallholder farmers to simultaneously and reliably access a range of markets and services at lower costs are critical to their competitiveness.

The incentives for the commercial private sector to invest in service provision to smallholders vary according to commodity, location (especially high-potential areas, where market density is potentially high, versus low-potential areas, where markets are "thin"), and market context (the ease of accessing supplies from large farms or via imports). Especially where markets are thin, coordination across providers of complementary services should stimulate demand for the products of all. Where one investor provides a package of complementary services to smallholder households, as in many contract-farming schemes, horizontal coordination across service providers may be necessary to prevent side-buying and -selling from undermining the credit element of these contracts. State agencies (local governments, commodity regulatory agencies) can facilitate such coordination but often lack the capacity to do so effectively. This is where farmer cooperatives could have an important role to play. Farmer collective action is sometimes conceived of as a substitute for reliance on commercial or public delivery of pre- and postharvest services. However, within a liberalized marketing environment farmer collective action is most likely to be a complement to commercial or public delivery of pre- and postharvest services, reducing the transaction costs faced by external service providers in reaching dispersed smallholders (each of whom produces small volumes) to the point where service provision becomes viable. Smallholder cooperatives therefore deserve a second look in terms of the role they can play in the long-term viability of smallholder farmers in rapidly modernizing value chains.

Collective action can play a role in the provision of all the services listed above. Its potential contribution can be illustrated using the example of required traceability for product quality or safety. The fixed cost components in the establishment of traceability schemes pose particular challenges for small farmers and those wishing to transact with them. However, collective action by small farmers can spread these costs, allowing buyers to deal with organized groups when they could not service members on an individual basis. There is a parallel here with the local knowledge and labor motivation advantages of small farms noted above. Committed farmers working together can perform some of the monitoring functions required for traceability at lower cost than can the employees of buying firms. Enthusiasm about the potential for farmer organizations to undertake these tasks should not, however, lead to unrealistic expectations about their ability to directly serve the poorest small farmers or about the speed at which even successful organizations can be scaled up. Experience teaches that farmer organization development faces substantial challenges, which can be exacerbated by ill-judged external support. Challenges arise from the structure and governance of member organizations, limited organizational capabilities among leaders and members, lack of financial capital, and difficulties in the institutional, economic, and agroecological environment of small farms in poorer rural areas.

Collective Action for Smallholder Market Access: Lessons from Natural Resource Management

Helen Markelova

Research in natural resource management (NRM) has demonstrated the advantages of collective action—voluntary action by a group in pursuit of shared objectives (Ostrom 1990; Meinzen-Dick et al. 2002). Although collective action in NRM differs from organizing smallholders around marketing, valuable lessons can be drawn from the NRM literature for collective action in marketing. Three broad categories of factors can be identified that are important for effective formation and functioning of groups: characteristics of the shared resource, characteristics of the user groups, and institutional arrangements (see, for example, Agrawal 2001). The type of natural resource and characteristics of the user group create incentives for cooperation around the management of the resource; institutional arrangements provide the form of that cooperation. Transferring this logic to collective action in the area of marketing of farm products, resource characteristics would be the equivalent of the various types of products and markets, characteristics of user groups would correspond to the attributes of the group of farmers participating in marketing, and institutional arrangements, including rules and sanctions, would describe the organization of marketing operations.

The types of markets affect the incentive for and success of collective action among smallholder groups. For instance, collective action may create clear advantages and opportunities in supplying domestic retail chains and international markets for high-value products. The advantages and incentives are less important when dealing with local markets, which are easily accessible by smallholders individually. The types of products, that is, its natural properties in terms of storability, transportability, and final use, may provide incentives (or disincentives) for collective marketing. Evidence has shown, for instance, that staples such as maize are easy to transport and store and that a large portion is usually destined for local consumption, all of which makes them less appealing for group marketing. In contrast, incentives for collective action are higher in the case of perishables, which are characterized by higher marketing cost thresholds linked to specialized storage and transportation, which smallholders cannot tackle on their own. The growing literature on marketing in Africa shows that smallholder groups have been successful in marketing these crops, especially for the local quality-conscious supermarkets as well as for exports. Similarly, characteristics of producers and their organizations, in particular in terms of group size and composition, affect the success of collective action. The evidence concerning successful collective action in agricultural marketing suggests that a group size of 20 to 40 members is most suitable. Larger group sizes may increase coordination costs and create management inefficiencies. There is mixed evidence about whether heterogeneity in wealth, age, ethnicity, and location may lead to better results. Shared norms and values, which often come from prior involvement in groups, are often listed as major contributors to the effectiveness of collective action in both NRM and marketing. Institutional arrangements related to organizational structure and rules also constitute major determinants of the outcome of the collective action in NRM. Rules originating from group members themselves that are easy to understand are more likely to be adopted and followed. In the case of agricultural marketing, evidence from the literature shows that linkages with other members of the value chains are a critical factor in determining the success of collective marketing by smallholders. Finally, the external environment is another factor that has been shown to influence collective action in NRM. In the case of collective action in agricultural marketing, this environment involves the relationship with the state, the private sector, and civil society (nongovernmental organizations). Links with the private sector involve mutually beneficial contractual arrangements between producer groups and suppliers. The nongovernmental agents often act as chain champions that enable groups of small farmers to identify niche markets, obtain necessary certifications, provide technical and managerial training, and facilitate access to credit and technologies.

The parallel between collective action in NRM and marketing raises a number of implications in terms of both policy and practice. The first is the need for in-depth analysis of the characteristics of the markets and products involved, as well as the farmers and their organization, to assess the existence of adequate incentives for collective action. Furthermore, the possible role of outside actors needs to be studied carefully. A certain degree of formality is needed for smallholder organizations to effectively participate in a modern, profitable value chain. This requires involvement by a range of outside actors (state, private sector, civil society), which in turn calls for innovative institutional arrangements. Moreover, collective action raises issues of sustainability and equity in the case of agricultural marketing as well as in NRM.

Sustainability in this case involves both business (marketing) sustainability and the durability of the collective effort. There is also evidence that the poorest farmers (that is, those with very small endowments of land and other assets) may be precluded from participation in collective marketing. However, if the focus of collective marketing is exclusively on equity issues, without due attention to business viability, the efforts may not be long lasting.

In summary, there are still considerable challenges to effective collective action in support of smallholder participation in agribusiness value chains. In the search for solutions to these challenges, there are considerable lessons that could be drawn from the experiences and evidence in the literature on collective action in the area of NRM.

Collective Action and Natural Resource Management in Northeastern Burkina Faso

Céline Dutilly

The north of Burkina Faso is an agropastoral Sahelian region where livestock production is an important component of agricultural activity. Livestock production is based on extensive and semi-extensive systems where access to common grazing lands and transhumance is heavily relied on to increase access to forage resources. In such systems, there is wide scope for collective action to influence land use and allocation patterns, investments and maintenance of community resources, and household income and well-being.

Though collective action is well recognized as being an important component of rural development and local-level natural resource management (NRM), it remains a difficult issue to address empirically. Based on a 2001 survey of 48 villages located in northeastern Burkina Faso and hypothesizing that certain communities will be able to organize more efficiently to achieve community-level goals—irrespective of what those goals might be—we aggregated several characteristics of formal NRM organizations to recover this unobservable capacity to cooperate. Once the indicator was created, we were able to assess the main impacts of collective action.

1) *Impact of Collective Action on Provision and Use of Common Pastures*

Land allocation to private crops versus common pasture, stock densities, and animal mobility are three interlinked variables capturing the management level of common land. These decisions are characterized by externalities; that is, the behavior of one person will affect the outcomes of the others. We recover two different facets of cooperative capacity: one related to networks and the other related to organizational capacity. Network indicators include the density of organizations and density of household participation in those organizations. Organizational performance indicators include number of rules, regulations, activities, and effective participation by members in activities and at meetings. Our results show that a higher index of cooperative capacity leads to lower stock densities, a larger share of community land allocated to common pastures, and greater herd mobility, all as hypothesized.

2) *Impact of Collective Action on the Provision of Public Goods*

Controlling for household characteristics as well as community-level variables, we find that cooperative capacity has mixed effects on household participation in the provision of community public goods. For instance, we find no significant impact on participation in water point maintenance, either in terms of participation in meetings or in terms of monetary or labor contributions. In contrast, greater cooperative capacity is found to have a consistently positive impact on participation in erosion control and reforestation activities.

3) *Impact of Collective Action on the Intensification of Livestock Production*

The relationship between management of common pool resources used as an input in livestock production (common pastures) and the adoption of inputs associated with intensified per-animal production (veterinary services, purchased fodder, feed concentrates, and so forth) is explored as well. Empirical results indicate that in communities with better-managed natural resources, including common pastures, households are more likely to purchase vaccines and high-value agro-industrial by-products, both of which are considered to be complements in production with forage. On the other hand, households in villages with better-managed pastures have less probability of purchasing low-value crop residue, a substitute for forage.

4) *Impact of Collective Action on the Household Income Level and Diversification*

Looking at the final impact of cooperative capacity on the overall income of the households, it is shown that a greater effectiveness in cooperation in NRM helps increase income derived from livestock and overall income for households that are not self-sufficient. However, not all forms of cooperation are effective. When cooperation is only formal, individual activities are pursued (crops, off-farm), as opposed to livestock activities that rely on common property resources.

The analysis presented above indicates that cooperative capacity increases household participation in specific collective activities. In addition, the better management induced by collective action has a positive impact on the adoption of intensified inputs in livestock production as well as on livestock and overall income, enabling farm households to exploit their regional comparative advantage.

Cooperatives in Agrifood Chains

George Hendrikse and Jos Bijman

Globalization, consumer concerns, and increased consumption put pressure on farmers and food producers to enhance product innovation and to seek more efficient production and distribution structures. In recent years, agriculture and the food industry have shown increasing collaboration on issues of product development, quality guarantee systems, and improved logistics. Spot markets are being replaced by contract-production and systems of vertical coordination. More coordination and collaboration may lead to improved efficiency in production and distribution channels and to more product and market innovations.

Marketing cooperatives are a special type of vertical integration with farmers owning assets in another tier of the agrifood production and distribution system. A cooperative is an enterprise collectively owned (vertical relationship) by an association of many independent upstream parties (horizontal relationship). Worldwide, cooperatives are prominent in many sectors, especially in agriculture and food. To illustrate, the European Union, United States, India, and China have, respectively, 300,000, 29,000, 580,000, and 675,000 cooperatives, and about one-third of world food production passes through cooperatives.

As the aforementioned changes shift the relative importance of the investments by different chain partners, it may be necessary to change the allocation of ownership of essential assets to induce agents to make optimum those investments that generate the chain. Incomplete contract theory predicts that asset ownership has an effect on agents' incentives to invest. This effect is due to the impossibility of writing comprehensive contingent contracts for relationship-specific investments and the resulting potential for opportunistic behavior and ex post renegotiation of the trade benefits. The risk of ex post contract renegotiation results in underinvestment.

We take the example of egg farmers in the Netherlands to show the impact of ownership structure on investments in a three-tier supply chain (farmer, processor, and retailer) from an incomplete contracting perspective. Egg farmers in the Netherlands have made substantial investments in animal-friendly chicken runs to produce eggs from chickens walking around freely rather than sitting their entire lives in cages. Consumers are willing to pay a price premium for these eggs. In 2013 egg farmers received 4.5 euro cents for an egg and had production costs of 7.5 euro cents, and the retailer sold the egg for 17.0 euro cents. It is clear that this situation is not sustainable, but how did this situation arise, and what can be done about it?

There are at least two aspects that determine the price of animal-friendly produced eggs: the bargaining position and the bargaining power of the various parties in the chain of production. First, the investment by an egg farmer in an animal-friendly run is highly specific. The investment is dedicated to the production of animal-friendly eggs and has therefore limited value in alternative uses. Part of the investment cost is sunk into the relationship because there are no outside opportunities (that is, sales options) to create the same value with this investment. The resulting weak bargaining position of the egg farmer will result in holdup by the other parties in the chain of production; that is, the bargaining will be about the quasi-surplus, that is, the surplus plus the sunk costs, rather than the surplus. In the egg example, the bargaining will be about how to split at least $(17.0 - 4.5 =) 12.5$ euro cents rather than $(17.0 - 7.5 =) 9.5$ euro cents for each egg.

Second, the price of animal-friendly produced eggs is determined by the distribution of bargaining power in the chain of production. It determines which share each chain party receives from the quasi-surplus. The egg farmer will invest only when his or her bargaining power regarding the quasi-surplus results in a sufficiently high return to cover the sunk costs. Allocating insufficient bargaining power to the egg farmer will result in the holdup problem; that is, the egg farmer will underinvest in value-creating investments ex ante due to anticipating that a too limited share of the quasi-surplus will be received ex post.

When the farmer's specific investment is high relative to the specific investment by the processor, farmer-ownership of the assets in the processing stage of the chain obtains the first-best solution. This is where the value of a governance structure—more specifically a cooperative—in terms of asset ownership comes in. If the party doing the specific investments owns more assets, this will improve the bargaining power of this party regarding the distribution of the quasi-surplus and therefore will increase investments in value-creating activities.

Egg producers will improve their bargaining position by organizing countervailing power and creating access to a secured outlet by creating a cooperative, which is predicted to increase the price received by egg farmers. The above highlights two main insights of the incomplete contracting literature: asset ownership may reduce market failure that would otherwise arise from underinvestment in productive activities, and the party whose marginal investment is more productive should own the asset.

Farmers in developing countries seeking to raise their income by producing higher-quality food products, for instance, on demand from domestic or international retailers, also face the risk of holdup once they have made the specific investment needed to produce demanded quality. If only one or just a few buyers are available for this higher-quality (and thus more costly) product, those buyers have substantial market power, particularly when they collude in offering lower prices *ex post*. Farmer collective action in cooperatives can partly solve this problem by strengthening the bargaining power of producers in the value chain, by finding alternative markets for the high-quality product, and by having the buyers co-invest in the specific assets needed. Alternatively, nongovernmental organizations may co-invest, often through the cooperative, thereby reducing the risk of holdup for the farmers.

Cooperatives in Ethiopia: Does Organizational Form Matter for Commercialization?

Gian Nicola Francesconi

Ethiopia is the largest producer of maize and wheat in Africa, with domestic production more than double the volumes jointly produced by Kenya, Tanzania, and Uganda in 2004/2005. Ethiopia is also Africa's largest coffee producer and the birthplace of the bean. Overall, grains, coffee, and other agrocommodities are central to the Ethiopian economy, engaging almost 10 million smallholder farmers and related households in the production process. Agrocommodity commercialization thus has the potential to boost the economy and reduce poverty.

Toward the end of the former century the Ethiopian government decided to endorse a new pro-cooperative policy aiming to boost the commercialization of agricultural commodities. Since then the Ethiopian government has been actively promoting the formation and growth of agricultural cooperatives, mainly through the Federal Cooperative Commission. Consequently, participation in agricultural cooperatives has become a main precondition for Ethiopian farmers to gain access to public services, subsidies, and aid. As a result, agricultural cooperatives have been playing an increasingly important role in channeling public support to farmers, and the share of rural *kebeles* with cooperatives went up from 10 percent in 1991 to nearly 35 percent in 2006.¹

To better understand whether this policy has produced the intended impact to improve commercialization of smallholders we analyzed primary data from more than 400 farm-households randomly selected from the main agrocommodity production areas (cereals, pulses, and coffee) of the country. In particular, we compared the commercialization levels (quantity sold/quantity produced) of cooperative members and otherwise similar but independent farmers. To do so we deployed a single-difference evaluation design and propensity score matching techniques. Results suggest that, on average, cooperative membership in Ethiopia is not associated with a significantly higher rate of agrocommodity commercialization. Although this finding is supported by previous studies conducted in Ethiopia, the analysis further revealed that the impact attributed to cooperative membership varied significantly depending on the type of cooperative organization considered.

Ethiopian cooperatives can be distinguished into marketing and livelihood organizations, depending on whether output of members is commercialized, respectively, through or outside the cooperative system, that is, collectively or individually. Previous studies suggest that the number of marketing cooperatives is growing in Ethiopia but that livelihood cooperatives, which depend mainly on external support to exist, still constitute the majority. Our analysis shows that this distinction based on the organizational form adopted by a cooperative may matter for the degree to which members are involved in output markets. In particular, we find that members of marketing cooperatives have significantly higher rates of commercialization when compared with independent farmers, whereas members of livelihood cooperatives have commercialization rates that are similar to or lower than those of independent farmers. On average, we estimated that independent farmers and members of livelihood cooperatives, respectively, commercialize 28 and 27 percent of their agricultural production, whereas members of marketing cooperatives sell 56 percent of their farm output.

These findings thus suggest that not all agricultural cooperatives can be expected to promote agrocommodity commercialization. Only cooperatives that provide their members with marketing services, for collecting, bulking, and selling agricultural output, can be expected to improve farmers' commercialization. Therefore, since Ethiopia's cooperative policy aims to promote agricultural commercialization, rural governance should be more selective in supporting organizations striving to promote collective marketing.

¹ In Ethiopia a *kebele* is the smallest administrative unit, below the municipality-district level.

Rural Producer Organizations and Their Social Context

Tanguy Bernard

In West African countries, village-level rural producer organizations (RPOs) have the potential to be an important instrument to support income-generating activities. Yet despite their rapid development during the past three decades and the growing interest of development agencies in working with them, their contributions to village-level poverty reduction remains modest. This is evident in Burkina Faso where one finds at least one village-level RPO in 56 percent of the villages in which 45 percent of all rural households participate but derive only limited economic benefits. Several factors may explain the apparent limited role of RPOs in improving rural incomes. The observed low levels of financial resources available to these organizations as well as the lack of complementary public goods and institutions are likely to be major constraints to their success.

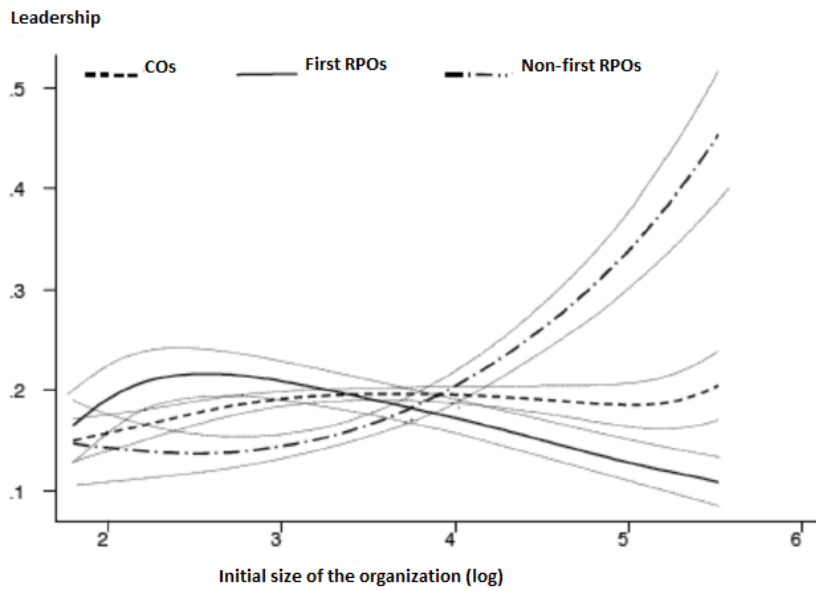
However, the social context in which RPOs operate also needs to be considered for its effect on the existence and performance of these organizations. One feature of this context is the solidarity system–based resistance to economic differentiation within communities. In such a context, to break through, an individual willing to accumulate private resources needs the protection afforded by the deviant actions of a sufficient number of other innovators in his or her locality. Rising economic opportunities will not suffice to generate dynamic entrepreneurs in the absence of a critical mass of cultural energies harnessed toward countering social resistance to self-seeking accumulation behavior (Platteau 2000). Groups are important in this context, and RPOs can in part be seen as a coalition of individual entrepreneurs seeking each other's support in opposing local resistance to economic differentiation. However, if the coalition that is reached is not large enough, community conservatism may significantly affect the membership, the governance, and ultimately the performance of these organizations in servicing their members.

We explore these hypotheses through an analysis of the emergence, size, governance structure, and activities of RPOs in a context wherein these are perceived as threatening the reproduction of the community's traditional social structure and solidarity system by inducing economic differentiation between members and the rest of the community. We built a model that assumes that emerging RPOs, because they are expected to induce economic differentiation between their members and the rest of the community, are perceived as threats to reproduction of the traditional social structure and the solidarity system. As a result, the size of the emerging organization is partly determined by the necessity of counteracting resistance to its existence from the rest of the community: by incorporating a sufficient critical mass of villagers, even if not entrepreneurial, who will share in the benefits created by the organization. This, in turn, influences the RPOs' governance structure, as the included nonentrepreneurial members require a more participative type of governance. Overall, the model predicts that, in an environment where there are strong pressures against economic differentiation, one should find initially larger organizations governed in a more participatory mode and more engaged in the delivery of club goods. Where these pressures are weak, the emerging organizations can be smaller, the leadership mode can dominate, and the organization can concentrate on the delivery of income-generating services for its members.

We test these predictions using data from 647 organizations from 260 villages in Burkina Faso. These organizations include those aiming to generate income for their members (RPOs) and those whose objective is to provide public goods for their entire community (community-oriented organizations (COs)), which we use as a counterfactual. We find strong support for the model's prediction, showing that social conservatism is quantitatively important in constraining the emergence, the structure, and the performance of RPOs—but not that of COs. Important to note, our results also show that RPOs that emerge later in a given village are no longer subject to these pressures, supporting the idea that emergence of the first one has affected community-level acceptability of these organizations.

The importance of leadership versus participation in governance, for example, varies with both the type and the size of the organization. To illustrate this, we report in Figure 1.1 the nonparametric estimates of the relationship between initial size of the organization and leadership. Standard theory tells us that leadership should increase with the size of the organization to facilitate decisionmaking. This is, indeed, what we observe in nonfirst RPOs. However, we observe the remarkable regularity that this relationship, in contrast, is negative for first RPOs. Leadership is unrelated to size in COs.

Figure 1.1 Leadership and size of the organization



Source: Bernard et al. (2010)

Note: COs = community-oriented organizations; RPOs = rural producer organizations;

Locally weighted regressions.

The thinner lines are 2 standard errors above and below the estimated regression functions calculated from 50 bootstraps of each local regression.

Last, our results show that external partners, often concerned by governance issues in these groups, can influence the introduction of formal participatory rules, but they tend to have limited influence on the way decisions are effectively taken. Per our results, support of the leadership process appears a more viable way to durably influence the economic performance of RPOs.

Transformation of Agrifood Systems: The Need for a More Comprehensive Framework

Michael Cook and Gian Nicola Francesconi

The global agrifood system is in a process of radical transformation. Numerous scholars and public policymakers have titled this transformation the “agro-industrialization process.” The debate about agro-industrialization is mainly based on two seemingly unrelated fields of inquiry: development and agribusiness economics. Development and agribusiness economists appear to observe similar phenomena related to the industrialization of the global agrifood economy. Traditionally, their approach was from a macro- and meso-level point of view, but increasingly they use a micro-analytical framework explaining institutions and institutional arrangements and generally agree that the two defining characteristics of the agro-industrialization process are related to organization and value addition. Organization is defined by contractual arrangements replacing spot markets. Value addition is given by the simultaneous increase in farm productivity and the increase in the value of nonfarm processing, transportation, and retailing activities. These two fields of inquiry also converge in pointing out that farmers tend to be excluded from the organizational and value-adding processes that characterize transforming agrifood systems. The rise of value-adding organizations of farmers, such as agricultural cooperatives, is thus seen as the most critical issue emerging from transforming agrifood systems.

However, important differences exist between these two approaches to agro-industrialization. First there is the geographical focus, since development economists are typically concerned with developing countries whereas agribusiness scholars tend to concentrate their research on developed countries. The second difference is the lack of agreement concerning the direction of causality between the organization and value-addition processes underscoring agro-industrialization. Generally speaking, agribusiness scholars believe that organization is the necessary precondition to add value, whereas development economists advocate in favor of creating value to organize. For agribusiness scholars organization design determines product quality, market competitiveness, and consumer choice, which defines value-addition strategies. On the other hand, development economists tend to hold the viewpoint that organizations are designed in response to technological, demographic, and sociocultural changes occurring at the institutional environment level. Therefore, agribusiness scholars suggest that what drives agro-industrialization is an endogenous process defined by intra-organization behavior through strategic and structural design decisions aiming to add value to production, whereas development economists start with the premise that agro-industrialization is driven by exogenous incentives and exchanges are organized on the basis of value-adding strategies. These two approaches define two non-Walrasian schools of thought offering formal theories of institutions: (1) asymmetric information theory, advanced by development economics, and (2) transaction cost theory, employed by agribusiness scholars. The institutional school of thought found in development studies tends to focus on incentive schemes that allow for reducing information asymmetry and thus promote the rise of agro-industrial organizations. In contrast, the institutional approach of agribusiness economists tends to focus on organizational design for reducing transaction costs and thus for maximizing agro-industrial value adding.

These distinctive approaches are justified by the different audiences addressed by development and agribusiness scholars. Whereas development economists tend to address public policymakers, whose main role is to incentivize value-adding investments, agribusiness scholars tend to serve private-sector leaders and managers, whose main role is to organize production and commercial processes. As a result, developing countries are generally providing a conducive policy environment for investments into the establishment of agro-industrial organizations, but the growth of these organizations appears to be often constrained by governance issues attributable to a general shortage of managerial capacity. The situation is reversed in developed countries where organizational and managerial capacity is generally high but cumbersome regulations and taxation policies discourage entrepreneurship and thus investments for the establishment of new organizations, affecting agro-industrial competition and innovation. Hence, cross-fertilization between development and agribusiness research has the potential to develop public-private partnerships of the kind that

can harmonize organization and value-adding efforts and advance the global agro-industrialization process. Cross-fertilization, however, will require the development of a multilevel framework for bridging management and policymaking. In particular, the framework should focus on the specific value-adding constraints and organizational problems hampering the performance of farmers' cooperatives and their integration into transforming agrifood markets. The development and dissemination of such a framework could benefit from the establishment of exchange platforms involving multiple public and private stakeholders. A comprehensive framework would help better chart a future course of agribusiness development, including the role of smallholder organizations, in the context of a rapidly changing domestic and global environment.

Using ICT to Promote Social Capital and Build Commercial and Technical Skills of Producer Organizations

Ousmane Badiane and Fleur Wouterse

Geographic dispersion and diseconomies of scale have historically translated to prohibitively high costs of doing business with smallholder farmers. The only instances in which this problem has been overcome are where public- or private-sector companies act as intermediaries. The fact that smallholders in such cases bear the full cost of inputs and services—and these are often exorbitant—suggests that the biggest contribution of these companies may not be in terms of the cost of transactions. Their contribution may first and foremost be that otherwise, in-existent transactions take place. In other words, it is the signal or assurance to other operators that emanate from their presence and relationship with smallholders, indicating that it is possible and profitable to enter into business relationships with participating farmers. Hence, the most important role of the public or private firms is to act as mediators for the credibility of participating smallholders as business partners to input dealers, technology providers, traders, banks, and other financial services providers, processors, and exporters. With the dismantling of parastatals and the dearth of private companies operating in rural areas on a large scale, the large number of smallholder producer organizations (SPOs) that have mushroomed across Africa could become viable candidates to play the credibility-signaling role. Most of these SPOs, however, currently lack the organizational, commercial, and technical capacities to do so effectively. Acquiring such capacities would enable cooperatives to enhance access by their members to assets, services, and remunerative markets.

The transformation of SPOs into market-driven organizations that can efficiently provide technical and commercial services to their members and serve as credible partners to banks, traders, processors, input dealers, and other actors along the value chain essentially requires organizational maturation and operational diversification. Organizational maturation is reflected in the capacity of producer organizations to apply effective governance and management practices that ensure transparency and accountability. According to the cooperative life cycle theory, this maturation process also compels cooperatives to integrate vertically toward the more lucrative and less price sensitive consumer good markets to maintain competitiveness in increasingly competitive markets. Likewise they integrate horizontally through mergers, which tend to create large and heterogeneous memberships. Social capital—networks (among individuals) and the norms of reciprocity and trustworthiness that arise from them (Putnam 2000)—which is shown to be inversely related to the degree of heterogeneity in members' preferences, becomes a critical factor because cooperatives tend to be characterized by vaguely defined property rights. Because it has been ignored up to now both by researchers and by decisionmakers, weak social capital, reflected in low organizational and institutional skills, remains a key constraint to organizational maturation of SPOs.

The transformation process also requires operational diversification through the acquisition of the necessary technical and commercial skills so as to enable SPOs to develop into credible business partners to other actors along the value chain. Such skills would help lower transaction costs and the risk of doing business with SPO members. At the heart of these are costs of entering, monitoring, and enforcing of contracts that in turn are influenced by the extent of imperfect information involved in making a transaction. They include coordination cost, which is the cost incurred in coordinating with units actually or potentially producing an input or purchasing the output, and operations risk, the risk that other parties in the transaction willfully misrepresent or withhold information or underperform. Operations risk stems from differences in objectives among the parties and is supported by information asymmetries between the parties or by difficulties in enforcing agreements.

Efforts to reduce the risk of doing business with smallholders and raise their credibility as partners to other value chain actors have been frustrated by previously insurmountable physical, institutional, and technical constraints. However, the targeted deployment of newly available ICT tools can help overcome these constraints. Through strategic use of ICT, it should be possible to enable SPOs to help their members source and apply improved technologies by lowering the cost and risk of engaging with technology providers. ICT tools can also help them claim a greater share of the added value by meeting the technical and logistical requirements of third-party processing and distribution firms. ICT applications also have the potential to help SPO members access the necessary financial and insurance services by meeting the transparency and risk-mitigation requirements of services providers. Better market intelligence through ICT can help members strengthen their bargaining positions with traders and exporters and where possible and necessary competitively expand their participation in trading and exporting activities. Finally, ICT tools can be put to use to boost organizational and institutional skills of SPOs to avoid erosion of social capital and achieve the level of governance and coordination effectiveness required for greater participation in the value chains. Although there is no doubt as to the importance of the potential contribution of ICT to the maturation and modernization of SPOs and integration of smallholder farmers into fast-growing value chains, more research is needed to identify the best models and modalities that would enable SPOs in a variety of value chains and geographic, socioeconomic, and institutional contexts to play the business credibility intermediation and guarantee as well as service delivery roles efficiently and effectively.

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