



Income Intervention Quick Scan: Producer Organizations

Farmer Income Lab Intervention Quick Scan

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Abstract UK This quick scan, commissioned by the Farmer Income Lab, is part of a wider research effort looking at, "What are the most effective actions that lead buyers can take to enable smallholder farmers in global supply chains to meaningfully increase their incomes?". The quick scan provides an overview of the publicly available evidence on the impact of producer organizations have had on raising farmer income. Such subsidies have had little positive effect on farmer income, are not notably beneficial for women nor is this effect long-term. They have been applied at large scale. This quick scan is part of a series of 16, contributing to a synthesis report "What Works to Raise Farmer's Income: a Landscape Review".

Keywords: farmers' income, intervention, agriculture, input subsidies, smallholders,, producer organizations, collectives, farmer's bargaining power, horizontal coordination, vertical coordination

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List of abbreviations and acronyms

CSO	Civil Society Organization
NGO	Non-Governmental Organization
KTDA	Kenya Tea Development Agency
PO	Producer Organization
WCDI	Wageningen Centre for Development Innovation, Wageningen University & Research
WUR	Wageningen University & Research

1 Introduction

In Africa, “a large share of smallholders – commonly a majority – are net buyers of the food crops they produce, relying on proceeds from cash crops and off-farm employment to generate the earnings needed to supplement their own food crop production with market purchases” (Barrett, 2008). In contexts where markets show imperfect competition and (increasingly) forms of vertical supply chain integration take place, one response has been to support farmers in improving their position in the supply chain. This has led to a resurgence of interest in farmer producer organizations as one of the key **interventions that increase the bargaining power of producers** so that they can improve their earnings from primary production (Sartorius & Kirsten, 2002). Producer organizations can facilitate horizontal and vertical coordination and enhance collective power. Horizontal coordination is about linking various individuals or households producing goods in a similar way, while vertical coordination indicates the manner in which organised producers seek to play a larger role in the supply chain by interacting with their customers.

It has been stated that producer organizations are increasingly **necessary** for small-scale producers to compete in and benefit from the market, but that at the same time producer organizations are not always **sufficient** to achieve these aims (Penrose-Buckley, 2007). Much depends on and internal cohesion and trust, the supporting organizations, and the enabling environment to make producer organizations successful.

1.1 Definition

Producer organizations (POs) are farmers organizations that focus on creating economic benefits for their members, and only indirectly create benefits for the wider community (Bijman, 2016). They can be seen as rural businesses, that are producer-owned and controlled organizations, engaged in collective market activities (Penrose Buckley, 2007). Cooperatives can be synonymous with POs if they are active commercial actors. In the past cooperatives have been initiated by governments, NGOs or communities, serving social and political goals as well. In some countries this has led to a distrust in cooperatives as entities manipulated by other stakeholders (Attwood and Baviskar, 1988; Uphoff, 1993: cited in Bijman, 2016).

Within POs there is a difference between supply and marketing POs. Supply POs are geared towards input provision, credit and technical assistance. Marketing POs focus more on sales, product handling and processing. Within marketing POs, there are some groups that seek to aggregate and coordinate the selling of farmer member goods. They do not own the product. Finally there are POs that operate at different levels: community, regional or national. As groups become more national in the form of unions or federations their priorities become more political than economical (Bijman, 2016).

POs typically serve three functions (Rondot & Collion, 2001):

1. Provide services when markets fail
2. Provide club goods or local public goods when states fail
3. Provide a voice in political affairs

A distinction is made between formal and informal organizations. Informal organizations are usually community-based organizations focusing on relationships among community members and with a geographic focus. Producer organizations are more outward oriented, interacting with other actors and institutions. Important is the realisation that, though other organizations have sought to work through POs to realise development outcomes, POs are not meant to channel development resources into communities (Penrose-Buckley, 2007).

1.2 Theory of change

The Theory of Change around Producer Organisers is generally based on transaction cost theory. The basic idea is that collective action reduces transaction costs. Combinations of market imperfections, limited market information, risk and power of key supply chain actors, lead to higher transaction costs. Producer organizations are governance structures that seek to lower transaction costs related to input and output markets through collaboration (Bijman, 2016).

Investing in POs improves their organisational credibility and capacity. This allows them to represent a larger number of individual farmers and/or act as more effective business partners on behalf of their individual members, with the following potential income enhancing benefits depending on the nature of the PO. Increased income allows the farmer member to pay for PO services, providing a business model for the PO and ensuring longer-term stability of the income enhancing opportunities (Penrose-Buckley, 2007). PO's success is highly determined by the following factors: characteristics of the resource, characteristics of the user groups, and institutional arrangements, plus the external environment (Markelova, Meinzen-Dick, Hellin, & Dohrn, 2009).

Depending on their priorities, producer organizations can (Bijman, 2016):

- Lower marketing and service costs through economies of scale
- Increase bargaining power through bulking and increasing quality, leading to higher prices
- Improve farmer credibility and profile, allowing them to access new markets that may be more profitable, such as through contract farming (see separate intervention quick scan)
- Help farmers to comply with stringent food standards (Narrod et al., 2009: in Hellin, Lundy, & Meijer, 2009)
- Improve access to services, technologies and productive assets (Barrett, 2008)
- Process produce to access higher value markets at a later stage in the chain. However, this only works if intermediaries are making large profits and not adding value – if this is not the case the so-called middle man can offer much more efficient services than the PO can do itself.
- Increase confidence and influence: farmer organizations that work well, and especially larger farmer organizations and unions, can achieve national and international political influence.

Outcomes from the various strategies of collaboration and lowering of transaction costs can translate into increased profitability of farming enterprises, and improved productivity and income for farmer households.

1.3 Geography

POs are a global phenomenon, as is deliberate support for improving their capacities. Interest in producer organizations from a development perspective can focus on Latin America, Asia and Africa, while there is also quite some attention in the literature on (Eastern) European cooperatives.

1.4 Role of actors

Producer organizations rarely self-organize on a formal basis, and often external support is needed (Markelova et al., 2009). POs are typically supported by NGOs or CSOs, often with donor funding. Building up a PO is a trust-based activity, for which an NGO is often better placed than other actors. This does raise questions regarding sustainability. Hellin et al. (2009) wrote that the interest to support cooperatives in Central America is present among both public and private actors, but that many do not have a clear idea about the costs to support the establishment of POs. The costs related to technical assistance can be high, and POs can be very dependent on external support. In Honduras, donor funding covered between 57% and 84% of the costs of smallholder incorporation. Part of these

costs are due to the fact that farmer organizations tend to offer services using professional staff subsidized by donor funds (Hellin et al., 2009).

National or regional farmer organizations are also active supporters of PO formation and improvement. If they can offer strong capacity development programs, they have by definition almost the greatest credibility among individual producers to promote more local POs. However, many such larger scale organizations can struggle with their own funding from membership fees and thus their capacity to provide reliable services on this front.

In some countries there is either a history of, or still current government policy, to invest in POs often with a concomitant requirement for farmers to be a member of and trade through such POs. Current examples include Indonesia, where membership of a PO is a formal requirement leading to many dormant POs and the Kenya coffee sector where all coffee selling by producers must go through cooperatives. China and Tanzania are historical examples of obligatory cooperative formation. State-required POs have a mixed success rate, with in many cases POs being a new level of ineffective or corrupt governance over producers. This can lead to resistance to reviving or requiring formal organization by businesses.

Private sector actors rarely invest directly in POs. While businesses are often keen to work with POs, they see the establishment of effective organizations as a prerequisite to starting business relationships. There are many examples globally where business team up with NGOs, who establish or ensure basic POs, while the business then picks up a business relationship from there. The incentive of a strong business proposition once a PO reaches a level of operation and effectiveness is a specific role of the private sector. Another way in which businesses relate to POs is through contract farming arrangements (see other quick scan for more details). Another approach is via lead farmers who can make the connection between a broader group of farmers and a buyer. This is particularly interesting for smallholder farmers to reach a market they would not have been able to access through other means (Hellin et al., 2009).

2 Summary and justification of assessment

Strength of outcome		
Assessment criterion	WUR score	Rationale for score
Scale: Size of the population intervention could impact and potential to scale to other contexts (i.e., geographies, value chains)	HIGH	<ul style="list-style-type: none"> The range of scale regarding cooperatives can be from a very small group of producers actively collaborating, to national level cooperative unions. Often a strong link between small producer organizations and higher scale unions is beneficial for both groups. Often cooperatives can grow in size through expansion of membership or merging with other cooperatives. <ul style="list-style-type: none"> Markelova et al. (2009); Nyoro and Ngugi (2007); Tefera, Bijman, & Slingerland, (2017); Okello (2005)
Impact: degree of increase in incomes	MEDIUM (though in some individual cases HIGH)	<ul style="list-style-type: none"> Generally the literature reports that members of POs receive much better benefits in terms of income, yield and consumption expenditure than non-members. Medium but also sometimes high income increase are identified. However, due to the diversity of ways impact is measured it is difficult to give a generalized conclusion on the extent of increased income effect. Examples found in cases in the literature specifically on income: <ul style="list-style-type: none"> See for instance Ito, Bao, & Su (2012); Ma & Abdulai (2016).; Verhofstadt & Maertens (2015); Ahmed and Mesfin; Wollni & Fischer (2015) It should be noted that within cooperatives there are many differences in range of benefits based on member characteristics. <ul style="list-style-type: none"> Ma and Abdullai (2016); Ito et al., (2012); Ahmed and Mesfin (2017)
Sustainability: financial ability of farmer income increase to endure independent of ongoing external support	INCONCLUSIVE	<ul style="list-style-type: none"> POs and cooperatives have been around for a long time and have a long history (especially in Europe). In Europe and North America membership of cooperatives is very high. In other continents this is much less so (in a conservative estimate the World Bank wrote that 20% of all farms in the world are organized). The debate around POs has long been influenced by strong ideology. Though POs can be self-sustainable as businesses, many need long-term support, collapse or merge. Also, producer organizations rarely self-organize on a formal basis without external support. <ul style="list-style-type: none"> Hellin et al. (2009); Bijman (2016) This quick scan yielded limited research exploring longer term viability of cooperatives.
Gender: Potential of intervention to positively impact women	LOW	<ul style="list-style-type: none"> Gender issues related to cooperatives are still poorly explored in the literature assessed here. Most of the discussion here links to the extent to which POs are inclusive. Quite some literature explores the tension between inclusiveness and effectiveness, agreeing that the poorest farmers generally cannot (or perhaps should not) be members of POs due to high membership costs or lack of assets <ul style="list-style-type: none"> Bernard & Spielman (2009); Sartorius & Kirsten (2002); Penrose-Buckley (2007); Verhofstadt & Maertens (2015)

		<ul style="list-style-type: none"> In one case study it is seen that women participation in a cooperative in Uganda can lead to more positive effects on food security, basic needs and welfare outcomes compared to non-member women. However, male members still benefited more. <ul style="list-style-type: none"> Lecoutre (2017)
Strength of evidence		
Assessment criterion	WUR score	Rationale for score
Breadth: amount of rigorous literature that exists on the impact of the intervention, as defined by the minimum quality of evidence for this paper	MEDIUM	<ul style="list-style-type: none"> Most literature assessed has been published since 2000. The lack of rigorous comparative studies and differences in effects measured makes it difficult to show definitive projections on farmer income increases. Lack of longitudinal studies that rigorously explore effect before and after membership Various biases might play a role in assessing effect of POs: selection, survivor, publication biases, and challenges around accounting for spillover and unobservable effects. <ul style="list-style-type: none"> Tefera et al (2017); Ton, Vellema, Desiere, Weituschat, & D'Haese (2018); Abate, Francesconi, & Getnet (2013)
Consistency: Degree to which the studies reviewed are in agreement on the direction of impact (i.e., positive or negative)	HIGH	<ul style="list-style-type: none"> Majority of literature mentions positive effects for members, even though there are differences between members within POs regarding relative benefits Majority of literature refers to differentiated effects depending on crop type, markets, type of PO. Majority of literature refers to relationship between membership and effect.

3 Methodology

Searches were conducted via search engines on academic databases (WUR library; Scopus and Google Scholar) and a non-academic (Google) search engine delivered a wide range of scientific and grey literature. Search terms included the various names given to producer organizations – eg. farmers cooperatives, agricultural cooperatives etc. Numerous scientific papers contained analyses of producer groups in various national contexts.

25 documents were found to be most relevant to the topic of POs/cooperatives, income, productivity. 16 documents were selected to be looked at more closely, primarily scientific papers. Unfortunately no systematic reviews or meta-studies of Producer Organizations or Cooperatives were found. Documents included in the scanning were:

- 1 article giving the overview of how producer organizations in relation to smallholder farmers in Africa, building on various other country-based research.
- 1 introductory chapter to a book on the state of play regarding Producer Organizations
- 3 overview articles that sought to bring together the key principles, barriers and challenges regarding cooperatives
- Several country-based studies

It should also be noted that many other research papers have been written that relate to farmer producer organizations in some way, but due to time considerations the search for more case studies was limited to this selection. Many studies look at various ways in which producer organizations can realise benefits for their members, which can be in the form of income, but often researchers describe benefits in the form of increased market access, higher prices obtained, higher volume of produce marketed. In some cases seems that many authors choose to focus on specific elements of a producer organisation, such as the extent to which producer organizations are inclusive, how membership size affects effectiveness, and how market access is facilitated.

Main weaknesses identified in the research set-ups of the country studies were related to a **lack of rigorous longitudinal and empirical studies, and various biases in the overall availability of literature**. Tefera et al (2017) finds that there are still a limited number of strong empirical studies focusing on agricultural cooperatives: most research is still exploring more general trends. Often studies do not include baselines and are mostly using recall to explore past experiences (Ton et al., 2017).

Regarding biases, Abate et al. (2014) reflect on the challenge of '**selection bias**' and '**survivor bias**', which implies that selection of cooperatives to study is not random. Spill-over issues may also be present, meaning that non-members perceiving effects of POs might lead to underestimation of impact. Finally, 'selection on unobservable' can exist. This points to the difficulty of assessing personal characteristics such as motivation, risk preferences, capacities which matter to a great extent. This issue poses the question of what influences what: do farmers individually become more skilled and motivated due to cooperative success or vice versa.

Ton et al. (2017) finds that studies on the effect of farming producer organizations and contract farming interventions in relation to income seem to suffer from 'publication bias'. This implies that statistically significant relationships have a greater chance of being published in academic papers. Research also seems to reflect issues with survivor bias. Survivor bias means that the effectiveness of contract farming arrangements was only tested after they had survived the most difficult start-up time (Ton et al., 2017).

4 Impact

4.1 Effect on income

Most of the literature draws generally positive conclusions on the higher incomes, prices or profits that members of POs enjoy. However, comparative figures found to support these conclusions were limited. The strongest comparative case can be found in the literature on contract farming, for which having producer organizations is usually a pre-requisite success factor.

The range of income improvements refer to range from 5 – 100+% differences between PO members and non-members. Most of the literature that gave quantitative figures indicate a small to medium income increase.

Small to medium size income, return and price increases (between 0 and 50%) were found in Ethiopia, Costa Rica, India, Kenya and China:

- In Ethiopia, coop members were found to have 26,5% higher consumption rates as well as 22.8% higher expenditure rates than non-members (Ahmed & Mesfin 2017). Using radius matching, the result showed that members' expenditure is 22.8% higher. Also, there is a significant difference of 17.6% in expenditure per adult equivalent between the two groups.
- In Kenya, cooperative membership in banana led to a significant total annual income increase of 27%, if members sell through the cooperative (Fischer & Qaim, 2012).
- In India, among dairy milk producers, it was found that cooperative membership (or inclusion in a multinational sourcing channel) increased profitability. Cooperative members on average earned profits of 251,32 USD per dairy animal per year, which is 34% higher than the average dairy farmer earning of 187,15 USD per dairy animal per year (Vendeplass, Minten, & Swinnen, 2013).
- In Ethiopia, Bernard, Tafesse, and Gabre-Madhin (2008) found that co-operative members on average received 7 – 9 % higher prices for their agricultural products than non-members (cited in: Tefera et al., 2017).
- In Costa Rica, coffee marketing through cooperatives increased average price obtained by 0.05 US\$/lb (Wollni and Zeller 2007: cited in Shiferaw, Hellin, & Muricho (2011)).
- In China, apple producers cooperative membership increased net returns by 6.06% and household income by 4.66% (Ma & Abdulai, 2016).

Even more sizeable differences in income between members and non-members (more than 50%) were found in Rwanda and China:

- In China, Ito et al. (2012) find that members of watermelon cooperatives receive substantial benefits in income from being a member, which can be between 28 to 31 Yuan per day more compared to non-members. This is considerable if one considers that average daily earnings of all watermelon farmers is around 61.9 Yuan per day.
- In Rwanda, cooperative members in maize and horticulture sectors earned on average the equivalent of 580 USD, compared to 260 USD for non-members. Member households were seen to be less poor (34%) than non-member households (54%) (Verhofstadt & Maertens (2015)).

The cases studied in this scan thus generally identify a medium positive income effect – but many of the papers assessed do not give percentage income increases.

4.2 Intermediate and other outcomes

The Theory of Change identifies a number of intermediate outcomes that are, in turn, the direct reasons for potential farmer income enhancement. A key intermediate outcome is increased productivity, however this is often not monetized in the literature in terms of gross income, % increases or net income improvements.

- **Production and productivity**

- Francesconi and Ruben (2012) showed that co-operative membership had a strong positive impact. Average production and productivity of member farms was 17kg/day and 8kg/cow respectively. The figures for similar independent farms were only 3.5kg/day and 2.5kg/cow.
- Ma and Abdullai (2016) state that belonging to an agricultural cooperative increases apple yields by 6.29% when farm size is less than 6 mu. However, apple yields tend to increase by 4.81% and 4.66% for medium and large farm sizes, respectively, when they belong to cooperatives.
- Abate et al (2014) find that cooperative member households are in a better position to have access to services and inputs, thus raising their 'technical efficiency' by 5% compared to non-members.

However, this scan focused on reference to income improvements and did not identify quantified evidence for intermediate outcomes. Other outcomes that are mentioned in specific resources are listed below:

- **Enhanced adoption of improved production technologies**, including
 - **Improved varieties** for grain cooperatives in Kenya (Shiferaw et al., 2009), legume seed in northern Nigeria (Kristjanson et al., 2005), new groundnut varieties (Kassie et al. (2011), sweet pepper germplasm in Thailand (Schipmann and Qaim, 2010).
 - **Fertilisation** – increased tendency to apply fertilization techniques (Francesconi and Heerink (2011) and Abebaw and Haile (2013))
 - **Soil conservation**: Wollni et al. (2010) showed that households that belong to groups were 24% more likely than their non-member counterparts to apply more than one soil conservation practice on their land
- **Improved access to markets**: dairy farmers in Ethiopia (Holloway et al. 2000; cited in Bijman, 2016); malt barley in Ethiopia (Tefera, Bijman, & Slingerland, 2016);
- **Commercialization services**: Bernard et al. (2013) showed in Ethiopia that this is still low and depends on the type of commodity, the specialization of the co-operative, group homogeneity, member commitment and the decision-making process (cited in: Tefera et al., 2017).
- **Benefits to wider community**: Bernard and Spielman (2009) note that effects of POs may range beyond members. In Ethiopia, 90% of non-member households noted that the PO has some form of positive benefit to the community. Positive effects can be in the form of sale of production inputs. Neutral effects are for example technical support and information sharing about commodity prices given to non-members. Unfriendly effects may be for instance credit provision, which is only available to members who join for a longer time. Other benefits that POs can offer from the literature are that they can be an example of democratic leadership, be a place for learning, a space for farmers to voice concerns with policy making, and a good place to access information about national and global markets.

4.3 Scalability

POs have been found to be active on various levels – from very compact groups of a handful of farmers, to large political unions representing thousands of members. Markelova et al. (2009) report that studies have been conducted on group with membership of 9, 13 or 17 farmers in Peru and Bolivia, while another study researched a group in India of 9000 farmers.

There are multiple examples of regional and national-scale membership of POs, including:

- The East African Farmer Federation claims to represent 20 million farmers, though direct membership is unclear¹
- Tea in Kenya, where all 400.000 tea producers sell their produce through the KTDA
- In 1999, Kenya had more than 9000 registered cooperatives, of which 46% were agriculture-related. These cooperatives were estimated to support more than 2,5 million people.
 - Nyoro and Ngugi (2007)

¹ <https://tinyurl.com/yan9jgsq>

- In Ethiopia, under a favorable institutional environment the number of cooperative unions (higher level cooperatives) has grown from 126 in 2008 to 181 in 2014.
 - Tefera, Bijman, & Slingerland, (2017)

Larger size or number of members is not always the way to go. Okello (2005) shows that existing POs in the Kenyan fresh beans industry reduced the sizes of each PO from 350 down to 30 farmers per group. This made it easier to align with quality requirements through farmer to farmer monitoring and technical assistance. Collective bargaining power and marketing in this commodity was less relevant (Okello, 2005; cited in Bijman & Wollni, 2008).

4.4 Sustainability

POs and cooperatives have been around for a long time and have a long history (especially in Europe). In Europe and North America membership of cooperatives is very high. In other continents this is much less so (in a conservative estimate the World Bank wrote that 20% of all farms in the world are organized). The debate around POs has long been influenced by strong ideology. Though POs can be self-sustainable as businesses, many need long-term support, collapse or merge. Also, producer organizations rarely self-organize on a formal basis without external support (Hellin et al., 2009; Bijman, 2016).

4.5 Applicability of impact

Impacts are often associated with high-value products, such as dairy and horticulture, with stronger incentives and assets to invest in collective action; and to members with more sizeable land holdings, assets, networking connections and community influence.

Benefits mentioned are thus considered typically to accrue to commercial farmers or agribusinesses.

There is growing attention and willingness from supermarkets to source from ‘upgraded smallholders’ (those with some capital, management skills and coordination capacity) into procurement schemes. On the other hand, cooperative membership is not effective for improving welfare for land-poor or near-landless farmers (Verhofstadt & Maertens, 2015). Investments in enhancing POs that target pre-commercial farmers are also likely to lead to noted benefits, but this cannot be corroborated.

- Ahmed and Mesfin (2017) wrote that most benefits accrue to those member farmers with an increased probability of joining.
- Barrett (2008) writes that most of the evidence from successful and well-managed farmer organizations comes from specific cash commodity groups such as dairy and horticulture.
- Markelova et al. (2009) found in Meso-America that the reducing product perishability, particularly in high-value crops, in marketing brings farmers together. The authors also refer to grapes in India and beans in Kenya (Narrod et al.), vegetables in Central America (Hellin et al.), or pineapples and cassava in India (Gruère, et al.).

Differences in profitability among different types of cooperative members is an important issue noted in the research (for instance Ito et al., 2012; Ma & Abdulai, 2016; and Abate et al., 2014). Ito et al. (2012) note that the income gains are heterogeneous in favor of small-scale farms. Farms possessing less than 3 Mu (acreage measure) do not join cooperatives due to membership costs, and farms with a higher than average Mu receive relatively less income due to cooperative membership (since they decrease transaction costs in different ways). Abate et al (2014) write that cooperative members that have larger irrigated land holdings and are closer to villages with farmer training centers have greater technical efficiency gains from cooperative membership. Members with smaller holdings and at a greater distance from markets may even experience negative cooperative outcomes. Ma & Abdulai (2016) found that educational achievements play an important role in whether or not cooperative members achieve better incomes from participation.

There is a trade-off between efficiency and equity (or exclusiveness and inclusiveness) in the agricultural cooperatives (Ahmed & Mesfin 2017). Bernard and Spielman (2009) find that there is a trade-off between three dimensions: inclusive membership, participatory decision-making and

economic performance. It seems that successful cooperatives either have participatory decision-making while having exclusive membership, or they have inclusive membership but non-participatory decision-making. Bijman (2016) finds that this analysis supports the argument that commercial POs are more likely to exclude particular groups of farmers (Bijman, 2016). Similarly, it is important not to always trust that community-based organizations can provide inclusive benefits: social capital may be present but local elites can undermine the basis for equitable involvement. Francesconi and Heerink (2010: cited in Tefera et al 2017) compared livelihood-oriented and marketing-oriented farmer organizations. It became clear that marketing-oriented farmer organizations stimulate commercialisation while livelihood oriented organizations negatively affected this.

PO membership can be expensive and risky, especially from a gender perspective.

Theoretically, cooperative membership can contribute to women's empowerment by supporting individual agency – through having economic enterprises via the cooperative that improve women's in-house bargaining power. Via a cooperative, women can access knowledge, resources and exchange entitlements (Lecoutre, 2017).

Practically however, Penrose-Buckley (2007) notes that “women producers may find it particularly difficult to participate in contract farming arrangements as household duties may prevent them from delivering produce at the required time or to distant purchase points. Men therefore often manage product sales under such contracts, thereby reducing women's control over these transactions”. Other factors mentioned that limit women's membership in POs include:

- Cultural constraints or limited access to cash income
- Intra-household dynamics and who decides on membership.

A positive effect of POs is that by travelling together or organising a secure means of transport, POs can also enable women to access markets (which is sometimes difficult for them due to safety concerns or social norms that make it unacceptable for women to travel on their own) (Penrose Buckley, 2007).

On gender empowerment and cooperative membership, Lecoutre (2017) analysed female and male membership outcomes in the case of a specific cooperative in Uganda. This Popular Knowledge Women's Initiative Farmer to Farmer Co-operative Society was originally set up for women only, but gradually opened up to community households. It was seen that members experienced reduced household food insecurity and reduced basic needs insecurity and improved household wellbeing. However, household welfare benefits of membership were higher among males. Compared to non-member females, women who are members of the cooperative also on average reported more sources of household income.

5 Key success factors

Key issues that affect performance of a cooperative relate to: commodities, membership arrangements and characteristics, support partnerships and enabling environment.

Specifically for internal PO dynamics the following factors seem to promote success:

- **POs must be clearly set up to benefit their members in all contractual and marketing arrangements.** In the past, this factor not being the priority has led to poor performance of cooperatives and producer organizations (Kirsten and Sartorius, 2002).
- **Members must have surplus produce that is meant to be marketed.** If resource poor farmers do not have the assets to support surplus generation then the benefits from reaching markets is not realistic, nor does it make sense to promote greater organisation Shiferaw et al. (2011). Markelova et al. (2009) note that when poverty alleviation is the main goal, facilitating access to markets may not be the best way to go.
- **Trust and effectiveness need to go hand in hand. This can be turned can be enhanced by building on shared norms and social capital.** Key words here are cohesion, trust and profitability, which might not always go together. On the one hand, smaller, more homogenous groups have a stronger cohesion because they know each other or come from the same community. On the other hand, larger, more heterogeneous groups have more potential to reach economies of scale and thus be profitable.
- **Good governance and transparency is essential.** Internal governance components that need to be in place include allocation of rights and duties over various governing bodies, monitoring of decision-making, selection and election of decision-makers, balance of rights between board and general assembly and distribution of voting rights (Bijman, 2016)
- **Better education of PO members allowed them** to make better use of information access through the cooperative (Ma and Abdulai, 2016; Ahmed and Mesfin, 2017).
- **Need to focus on higher value crops.** Studies across three Latin American countries (Honduras, El Salvador, Chile) studies found that participation in POs had no significant beneficial impact for farmers producing undifferentiated commodities such as potatoes or wheat, with only 3-6% of crop value going to farmers (Hellin et al., 2009 and Berdegué, 2002). However, farmers producing high value agricultural products (such as tomatoes, lettuce and bell peppers) did seem to get slightly better benefits, even though the low volumes of production and low margins suggested that ongoing subsidies are probably necessary in the future.

Enabling environment

Important factors outside the sphere of PO influence relate to the support and enabling environment.

The following elements are important:

- **Reliable access to services and infrastructure.** Especially infrastructure such as roads, education, water, and extension support are important for the ongoing success of collective agro-enterprises. Also, regular business support services and financial services are important. This needs to be accessible on an on-going basis to show success and grow (Best et al., 2006; Poulton et al., 2005; cited in Markelova et al., 2009).
- **Supportive partners:** most of the cases where POs have grown and become successful in marketing includes the support of partners that can catalyze collective action, foster connections and linkages to other actors, provide important information and build capacity. These are sometimes public or private actors. In some cases, outside actors can help to renegotiate power in the value chain. However, though NGOs are often seen as the key type of actor to do this, they have not always been successful in this role. In some cases this led NGOs to bail out failing cooperatives financially, or by being too steering and decreasing ownership (Markelova et al., 2009).
- **Private and public parties taking up their roles and strengths.** Private sector actors have shown more efficiency in providing business support services and vertical supply chain

linkages than governments. On the other hand, these services are not available to all types of customers, meaning that it is important that the public sector creates an enabling environment for POs to function. Especially when it comes to the imperfections within credit and input markets governments need to put in place pro-poor policies to ensure that smallholders gain/maintain access to this (Markelova et al., 2009).

6 Barriers addressed

Key challenges for smallholders in development contexts related to access to land, finance, knowledge, access to markets (Barrett et al., 2008). However, specifically through POs the following challenges are addressed:

- Transaction costs – farmers working together to decrease costs of inputs, information gathering, while working together to reach markets, add value, achieve economies of scale and adhere to quality standards.
- Access to inputs, services and output markets – through organization POs can attract possibilities and services offered by business services providers and other partners seeking to reach a larger number of farmers.
- In some cases, access to land. In Rwanda, Verhofstadt and Maertens (2015) land cooperatives can facilitate access to land via leasing schemes.
- Bargaining power – smallholders individually have limited influence on prices and quantities compared to other value chain actors. Through collaboration it is possible to make better arrangements. If POs collaborate in bigger numbers on national level they can become politically influential and lobby for their members.

7 Questions for further research

There are a number of questions that require further research evidence:

- Which performance outcomes are directly related to democratic decision-making procedures in POs?
- What is the role and timing of public and private investment in these organizations, since it becomes clear that farmer organizations rarely initiate by themselves, and require much support in the start-up?
- Under what conditions do collective action institutions enhance farmer access to information and technologies and under what conditions they fail to do this?

There is a need for more robust empirical evidence of what POs can and cannot achieve, and when it does or does not make sense to start or support them. This especially means looking carefully at the trade-offs regarding the interaction between key regional commodities (staples) and the needs of small scale poorer farmers. Also, there is a need for more longitudinal and comparative studies that explore gender effects and effects over time (before and after membership). There needs to be more research on the heterogeneous treatment effects beyond impact studies, to understand how, within cooperatives and communities various characterisations and contexts lead to different outcomes.

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Report WCDI-18-035

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