CASE STUDY COMPARISON ON PROMOTION OF AGGREGATION MODELS TO SUPPORT SMALLHOLDER FARMERS IN KENYA AND MEXICO

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ABSTRACT

Despite several waves of interest worldwide in supporting smallholder farmers throughout the last 50 years, many smallholder farmers are still plagued by low profit margins due to their small scales and resulting high transaction fees, that is, if services are even available. In order to explore more deeply some of the systemic challenges and development approaches, this paper presents a case study analysis comparing two countries at different stages of development, Kenya and Mexico, and their logic behind supporting smallholder farmers. A literature review provides crucial background to understand the context, and a deep dive is taken into national strategy documents for the two countries. Further insights are developed from surveys and interviews with key informants in the countries. Recommendations for further research in the area are also provided.

BIOGRAPHICAL SKETCH

Max Wohlgemuth is a Master of Professional Studies in Agriculture and Life Sciences: Field of Global Development. He is also a Coverdell Fellow and experienced global development and humanitarian practitioner having worked in Tanzania for five years. Prior to employment in Tanzania, Mr. Wohlgemuth served in the United States Peace Corps in Tanzania from 2012-2015. Mr. Wohlgemuth also holds a Bachelor of Journalism and minor in Human Rights and Humanitarian Affairs from the University of Nebraska-Lincoln.

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INTRODUCTION

Reports from the United Nations, academics, and other stakeholders paint a potentially stark future for a world faced with rising sea levels, more extreme weather events, and an increase in population of two billion people by 2050 (IPCC, 2018; UN, 2019). The vast majority of the increase in global populations is expected in developing countries, many of which still struggle with persistent food insecurity (UN, 2019; FAO et al., 2021). Much of this growth will be in cities (UN, 2019), leaving billions of people in developing countries dependent on an agricultural sector based largely on small-scale farming, a system bereft with challenges and miniscule profit margins (Dixon et al., 2004).

Currently, small-scale farming on landholdings of less than two hectares is the most common form of agriculture in the world, accounting for 84 percent of the 608 million farms worldwide (Lowder et al. 2021). Challenges for small-scale farmers include limited resources, markets and technologies as well as the responsibility of tending some of the most diverse and threatened landscapes in the world (Samberg et al., 2016) Despite these challenges, farms under two hectares produce around one-third of world food supply and 80 percent of food consumed in a large part of the developing world, achieving this on only around 12 percent of agricultural land (Lowder et al. 2021; Ricciardi et al., 2018; IFAD, 2013). While being the primary food producers for most of the developing world, paradoxically, smallholder farmers themselves are also some of the world's most food insecure (Rapsomanikis, 2015; HPLE 2015). With a lack of resources compared to larger, more commercialized farms, smallholder farmers are faced with a number of soft constraints including lack of human capital and limited access to infrastructure, markets and technologies (Fan and Rue, 2020). These challenges make farmers risk averse, and they tend to focus on food security at the cost of

investing in improving livelihood opportunities, creating a poverty trap (Zimmerman and Carter, 2003). Despite these soft constraints, there is considerable support for the idea that improving agricultural productivity and the welfare of smallholder farmers is a key to sustainable development (Kamau, 2018). However, the question remains: How do governments, non-governmental organizations, and other stakeholders help unlock this potential for smallholder farmers to break out of the cycle of subsistence farming and to enable them to feed the current population as well as the next two billion?

Aggregation models present one of the most promising pathways. In aggregation, farmers consolidate their demand for agricultural inputs, technology, and financial services as well as their marketable produce. Through aggregation, farmers are able to potentially overcome the disadvantages of their small scales, such as high transaction costs and the other soft constraints, and thusly, move up to more profitable production. To the contrary, aggregation models for smallholders are nothing new. In fact, aggregation models for smallholder farmers have a centuries long history, yet disappointedly, mixed results. This paper takes a deeper look at some of the factors of both success and failures of aggregation models in developing countries, with a focus on a case study comparison between Kenya and Mexico, and answering: How are new forms of aggregation being promoted to support smallholder farmers in the countries?

This paper aims to answer this question and provide learned insights into pathways for success for smallholder farmer aggregation models in developing countries. The paper is divided into four sections. First is the background, where we will strive to attain a common understanding of small-scale farmers in developing countries, their aggregation models, and specific contexts for Kenya and Mexico. Then, we will discuss the methods used in research

for this paper, mainly a literature review supported by a survey and interview guide. Next, we will go deeper into the content, analysis and discussion what was uncovered. Lastly, we conclude with a short summary of the paper and recommendations for further research.

BACKGROUND

In studying aggregation models for smallholder production, it is important to have common understanding and context on the issues to be discussed. This chapter focuses on establishing this background on: 1) smallholder farmers; 2) globalization of agriculture and structural adjustment; 3) aggregation models; and, 4) agriculture in both Kenya and Mexico.

Smallholder Farmers

Definitions of smallholder agricultural producers vary depending on the literature and context in which the producers are discussed. Typically, smallholder producers are thought of in terms of household units, as labor is largely contributed by the family members (Berdegué and Fuentealba, 2014; Khalil et al. 2017; HPLE 2015). In this way, smallholder producer households can be both social and economic units. Economically, smallholder producer households are resource constrained compared to other farmers in the sector (Khalil et al. 2017, Dixon et al. 2004). These constraints limit the decisions smallholder farmers are able to make about production, storage, and marketing of agricultural products (Fan and Rue 2020). As a result, smallholder agricultural producers are often poor and food insecure (Rapsomanikis, 2015; HPLE 2015). Many engage in multiple economic activities off-farm to complement farm production and mitigate the risk of crop and/or marketing failure. (Rapsomanikis, 2015; HPLE 2015).

When estimating the number of smallholder farmers, thresholds for farm size are often used (Rapsomanikis, 2015, Khalil et al. 2017). Although the metric has issues stemming from the heterogeneity of farmers, 93 percent of countries' national statistical authorities use land size criteria when defining smallholder farmers (Khalil et al. 2017). However, different

measures are used based on contexts. For example, in areas with favorable production (i.e. sufficient water from irrigation or rainfall) and high population density, landholdings maybe be less than one ha, but in dryer and more remotes areas, smallholder farmers may cultivate 10 ha or more of land (Dixon et al. 2004).

While general trends are observed in restrictive landholding sizes, it is important to recognize the heterogeneity among agroecological contexts, markets, cultures, policies, household motivations, technological capacity and access, education levels, consumption habits and risk tolerance. Many differences in smallholder production, outside of hard constraints such as agroecological and climatic effect - which all farmers, regardless of scale, must deal with - reflect differences in stages of national development (Rapsomanikis, 2015).

At the core, smallholder farmers operate their farms as businesses – to varying degrees of success (Rapsomanikis, 2015). Some producers are primarily subsistence farmers, cultivating first and foremost for household consumption. Other farmers, potentially in the same communities, may attain varying levels of commercial production, selling off surplus not consumed by the household (Christen and Anderson, 2013). However, the commercial viability of a farm is dependent on markets (Christen and Anderson, 2013; Rapsomanikis, 2015). Markets are able to constrain farmers at any number of points along the value chain from production (i.e. access to finance, inputs, extension, technology, information etc.) to harvest and storage (i.e. access to extension, technology, etc.) and marketing (i.e. access to transportation, price information, profitable prices, etc.). Even an only partially functioning market can still significantly throttle a smallholder's prospects. For example, a smallholder producer could have access to finance and inputs, thus producing a surplus crop, but lack affordable transportation to market the product, leaving the farmer potentially worse off for

using potentially expensive credit services and/or inputs while unable to recoup the costs. Some examples of business decisions smallholder farmers can be required to make, including: how and where to raise capital; what investments to make in productive assets; what to plant and when; which inputs to use and how much; how and when to harvest, clean, store and market. In the agricultural household these decisions are compounded by "social and human capital objectives, such as education and health" (Rapsomanikis, 2015).

While almost infinite variability exists in these factors on the individual farm household level, a set of common characteristics can be gleaned from academic and intergovernmental resources. For this paper, a smallholder farmer is considered: 1) a rural agricultural household; 2) with resource constraints compared to other farmers; 3) which operates the farm as a business enterprise.

Globalization and Structural Adjustment

Since the 1970s there has been a controlled decrease in the number of restrictions concerning international trade and a liberalization of the financial sector of developing countries (Askoy, 2019). These changes were spearheaded by the International Monetary Fund (IMF) and World Bank (WB) and are referred to as Structural Adjustment Programs (SAPs) (Sundaram et al., 2011). The four basic elements of SAPs include currency devaluation, the removal/reduction of the state from the workings of the economy, the elimination of subsidies in an attempt to reduce expenditures, and trade liberalization (Riddel, 1992). These adjustments have profound effect on countries and their development prospects, as well as their supply of food (Riddel, 1992).

Disappointed with slow development and growth as well as increasing national debts following the independence, the international financial institutions set a series of conditions on developing countries to liberalize their economies and return them to a "proper" economic path (Riddel, 1992). Conditions included the elimination of agricultural market distortions such as state marketing boards and other governmental interventions into the marketplace (Sundaram et al., 2011). Consequentially, globalization roared into developing countries at an impressive rate, rapidly altering economies, and supporting the transformation of food systems within a relatively short amount of time. Developing countries began seeing residents forgo rural life in favor of living in cities, an increased emphasis on cash crops, and an increased reliance on imported food (Sundaram et al., 2011).

Apart from city states and island countries such as Singapore and Hong Kong, no country has achieved upper middle-income status without transforming the agricultural sector (GoK, 2019). While timelines and specific characteristics may differ, agricultural transformation is a decades-long process including structural changes to a nation's economy including: a declining share of agriculture in gross domestic product (GDP) and employment, increasing rural-urban migration, the rise of a modern industrial and service economy, and a demographic transition to lower birth and death rates (Fan and Rue, 2020; Timmer 1988). Across the world these changes are widely evident.

Furthermore, increases in incomes and technological advances in food supply chains have brought about increased demand for higher value agriculture products in every corner of the world. Supermarkets now dot urban areas world worldwide. The tastes of consumers, even in rural areas of developing countries, have adapted to the new age of food systems (Mccullough et al., 2008). To make distinction, Mccullough et al. (2008) detail three

typologies for food systems that correspond roughly with the development process: 1) traditional food system, characterized by a dominance of traditional, unorganized supply chains and limited market infrastructure: 2) structured food system, still characterized by traditional actors but with more rules and regulations applied to marketplaces and more market infrastructure; and, 3) industrialized food system, as observed throughout the developed world, with strong perceptions of safety, a high degree of coordination, a large and consolidated processing sector and organized retailers.

Globalization and structural reforms have brought farmers in Kenya and Mexico closer to consumers from far away, whether that is urban areas within their country or consumers of cash crops half a world away. Additionally, this closeness to the market has brought the influence of global prices to some of the most remote areas of the countries. For example, in Kenya regional trade disruptions or shortages can have a significant impact on the price of maize. In 2019, prices during a local production deficit and challenges with aflatoxins. With a combination of growing populations, climate change and rainfall variability throughout Kenya and the region, a significant food shortage is a real risk that should be mitigated.

Aggregation Models

There is no bypassing the smallholder farmers in the pursuit of agricultural transformation. More than two-thirds of the poor in rural areas of developing countries are smallholder farmers whose resources are limited. Smallholders are still the cornerstone of farming systems in most developing countries, accounting for most rural employment, most food production, and a significant portion of export earnings (Dixon et al., 2004). However, smallholder farmer productivity is limited by soft constraints due to their size. To review,

constraints can include high transaction costs, limited financial and human capital, and asymmetric access to markets and information (Poulton, 2010: Fan and Rue 2020). For smallholder farmers, economies of scale make it a challenge to overcome these constraints. However, organizing/aggregating together can be one way to overcome these challenges. By grouping their demand and supply together, SHF can potentially unlock increased revenues from production, helping to break out of the cycle of subsistence farming.

Aggregation models can take many forms: including farmer producer organizations, cooperatives, and farmer associations to name a few. A more in depth look at the nuances of these distinctions will take place in the analysis section in the context of Kenya and Mexico. For now, this paper aims to explore smallholder farmer aggregation models in a more general sense.

The role of aggregation models in support for smallholder farmers is recognized and promoted by stakeholders in development and national policymaking spheres. There is little doubt about the potential advantageous of aggregation models, but there is less consensus on the optimal appropriate structure of the organizations (KB and Yashahwini, 2018; Gouët et al. 2009). The structures and roles of aggregation models are diverse and influenced by many cultural, geographical, historical, and political contexts. Aggregation models are typically considered rural organizations in which members organize to improve agricultural income – either formal or informal. FPOs are usually organized geographically at the local community level. Participation can be open to all farmers or the groups can focus on farmers of specific commodities or specific producers such as women, youth, or ethnic groups (Gouët et al. 2009). Areas of focus for aggregation models can include: pricing and export and import of agricultural products; improvement of agricultural production practices; improvement of

agricultural production practices; access to inputs and services such as credit or insurance; marketing of agricultural products; and local processing of agricultural production (Rondot and Collion, 2011).

The social components of aggregation models, in addition to their utility for supporting food security and sustainable production, can empower farmers by improving distribution and access to resources including information on prices and best practices. Furthermore, with training on life skills and empowerment through trainings, membership in aggregation models can have impact on gender balance for incomes within the household. Lastly, collective assets such as produce storage facilities or machinery can be used to generate increased individual production for members and potentially a source of income for the aggregation model itself (Wortmannn-Kolundzija, 2019).

For this paper, the term farmer producer organization will be used generally covering farmer associations, cooperatives and ejidos. Distinction will be made as appropriate in reference to specific types of aggregation models.

Agriculture in Kenya

Kenya is a lower middle-income country in sub-Saharan Africa with a dual challenge in feeding a growing, urbanizing population despite degrading soils and the reduction of rainfall, especially in the primary food and crop production region of the southwestern tropical highlands. Agriculture is important to Kenya, firstly in terms of food security and secondly as a driver of the economy. About 60 percent of the workforce in Kenya is involved in the agriculture sector, but the contribution to Gross Domestic Product (GDP) is only about 25 percent (Otieno, 2017). SHF's account for about 75 percent of the agricultural outputs (Otieno,

2017). Cash crops such as cocoa, tea, coffee and cut flowers, dominate the countries agricultural exports. However, maize remains the most important staple crop and a cornerstone of the country's Agricultural Sector Transformation a Growth Strategy (GoK, 2019).

Agriculture production is uneven across the country with high rainfall areas - primarily in the tropical highland agro-ecological zone - making up about 10 percent of arable land while accounting for 70 percent of agricultural output (ITA 2019). Abundant rainfall and rich soils make the tropical highland agro-ecological zone highly productive for rainfall agriculture (Lamanna et al, 2020). The region produces a wide variety of agricultural crops including staples, horticultural crops, and cash crops. However, the region is primarily rain-fed making it susceptible to the effects of climate change such as unpredictable rainfall patterns, prolonged dry spells, flooding increased temperatures and ultimately productivity losses (Otieno, 2017).

Overall productivity remains relatively low in all regions of Kenya due to poor incentives, and underdeveloped supporting infrastructure and institutions (ITA 2019). With the development of a new constitution in 2010 and subsequent reforms of agricultural sector, growth is expected to improve (ITA 2019). Intensification of rainfed production will be important on current agriculture land, to preserve natural reserves while feeding a population expected to grow by about one million per year, reaching 85 million by 2050 (Fengler, 2010). Given typical rates of urbanization, most of this growth will end up in cities, meaning less farmers to produce more food (Fengler, 2010).

While Kenya has a robust cash crop industry, maize is one of the most important crops for household food consumption. Demand is higher than production in the country, meaning that an opportunity exists for sustainable intensification to support the agricultural sector transformation as laid out in the country's agricultural strategy. Production of maize is

primarily done by smallholder farmers in rain-fed systems. Common challenges for smallholders include low soil fertility, price volatility (for inputs and products), poor infrastructure such as rural roads, diseases and pests and variability in rainfall, including seasonal variation as well as droughts and floods (Marenya 2019; Otieno 2017).

Regional trade disruptions or shortages can have a significant impact on the price of maize in Kenya. In 2019, prices during a local production deficit and challenges with aflatoxins. With a combination of growing populations, climate change and rainfall variability throughout Kenya and the region, a significant food shortage is a real risk that should be mitigated.

Agriculture in Mexico

Mexico is a large upper-middle income country, bridging Latin America to North America and the more than one trillion-dollar agriculture industry of the United States. Mexico's agriculture sector is itself large and diversified (ITA, 2020). However, the latter half of the 20th century saw rapid urbanization with 79 percent being considered urban and only 15 percent of the population economically active in agriculture in 2013 (FAO 2014).

Following the Mexican Revolution in 1910, the Government instituted a land reform policy which saw the redistribution of land to ejidos, a communal resource-holding institution, which cultivated the land but did not have rights to sell it land or to use it as collateral. Later reforms in the 1990s would again grant rights for members of the ejido to outright own the land (de Janvry et al. 1995)

Agricultural production can be found throughout most of the country. Irrigation supports agriculture in the north and north-east where a wide variety of crops are planted

including maize wheat, sorghum, oilseeds, and vegetables. In the central highlands, which contain over half of Mexico's croplands, small-scale farmers produce mostly rainfed maize and beans. Lower elevations to the south are more tropical producing sugarcane, cacao, rice, coffee, bananas, and other fruits (New agriculturalist, n.d.).

In terms of staple production, international trade has resulted in large disparities between Mexican production of staples and consumption. According to the United States' International Trade Administration (ITA) (2020), Mexico's consumption of soybeans is 25 times higher than production. With less drastic percent differences for maize at 1.7 percent and wheat at 2.3 percent, the net difference; however, is much greater at 18,900,000 million metric tons for maize and 4,210,000 million metric tons for wheat.

Of the staples, maize is the most important, having multiple uses in consumption as well as being a saleable commodity; de Janvry et al. (1995), refer to the crop as having "extraordinary social importance" in the country. Producers of maize often operate at a small-scale using traditional techniques and netting low yields. For both countries, maize is considered a staple food grown by most of the rural poor for food security. Similarly, both countries also have large scale commercial crops which, with efficient and fair supply chains, present opportunities for smallholder farmers.

Table 1 summaries some similarities and differences between agriculture in Kenya and Mexico.

Table 1: A comparison of Kenya and Mexico on economic and agricultural indicators

Indicator	Kenya	Mexico	Source
Country and Lending Group	Lower-middle income	Upper-middle income	WB
GDP (current billion US$)	95.5 (2019)	1,269 (2019)	WB
GDP per Capita (US$)	1,817 (2019)	9,946 (2019)	WB
Agricultural value added (% of GDP)	29.5 (2013)	3.3 (2015)	FAO
Total population (thousand)	44,354 (2013)	127,017 (2015)	FAO
Rural population (% of total)	75 (2013)	20.4 (2015)	FAO
Agricultural labor force (% of total labor force)	69 (2013)	13 (2013)	FAO
Human Development Index	0.601 (ranking 143) (2020)	0.779 (ranking 74)	UNDP
Per capita cultivated land (ha)	0.14 (2012)	0.20 (2013)	FAO
Area equipped for irrigation (1000 ha)	103 (2012) <7% of arable land (ASGTS)	6,500,000 (2013) (in ha not 1000 ha)	FAO
Value of total agricultural production (US$ in millions)	11,781 (2012)	51,385 (2013)	FAO
Value of cereals production (current million US$)	1,915 (2012)	8,603 (2013)	FAO
Yield for cereals (hg/ha)	17,271 (2013)	35,818 (2014)	FAO
Cereal import dependency ration (%)	37.8 (av. 2009-2011)	30.70 (av. 2009-2011)	FAO
Top 3 commodities: Production quantity (2012)	Sugar cane; Milk (whole fresh cow); Maize	Sugar cane; Maize; Milk, whole fresh cow (2012)	FAO
Top 3 commodities: Production value (2012)	Mangoes, mangosteens, guavas; Milk (whole fresh cow); Meat indigenous, cattle	Meat indigenous, cattle; Meat indigenous, chicken; Milk, whole fresh cow (2012)	FAO
Top 3 commodities: Import quantity (2011)	Wheat; Maize; Palm oil	Sugar Refined; Wheat; Chicken meat (2011)	FAO
Import value (2011)	Wheat; Palm oil; Tea	Sugar Refined; Chicken meat; Wheat (2011)	FAO
Export quantity (2011)	Tea; Beer of Barley; Sorghum	Cocoa beans; Sugar Refined; Cashew nuts, with shell	FAO
Export value (2011)	Tea; Coffee (green); Beans (green)	Cocoa beans; Cocoa Butter; Cashew nuts, with shell	FAO
Top 3 trade partners: Import value (2012)	India, China, United Arab Emirates	USA; Canada; Chile	FAO
Top 3 trade partners: Export value (2012)	Uganda, Tanzania, United Kingdom	USA; Canada; Japan	FAO
Top 3 commodities available for consumption	Maize, Wheat, Milk (excluding Butter)	Maize; Sugar (Raw Equivalent); Wheat	FAO
Per capita food supply (kcal/capita/day)	2,189 (2011)	3 072 (2013)	FAO
People undernourished (million) 3-year average	10.8 (2014)	5.9 (2004-2006)	FAO
Proportion of undernourished (%) 3-year average	24.3 (2014)	<5 (2011-2013)	FAO
Prevalence of stunting among children under 5 years of age (%)	26 (2014)	14.1 (2019)	UNICEF, WHO, WB
Global Hunger Index (2020)	23.7 (Serious)	7.7 (low)	GHI
Access to improved water sources (% of population)	61 (2011)	96 (2015)	FAO
Logistics Performance Index	2.81 (68 rank)	3.05 (51 rank)	WB

METHODS

Kenya and Mexico present an interesting case study as two countries at different points in the structural transformation process. Kenya recently attained lower-middle income economy while Mexico is in the upper-middle income category. Mexico is a much larger country in terms of area, population, and total GDP. This paper has focused on a two-pronged approach to discuss how forms of aggregation being promoted to enable smallholder farmer commercialization in Kenya and Mexico. First, a literature review was conducted, covering academic and public resources focusing on smallholder aggregation in Kenya and Mexico. The research informed much of the background and analysis sections.

With a better understanding of the context, a survey and interview guide (Annex 1 and 2 respectively) were developed and utilized to get obtain information from key informants of FPO promoting organizations in the countries. A promoting organization is considered an entity – non-governmental organization, private sector, or governmental agency – that supports at the farmer producer organization level. The survey was shared with one promoting organization in both Kenya and Mexico, ICRISAT and CIMMYT respectively. These organizations were chosen because of their research mandate and ongoing farmer producer organization promotion activities in the countries. While sharing the survey with more organizations would have been preferred for a more comprehensive view of the status of promotion activities in the countries, this fell outside of the scope of this paper. It is the hope of this author that the survey tool and interview guide will be of use to further research in the area.

As a follow up to the survey, an interview was conducted with a researcher at ICRISAT who had worked with a farmer producer organization promotion project in Kenya.

Due to time constraints, an interview was not conducted with CIMMYT in Mexico. However, results from the survey and interview are discussed in the Analysis section below.

Insights from the interview, inspired the literature review to then expand into an analysis of policy documents published by Kenya and Mexico. For Kenya, the review covered the Agricultural Sector Transformation and Growth Strategy 2019-2029, and for Mexico the review covered the Sectoral Program for Agriculture and Rural Development 2020-2024. Both documents reside within the countries' larger development plans, and constitutions.

Using the above detailed methods, this paper attempts to answer the question: How are new forms of aggregation being promoted to support smallholder farmers in Kenya and Mexico? Then through analysis we will look at and discuss what this means in terms of success, and finally we propose ideas for further research. A summary can be found in the Conclusion section.

ANALYSIS AND DISCUSSION

The following sub-sections further detail some of the similarities and differences in what this has meant for the impetus of aggregation models and their current placement in governmental policies.

First impetus of aggregation models

Cooperatives, a form of aggregation previously popular in Kenya, have a long history in country, stretching from the colonial past in the early 1900s. Cooperatives were first registered in Kenya in 1908 to support White settlers to market their agricultural crops, with Africans being allowed to form cooperatives in the starting in the 1940s and 1950s (Otieno, 2017; GoK 2019). When Kenya achieved independence in 1963 there were 655 cooperatives, a number that quadrupled in 20 years to 2,652 in 1982 (Zeleza, 1990). Cooperatives supported farmers to achieve economies of scale, access inputs and markets as well as providing a foundation for financial services and government subsidies (Otieno, 2017).

Following independence, early laws in 19th century Mexico widely privatized communal lands. These policies led to foreign investment and the consolidation of two-thirds of land into the hands of about 900 families by 1900. Peasants – or "campsinos" – became an oppressed class and protested setting in motion a series of events that would lead to the Mexican Revolution of 1910 and the Land Reform of 1915 in which the Mexican government began a historic redistribution of land to communal ownership or "ejidos". From 1917 to 1992, the Government redistributed about one half of the country's arable land or about one million square kilometers to 10s of thousands of ejidos (Perramond 2008; Lenti 2018).

In the 19th century, Kenya and Mexico were in starkly different places. Kenya, colonized by the British as the East Africa Protectorate in 1895. In 1920, the country would be changed to be know as the Kenya colony. Mexico, having claimed independence in 1810, continued using traditional systems which saw the communal ownership of lands. However, the early 20th century brought about the liberalization in Mexico and the development of the cooperative movement in Kenya. In both cases the policies favored foreign investment, which would lead to marginalization of the native populations and eventual conflict with the Mau uprising in Kenya in the 1950s and the Mexico Revolution of 1910. Kenya lost the conflict with the British, but would gain independence in 1963, ushering in a new era of agriculture production modelled of the British's use of the cooperative aggregation model. In Mexico, the revolution brought about a reversal in which privately owned lands were redistributed to communal ownership via ejidos.

Why did these models fail?

Despite cooperatives still existing today in Kenya, the movement has largely been considered unsustainable and a failure (Wanyama, 2008; Hussi et al. 1993). The cooperative movement under the first impetus of farmer aggregation was plagued by: 1) low degree of member participation in the management of the societies and in the control of the operations; 2) insufficient shared capital contributions; 3) overly regulated business environment combined with lack of business experience; and 4) lack of technical and

> *"The issue is most of the people do not want to associate themselves with what they call the cooperative, for mainly historical reasons. Cooperatives used to be the thing during the colonial era. That's what used to bring farmers together, and they used to be very productive. But after independence, there was an abuse of cooperatives."*
>
> **Promoting Organization interview respondent in Kenya**

administrative capacity (Hussi et al. 1993). Governmental oversight and regulations cause the organizations to be clients dependent on state support (Wanyama, 2008). Links to the Government also engulfed the cooperatives in politics, handicapping their efficacy in supporting smallholder farmer aggregation (Wanyama, 2008).

Mexico had similar, but different challenges with the ejidos. Ejidatarios – communal owners of Ejidos – previously only maintained usufruct rights meaning investment into the productivity of the land was low and there was a shortage of credit due to the inability of using the land as collateral (Lenti, 2008). According to Lenti (2008), many assert that the land reform in Mexico failed at permanently improving the lives of the recipients of rural land. Instead, the land reform turned the Ejidatarios into clients of the Government. In fact, Lenti aptly stated, "Serious flaws in government policy, coupled with macroeconomic, demographic, and environmental phenomena, undermined the program and turned its signature component, the ejido, into a synonym for rural backwardness and poverty" (Lenti, 2018). Precipitated by the economic crisis of the early 1980s, the Government rolled back support of the ejidos. Ensuing liberalization of the economy spelled the end for the communally owned Ejidos with privatization of community owned land a key feature of these reforms.

With both the apparent failure of cooperative movement in Kenya and the ejido movement in Mexico, the two Governments found themselves in similar situations with ineffective governmental policies to support aggregation of smallholder farmers. While the main challenges were different – mistrust and over regulation in Kenya; government reliance, land rights - in Mexico – both countries were plagued by slow development of rural small-scale farmers, sparking a need for change in both countries.

Second impetus of aggregation models

Liberalization of Kenya's agricultural sector began in the late 1980s with the European Union supporting the Cereal Sector Reform Program as part of a larger series of structural adjustment policies. However, the process of liberalization took larger steps in the 1990s under pressure from international lenders as part of structural adjustment programs. (Nyoro et al., 1999; Nyairo et al. 2010, Nyangito, 2003). These structural adjustment programs brought about the dissolution of government marketing boards, globalization, and market reform, opening the door for liberalized collective action for marketing (Kaganzi et al. 2009). Cooperatives themselves were liberalized in 1997, but many failed to transition from dealing with state marketing boards to dealing with the private sector. More recent pushes on SHF collective action have brought aggregation back into prominence. The second impetus was pushed by economic liberation and the argument that government control was stifling the cooperatives' potential for development and their performance (Wanyama, 2008). Wanyama (2008) succinctly summed up the resultant framework as one that, "…facilitate[s] the development of commercially autonomous, member-based cooperative organizations, which would be democratically and professionally managed, self-controlled and self-reliant business enterprises" (Wanyama, 2008). This shifted the role of the Government from one of controlling cooperative development to one that facilitates their independence through an enabling policy environment (Wanyama, 2008). Accompanying the liberalization of the economies has been increased international trade and changing tastes from growing urban centers which has brought about the need for farmers to ensure quality and safety standards (Nyangito, 2003; Reardon et al. 2003), a missed market opportunity for smallholder farmers unless aggregation is supported.

Mexico's agricultural sector began to liberalize before in the mid-1980s with reduced tariffs, import licenses rescinded, and export promotion policies pursued (Pacheco-Lopez, 2005) (Nicita, 2004). Mexico would take further steps towards liberalization, joining the General Agreement on Tariffs and Trade (GATT) in 1986, and the North American Free Trade Agreement (NAFTA) coming into effect in 1994 (Pacheco-Lopez, 2005). Notably, NAFTA was also an investment agreement, facilitating US private sector investment into suppliers in Mexico and the development of vertically integrated markets. With liberalization effected, programs have expanded which promote rural organization. Mexico enacted the Law on Sustainable Rural Development which establishes the development of social capital must be promoted and encouraged through the promotion of economic and social organization of producers and other actors in rural society (SAGARPA and FAO, 2014). Similar to Kenya, increased international trade, privatization of agricultural sector services and rural to urban migration sparked the need for small-scale farmers to adapt to more stringent quality and safety demands, necessitating aggregation to help reduce the transaction costs in achieving these modern standards (Berdegué and Fuentealba, 2014).

While the first impetus of aggregation for smallholder farmers was quite different, a changing global economy and liberalization brought about similar privatization of lands and dismantling of once state-owned entities and markets. The push was external, and in both cases promised prosperity and success. For Kenya it came primarily from the international financial institutions, and for Mexico it came from free trade agreements with the rest of North America. Accompanying these changes was some progress as both countries saw mostly steady GDP growth. Mexico's GDP would nearly grow five times from 1990-2019 (US$ 261.3 billion to US$ 1.3 trillion), and Kenya's would multiply an astonishing 11 times.

However, the gains in net value are much less, growing from US$ 8.6 billion to US$ 95.5 billion (WB). While the progress in Kenya is remarkable, it does present two vastly different cases with Mexico's GDP per capita at nearly US$ 10,000 and Kenya's lagging below US$ 2,000. However, in both countries, poverty remains, especially among the rural poor, a phrase which has almost become synonymous with small-scale farmers.

National Policy Documents

This section provides a deep dive into the current guiding policy documents for agriculture, and thusly small-scale aggregation models, for the two countries. A summary of the policy documents can be found in Table 2.

Kenya's guidance document is the Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029. The document resides within the Government's overarching Vision 2030[1], and is aligned to the country's redrafted constitution of 2010. Within Vision 2030, agriculture is identified as a key sector to achieving the goal of reaching an annual economic growth rate of 10 percent via transforming smallholder agriculture from subsistence production to farming as a business and, ultimately, modernizing the sector. The ASTGS makes further reference to alignment with commitments under the Sustainable Development Goals (SDGs)[2] and the Comprehensive Africa Agriculture Development Program (CAADP)[3]. The implementing agency for the strategy is the Ministry of Agriculture, Livestock, Fisheries and Cooperatives (GoK, 2019).

[1] Kenya's Vision 2030 is a the national development plan for 2008-2030: https://vision2030.go.ke/
[2] The United Nations Sustainable Development Goals are worldwide development goals covering 2015-2030: https://sdgs.un.org/goals
[3] Comprehensive Africa Agriculture Development Program is the continental framework for the African Union: https://au.int/en/caadp

For Mexico, the guiding document is the Sectoral Program for Agriculture and Rural Development (SPARD) 2020-2024, which resides under the framework of the National Development plan 2019-2024. In comparison to Kenya's strategy, the emphasis for Mexico's strategy is more so on inclusive agriculture, environmental preservation, and climate change mitigation. The strategy refers to previous, "productive exclusion in the Mexican countryside" and a need for the productive potential of all rural producers to be recognized. More emphasis is also put on the achievement of, specifically SDG 2: Zero Hunger. The implementing agency for the strategy is the Secretariat of Agriculture and Rural Development.

The Problem as detailed in policy documents

The focus of Kenya's strategy is on the challenges associated with agricultural transformation and supporting farmers throughout the process. In the strategy, smallholder farmers are descripted as resource constrained with limited access to high-quality inputs, equipment, irrigation, finance, and capacity training which leads to overall lower yields. Variability exists across agroecological zones and value chains, but consistently farmers lack access to markets, and many do not utilize collective action, such as farmer associations, groups, or cooperatives, to rectify the disadvantages of their small-scale. Instead, some farmers do not aggregate produce together which weakens the negotiation position and, "forces them to take prices offered by middlemen, thus lowering their income," (GoK, 2019). Additional concerns are placed on the disadvantages in lack of access for adequate storage facilities, resulting in farm level post-harvest losses of up to 20 percent (GoK, 2019). Climate is mentioned in Kenya's strategy, but emphasis is on climate-smart interventions as opposed to much stronger language from Mexico.

In the Mexico strategy, the emphasis is much more on the consequences on small-scale farmers from neoliberalism and trade liberalization. Pointedly the Strategy (GoM, 2020). states:

> *At the same time that Mexico was moving towards trade liberalization, the country's agricultural sector suffered an institutional dismantling that led to the exclusion of comuneros, ejidatarios and peasants…The lack of government actions aimed at supporting producers with little presence in the market and low rates of productive yield led to the reduction of employment in agricultural activities and poverty becoming one of the hallmarks of the Mexican countryside.*

Consequences, also challenges, detailed in the document include: 1) concentration of 50% of nation's wealth in 20% of population; 2) more than 50 percent of those who are living in extreme poverty are in rural areas; 3) 25% of rural population is food insecure; 4) exclusion of ejidatarios and peasants with limited access to credit and technologies; 5) "impossibility" of competing in basic grain production due to high levels of importation from higher productive nations, which lead to food dependence; 6) limited marketing infrastructure; 7) climate change; and 8) decrease in income for ejidatarios and comuneros.

With similar views on the problem, both countries arrived at the second impetus with varied experience. These descriptions of problems ultimately affect the chosen policies as detailed in the next section.

Pathways for small-scale farmers

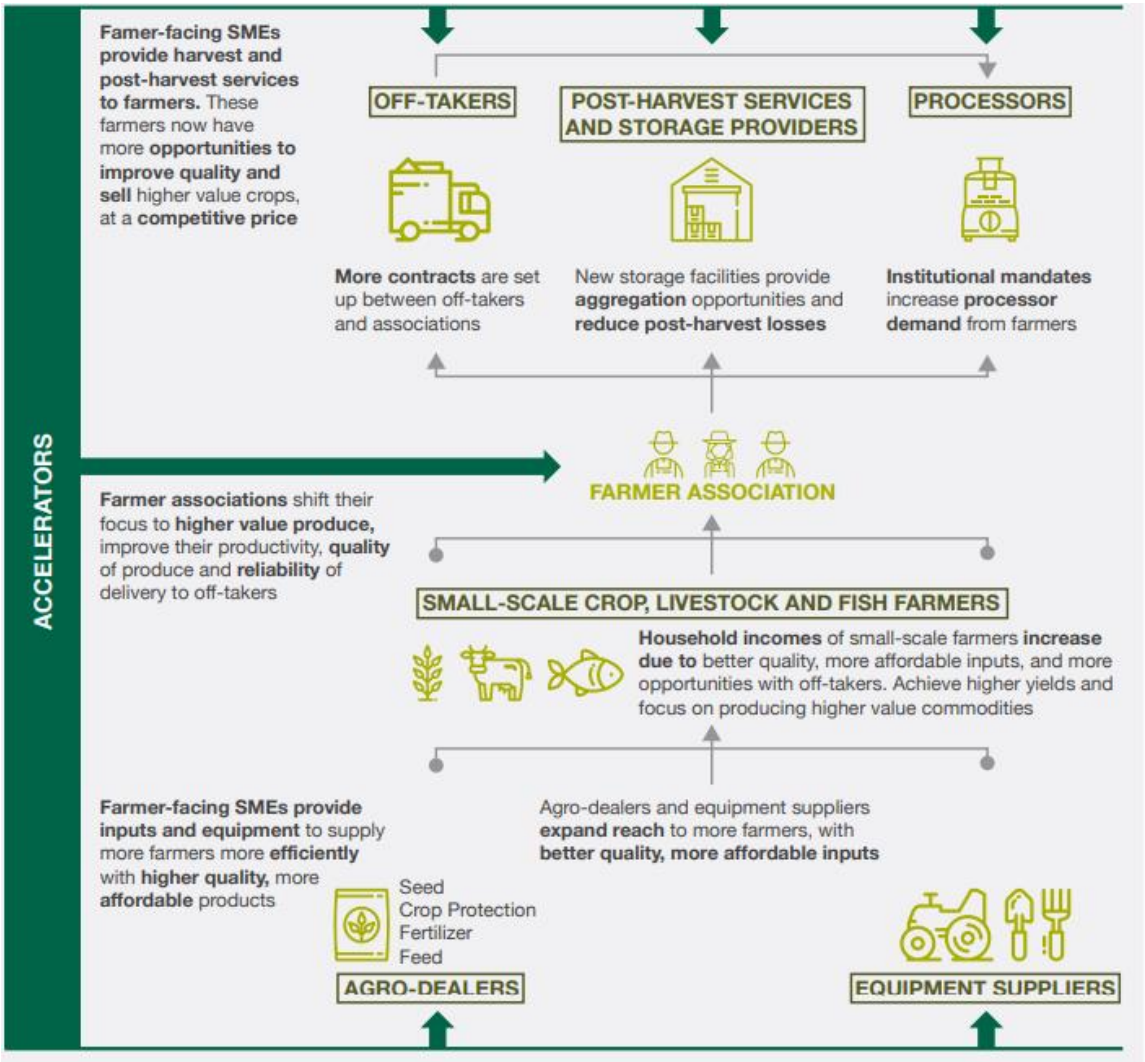
While similar in aim, the countries are quite different in terms of pathways. Kenya's strategy is much more focused on supporting farmers to commercialize in tandem with the transformation of the sector, while Mexico is concerned with reversing some of the changes brought about from liberalization. Kenya's pathway to achieving the strategy focuses on

agricultural transformation, which the document details as: 1) modernization of on-farm production; 2) shifting value from production toward processing and retail; 3) shifting farmers out of farming into more productive jobs – in or out of agriculture; 4) changing demands in what people eat and where they buy food. The emphasis is on improving productivity and shifting from subsistence to market-oriented output. According to the ASGTS (2019), "[t]he strategy is anchored in the belief that food security requires a vibrant, commercial, and modern agricultural sector that sustainably supports Kenya's economic development, national priorities, and commitments to the [CAADP and the SDGs]. In terms of aggregation, Kenya's strategy is fairly explicit in supporting small-scale farmers through farmer organizations, stating that, the support will capitalize on the formation of "SME accelerators" which will provide support to small-medium enterprises (SMEs) including farmer organizations. See Figure 1 for Kenya's framework for SME accelerator support to smallholder farmers. SME accelerators are defined as, "Contracted profit or not-for profit companies that select, train, mentor, scale and conduct performance management of high-potential SMEs under flagship 1" (ASGTS, 2019). Accelerators will work with the Kenya National Farmers' Federation to select farmer associations with the most potential for success, while connecting them to agriculture services. Support to farmer organizations will include improved access to affordable inputs and off-takers/markets, "thereby moving the farmer to a position of greater bargaining power." Additional support passed to farmers through SMEs will include extension, pricing

information, storage facilities combined with training on best practices in post-harvest handling and loss prevention.

Mexico's strategy is more focused on the policy level which it says requires institutional strengthening and ethical public management. Market linkages and transformation out of the sector for small-scale farmers are not emphasized. Rather, emphasis is put on building an agri-food system that is much more socially minded: "to build a new productive Mexican agri-food system [that is] fair, healthy, inclusive, and sustainable," (GoM, 2020). One of the major pathways is "direct support" provided to boost agricultural production

Figure 1: Framework for SME accelerator model in Kenya.



including fertilizers with the aim to increase productivity. The priority would be for small and medium scale producers as well as indigenous populations. There is also an emphasis on promoting short value chains and consumption of domestic agricultural and fishing products, something missing entirely from the Kenya strategy. In terms of aggregation, Mexico's mentions of aggregation is not as significant as that of Kenya's. However, the country's strategy does include explicit support under its Priority Strategies (see figure 1). According to the strategy, support will be provided to networks and associations of peasants, comuneros, ejidatarios, fishermen and indigenous people, facilitating better opportunities to sell their production through alliance with agro-industry or guaranteed prices through Segalmex (Seguridad Alimentaria Mexicana - an agency under the Secretariat of Agriculture). Capacity training on business and management practices will also be provided to support, "fairer relations and the distribution of wealth along value chains," (GoM 2020).

Figure 2: Specific support via aggregation in national strategies.

Mexico

- Priority strategy 2.1 Promote the productive inclusion of small and medium-scale producers for inclusive regional development.
  - 2.1.2 Promote the association of peasants, comuneros, ejidatarios, fishermen, fish farmers and indigenous people.
- Priority strategy 2.2 Improving employment, income and supply of the basic basket of small producers in rural and coastal areas in order to reduce food shortages.
  - 2.2.1 Promote social enterprises, ejidos and cooperatives dedicated to agri-food activity.

Kenya

- ANCHOR 1: Increase small-scale farmer, pastoralist and fisherfolk incomes
  - Target ~1 million farmers in ~40 zones (initially) producing crops, livestock and fish served by ~1000 farmer-facing SMEs that provide inputs, equipment, processing and post-harvest aggregation

Figure 2 pulls out specific objectives linked to aggregation from the national strategies, and Table 2 on the ensuing page presents an overall summary.

Table 2: Summary of Aggregation Models in Kenya and Mexico's Agriculture National Strategies

	Kenya	Mexico
Strategy Document	**Agricultural Sector Transformation and Growth Strategy 2019-2029** • Resides within Kenya Vision 2030 framework. • Commitments to Sustainable Development Goals and Comprehensive Africa Development Program (CAADP).	**Sectoral Program for Agriculture and Rural Development 2020-2024** • Resides within the National Development Plan 2019-2024. • Emphasizes role in achieving Sustainable Development Goal 2: Zero Hunger.
Implementing Agency	Ministry of Agriculture, Livestock, Fisheries and Cooperatives	Secretariat of Agriculture and Rural Development
The Problem (specific to SHFs):	• Emphasizes challenges for small-scale farmers including limited access to "affordable variety of high-quality inputs and equipment that are well suited to their needs," and the resulting lower yields. • Climate is mentioned in Kenya's strategy, but emphasis is on climate-smart interventions as opposed to much stronger language from Mexico. • Excerpt from ASGTS (2019): *Small-scale farmers also have limited markets for their produce, and not all farmers participate in collective action (e.g., self-organization of farmers into organizations like cooperatives). Therefore, some farmers are unable to aggregate produce for buyers. This weakens farmers' negotiating power and forces them to take the prices offered by middlemen, thus lowering their income. Overall, these challenges put all farmers at a disadvantage in terms of their overall income, as well as exacerbating national food insecurity and vulnerability.*	• Emphasizes the consequences of neoliberalism and trade liberalization on rural farmers: 1) concentration of 50% of nation's wealth in 20% of population; 2) more than 50 percent of those who are living in extreme poverty are in rural areas; 3) 25% of rural population is food insecure; 4) exclusion of ejidatarios and peasants with limited access to credit and technologies; 5) "impossibility" of competing in basic grain production due to high levels of importation from higher productive nations, which lead to food dependence; 6) limited marketing infrastructure; 7) climate change; and 8) decrease in income for ejidatarios and comuneros. • Climate change prevention is a theme carried throughout the document. • Excerpt: *At the same time that Mexico was moving towards trade liberalization, the country's agricultural sector suffered an institutional dismantling that led to the exclusion of comuneros, ejidatarios and peasants, given the inequity generated by the lack of government support, the limited access to credit and technological advances…The lack of government actions aimed at supporting producers with little presence in the market and low rates of productive yield led to the reduction of employment in agricultural activities and poverty becoming one of the hallmarks of the Mexican countryside.*
Pathway	• Kenya's pathway to achieving the strategy focuses on agricultural transformation, which the document details as: 1) modernization of on-farm production; 2) shifting value from production toward processing and retail; 3) shifting farmers out of farming into more productive jobs – in or out of agriculture; 4) changing demands in what people eat and where they buy food. • While subsidies to farmers are included, the strategy emphasizes improving productivity and shifting from subsistence to market-oriented output. • Excerpt: The strategy is anchored in the belief that food security requires a vibrant, commercial, and modern agricultural sector that sustainably supports Kenya's economic development, national priorities, and commitments to the [CAADP and SDGs]. *Aggregation as a pathway* • Kenya's strategy is fairly explicit in the pathway of supporting small-scale farmers through farmer organizations. The support will capitalize on the formation of "SME accelerators" which will provide support to small-medium enterprises (SMEs) including farmer organizations. • Definition of SME accelerator: "Contracted profit or not-for profit companies that select, train, mentor, scale and conduct performance management of high-potential SMEs under flagship 1." • Support to agribusiness SMEs (including the farmer organizations) will include improved access to affordable inputs and off-takers/markets, "thereby moving the farmer to a position of greater bargaining power."	• Mexico's strategy is more focused on the policy level, requiring institutional strengthening and ethical public management. • Emphasizes building an agri-food system that is much more socially minded: "to build a new productive Mexican agri-food system [that is] fair, healthy, inclusive and sustainable." • One of the major pathways is "direct support" provided to boost agricultural production including fertilizers with the aim to increase productivity. The priority would be for small and medium scale producers as well as indigenous populations. • There is also an emphasis on promoting short value chains and consumption of domestic agricultural and fishing products, something missing entirely from the Kenya strategy. *Aggregation as a pathway* • Below are a few ways in which support will be given in addition to more direct support to small-scale producers. ○ Local networks/associations of peasants, comuneros, ejidatarios, fishermen, fish farmers and indigenous peoples will be facilitated that generate alternatives to better sell their production including productive alliances with agro-industry or guaranteed prices through Segalmex (Seguridad Alimentaria Mexicana - an agency under the Secretariat of Agriculture). • The support will include the promotion of associations and organization among farmers that will support small and medium scale producers to: 1) participate in the commodity value chains; 2) associate with each other; and/or 3) strategically link with companies thus facilitating access to larger markets.

Insights from Promoting Organization Survey and Interview

Survey

Two organizations, one each in Kenya and Mexico, completed the survey. With only two responses, it is impossible to make conclusive statements about the current conditions and approaches to promoting farmer producer organizations, but the exercise did provide some insights. The below is an analysis of some of the responses.

For Kenya, the project was Strengthening Sorghum and Millet Value Chains for Food, Nutritional and Income Security in Arid and Semi-Arid Lands of Kenya and Tanzania (SOMNI), implemented 2016-2020, which supported 90,000 households in the two countries. The objectives of the project were to:

1) *Conduct rapid assessment studies to establish status of nutrition, production, and marketing value chains;*
2) *Evaluate released and elite cultivars for grain nutritional qualities and promote adoption of sorghum and millets among the food insecure communities of the semi-arid lands;*
3) *Adapt and scale up/out robust commercially sustainable dryland cereal-based value chains;*
4) *Diversify sorghum and millets utilization at households and market levels for nutritional and income enhancement;*
5) *Strengthen capacity of sorghum and millets value chain stakeholders for improved production; and,*
6) *Develop and strengthen public and private partnerships for improved inputs and products markets (Survey citation)*

In Mexico, the project was named Strengthening market access for smallholder maize and legume farmers in Oaxaca, Chiapas, and Campeche, which supported 7,000 farmers 2020. The project is currently ongoing with support provided to the farmer associations. The objectives of the project include:

1) *Strengthening farmer organizations and farmer market linkages with a social inclusion perspective;*
2) *Developing a conceptual framework for responsible sourcing to prepare scaling; and,*

3) *Improving small-scale storage of nutritious maize and legumes for local markets.* (Survey citation)

Services provided in the projects vary somewhat, but at the core they both provide input services (access to seeds, information extension services, and credit) and product market services (price information and joint sales of product). Importantly, in the survey both respondents indicated that organization of farmers into groups was more efficient in rendering of services to small-scale farmers, "Working directly with FPOs has proved to be the best way to lower risks at the farm level and increase resilience through social backing mechanisms", (Survey Response for CIMMYT, 2021). In terms of challenges in supporting FPOs, both respondents indicated similarly as well, focusing on gaining trust, connecting to markets, and aggregating volumes of products.

> *"Most of the farmers operate at peasant scale, yet in a market-driven economy, farmer cooperatives must operate in a business-like fashion or perish."*
> **Promoting Organization survey respondent in Kenya**

Interview

Unfortunately, only one of the organizations – the promoting organization in Kenya – was able to be interviewed in time for completion of this paper. However, some interesting insights were gleaned from the interview. Firstly, in determinants of success for a farmer producer organization, the interview respondent indicated: 1) trust among members; 2) progressive attitude embracing new ideas and technologies; and 3) time to develop into profitability – potentially 5-10 years (interview citation). These determinants of success align well with the literature review and will be further discussed in the next sub-section.

Secondly, the respondent described well the challenge for smallholder famer productivity without aggregation. In the example, 100 farmers separately have a little of the same commodity and a middleman comes to buy the product, essentially providing aggregation. However, the service is expensive through the middleman, reducing the profitability per unit of product.

A third insight was on the importance of formalization or registration to an organization. Essentially, a shared set of goals and objectives will help to set the agenda for progress. Next, being registered allows for more efficient pathways to connect to services, whether that is linking to Government subsidy programs or partnering with a promoting organization to provide donor funded services. Finally, registration allows for legal action. In the case of corrupt management or breech of contracts, the organization has an opportunity for legal recourse, something almost impossible without being registered.

Discussion – Success for smallholder farmer aggregation.

So far, this paper has discussed specific components of approaches and contexts to smallholder farmer aggregation. Optimism is high for the success of these interventions (GoK, 2019; GoM, 2020), but the question remains, will the second impetus be successful, and what does it mean to be successful? Tracing to the core of the issue in both policy documents, the primary motivation appears to be to increase incomes for smallholder farmers, increase food production, and improve

> *"They call them hyenas."*
>
> **Promoting Organization interview respondent in Kenya**
> referring to corrupt organization leaders.

food security (GoK, 2019; GoM, 2020). The two countries vary significantly in their priorities for the pathway to success, but both have a key place for farmer-producer organizations to support in the provision of services to smallholder farmers with the aim of achieving these outcomes.

In this way, we look at trust as a unified key to success pulled from the above research. Previous agricultural policies in countries have not instilled smallholder farmer trust in collective action. Mismanagement and corruption have resulted in the failure of millions of farmers to transition out of subsistence farming and in some cases total failure of the farmer organizations themselves. Trust is important for social cohesion at the farmer level, but farmers also must trust the institutions providing support, FPOs, NGOs, and governments. In her analysis of FPOs in Kenya and Burkina Faso, Wortmannn-Kolundzija (2019) points to agreement on the importance of trust in the research on collective action and FPOs, "As collective action institutions, interpersonal and institutional trust are considered key ingredients to strengthening the governance of a FO [Farmer Organization] and fostering development." Trust is described as a prerequisite for commitment, determining the level of participatory behavior. Wortmannn-Kolundzija goes on to detail trust's effect on social issues with FPOs:

> *Trust, norms, and networks facilitate collective activities and can help members mobilize to tackle social issues. FOs thus have the potential to tackle social issues through collective action by developing shared social norms which create a rule-based trust. To foster this trust, FOs can enable access to resources and develop shared social norms to create the type of rule-based trust that appears to be a prerequisite enabling collective action. This complements research from the fields of community psychology and ecological behavior on the positive impact of social norms that are imparted through educational and institutional means on behavioral change*. (Wortmannn-Kolundzija, 2019).

Findings from Wortmannn-Kolundzija's research indicates that social forces influence on the performance of Farmer Producer Organizations with trust being especially significant on ensuring a high frequency of interaction and trainings. However, trust is not limited to social cohesion within the groups, farmers need to be able to trust that markets will be available with fair prices, before they can confidently invest into increased production.

Formalization or registration is a strong way to build trust. Having shared goals and objectives can bond loosely knit groups of farmers together (ICRISAT Interview, 2021). Additionally, legal protections and provisions for reconciliation in the event broken sale contracts can help to give farmers confidence to innovate and take risks in investing in increased production. Going the other way, trust in farmer-producer organizations with sufficient management capacity can unlock private sector services and potentially stopgap funding from development agencies to facilitate change.

However, is trust enough to ensure the success of the second impetus of aggregation? There are too many factors and challenges to ever ensure success practically. No one method is likely to universally work across all contexts. As we have seen from the two case studies of Kenya and Mexico, vastly different approaches are being taken to support the improvement of lives for smallholder farmers. Despite the different approaches the idea of trust is essential.

While this paper does not elect to declare a preferred pathway to agricultural development through aggregation models, particularly in their very different contexts, these two countries do provide an interesting case study comparison. Further research on this topic should aim to collect more survey responses and sub-sequent interviews in

both countries. Additionally, further exploration in different contexts could also help to provide insights to supporting smallholder farmer aggregation models in the globalized economy. Countries of interest could be neighboring countries in Africa such as Tanzania or Uganda or more countries in the upper-middle class group from different contexts, such as those of Romania or Bulgaria in Europe. Additionally, a comparison could be made with South Korea or Japan which both observed rapid agricultural transformations in the 20th century.

CONCLUSION

In summary, Kenya and Mexico provide an interesting case study comparison in how they are supporting smallholder farmer aggregation. The countries histories and contexts are both diverse and complex. Kenya's first major attempt at group aggregation leaned on its colonial past utilizing the cooperative model. While there are still cooperatives today, many attempts at organization farmers have veered away from the term cooperative in favor of other aggregation models such as farmer producer organizations. This is because of the limited success of the cooperative model for SHF and many issues with poor management and corruption. Mexico began its journey earlier than Kenya. Privatization of communal lands began in 19th century Mexico, but the land reform of 1915 would usher in a new wave of communal ownership under the ejidos, which would eventually account for around 50 percent of agricultural lands. A second wave of liberalization and privatization would take place in the 1990s in effect with international trade agreements like NAFTA.

Within the last three years, both countries have embarked on new agricultural strategies. The strategies are quite different. Kenya's vision is an agricultural

transformation bringing smallholder farmers up into more highly productive areas of the commodity value chain though the use of a variety of programs including support to farmer producer organizations via SME accelerators which provide capacity building and facilitate market linkages. Mexico also works with farmer-producer organizations under the new strategy, but the focus is more on fairness, inclusivity, and sustainability. According to Mexico's strategy this is to correct some of the disadvantages to farmers experienced because of the liberalization of the agricultural sector.

Does the current situation paint a path for Kenya to have a similar negative reaction to the liberalization of agriculture in the future? It is unknow, but further research could be conducted in more countries to look at more pathways. What is clear at this point is that aggregation models are an essential component of smallholder farmer development at this current time. The models are paramount in the efficient provision of services and market linkages for farmers who would otherwise be plagued by high transaction costs due to their small scale.

One key component of successful implementation of support to aggregation models is trust. Without trust in organization leaders, markets, or policy makers, farmers typically adopt a risk averse, subsistence focused approach to agriculture. For farmers in both countries trust was eroded by inefficient or insufficient policies and management for aggregation models. Trust, a component that in not exclusive to either national strategy, needs to be fostered through enabling environments. The two countries present two different pathways to this enabling environment. The purpose of this paper was not to determine which pathway is more likely to succeed, and no such conclusion will be made. To explore this question further research should be conducted

into looking at more countries and their utilization of aggregation models for smallholder farmers. Additionally, once the COVID-19 global pandemic has sufficiently subsided, field world, including interviews with government officials, farmer producer organization leaders, smallholder farmers and other stakeholders, would greatly benefit this research.

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Annex 1: Survey - Farmer Organization Promoting Organization

Promoting Organization of Farmer Producer Organization

Q2 What is the name of your organization?

_____

Q3 What is your full name?

_____

Q4 What is your position/title within your organization?

_____

Q5 What is your email address?

_____

Q6 Where is the location of your organization's corporate headquarters? (City and country)

_____

Q7 What year was your organization founded?

_____

Q8 In how many countries has your organization been operating as a Promoting Agency for FPOs?

_____

Q9 In how many projects has your organization participated as a Promoting Agency for FPOs in the past 5 years in all countries of operation?

_____

Page Break

Q10 For the rest of the survey, **all questions refer to a particular project** among those mentioned above.

Please write the name of the project which you wish to focus for the rest of the survey.

_____

Q11 Please briefly describe the main objectives of the project.

_____

_____

_____

_____

_____

Q12 Which country office oversees this project?

_____

Q13 Where is your country office headquarters located? (City, state/province)

_____

Q14 Which year did your organization start work in this country?

_____

Q15 What are the areas of development your organization works in for the country? (Select all that apply)

- ☐ Livelihood support (1)
- ☐ Domestic market access (2)
- ☐ International market access (103)
- ☐ Gender (3)
- ☐ Food security (4)
- ☐ Environment (5)
- ☐ Nutrition (6)
- ☐ Climate change adaptation (7)
- ☐ Education (8)
- ☐ Research and Development (9)
- ☐ Technology transfer (10)
- ☐ Product quality (11)
- ☐ Production insurance/protection (12)
- ☐ Price insurance/protection (minimum price guarantee) (102)
- ☐ Credit access (100)
- ☐ Product and process certification (e.g., organic, Fair Trade) (104)
- ☐ Access to government programs/support (101)

☐ Other(s) (please specify) (99)

_____

End of Block: Contact Information and Organization Background

---

Start of Block: Granting Agency

Q16 Please list the granting agencies supporting the project specified before and their contribution as a percentage of total project contribution.

_____

_____

_____

_____

_____

Q17 What are the classification of the granting agencies?
(select all that apply)

☐ Private sector company (1)

☐ Government (2)

☐ Non-governmental Organization (NGO) (3)

☐ Other (please specify) (4) _____

Q18 Does your organization work with the same granting agencies on other projects or programs?

- ○ Yes (if yes, how many in total) (1) _____
- ○ No (2)

Q19 How many years is the funding to support the project?

_____

Q20 After finalizing the project, do you expect the FPOs to be self sufficient or would they require continuous support?

- ○ We expect the FPOs to be self sufficient (1)
- ○ We expect the FPOs to require minimal supervision/support from us or a third entity (2)
- ○ We expect the FPOs to require constant supervision/support from us or a third entity (3)

Q21 Is the duration of the time to support the project sufficient to successfully finalize the project?

- ○ Yes (1)
- ○ No. If no, what would be an ideal support time?, in years (2)

_____

Page Break

Q22 How much funds are available to promote the FPOs in the project?

_____

Q23 Are the funds sufficient for the successful implementation of the project?

○ Yes (24)

○ No (25)

Display This Question:

If Are the funds sufficient for the successful implementation of the project? = No

Q24 What would've been a sufficient amount of funding to successfully implement the project?

_____

Q25 Please list any other partner organizations involved in the promotion of FPOs under the granting agency's program. These organizations **are not** providers of funds.

_____

_____

_____

_____

_____

Q26 What are the services/support these partner organizations provide? (select all that apply)

- ☐ Formation of groups (1)
- ☐ Training of stakeholders (2)
- ☐ Registration of farmer producer organization (3)
- ☐ Factor market services (4)
- ☐ Product market services (5)
- ☐ Post-harvest services (6)
- ☐ Other (7) _____

Q27 What are the performance measures **set by the granting agency** that your organization needs to meet? Please be specific in the measures.
(e.g. number of beneficiaries, income improvement of the FPOs members)

_____

_____

_____

_____

_____

End of Block: Granting Agency

Start of Block: Farmer Producer Organization Promotion Protocol

*

Q28 What year did your organization begin promoting Farmer Producer Organizations in the country?

_____

Q29 Why did your organization promote the Farmer Producer Organizations in the country? What was the motivation?

_____

_____

_____

_____

_____

Q30 How many Farmer Producer Organizations have been supported to date by your organization in the country?

_____

Q31 How many of these supported Farmer Producer Organizations are now self-sufficient, how many are still being supported?

_____

_____

_____

_____

_____

Q32 How many Farmer Producer Organizations are currently being supported under the granting agency's program?

_____

Q33 What are the regions (municipalities and states) in the country where your organization promotes the Farmer Producer Organizations under the project?

_____

_____

_____

_____

_____

Q34 How many members has the supported Farmer Producer Organizations (under the project)? Please list by municipality and state.

_____

_____

_____

_____

_____

Q35 What is the typical or average landholding size of each member of the Farmer Producer Organization under the project? (in hectares) Please list by municipality and state.

_____

_____

_____

_____

_____

Q36 What are the crops promoted by your organization? (break down by municipality and states if different)

_____

_____

_____

_____

_____

Q37 What do you think would be the optimal number of members of a Farmer Producer Organization to successfully implement the project?

_____

Q38 Do farmers usually have landholdings they cultivate outside of Farmer Producer Organization activities?

- ○ Yes (1)
- ○ No (2)

Q39 How long is the expected time of engagement with the FPOs? (please specify in number of months)

_____

Q40 Under the project, what are the support linkages that are provided to Farmer Producer Organizations in **FACTOR (Input)** markets? (select all that apply)

- ☐ Seeds (1)
- ☐ Fertilizer (2)
- ☐ Pesticides (3)
- ☐ Information (4)
- ☐ Extension services (5)
- ☐ Credit (6)
- ☐ Insurance (7)
- ☐ Machinery (8)
- ☐ Infrastructure (9)
- ☐ Other (please specify) (10) _____

Q41 Under the project, what are the support linkages that are provided to Farmer Producer Organizations in **PRODUCT** markets? (select all that apply)

- ☐ Price Information (1)
- ☐ Post-harvest services (2)
- ☐ Post-harvest storage (3)
- ☐ Joint sales of product (4)
- ☐ Contract negotiation with buyers (5)
- ☐ Other (please specify) (6) _____

End of Block: Farmer Producer Organization Promotion Protocol

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Start of Block: Social factors

Q42 Does the Farmer Producer Organizations have **a mandate** to promote specific groups or disadvantaged communities? If yes, please specify.

- ○ Yes (1) _____
- ○ No (2)

Q43 Under the project, is there **a focus** on social groupings? Select all that apply.

- ☐ No focus on social groupings (1)
- ☐ Gender (2)
- ☐ Ethnic group or caste (3)
- ☐ Size of landholdings (4)
- ☐ Youth (5)
- ☐ Income (7)
- ☐ Other (Please specify) (6) _____

Q44 Are the members of Farmer Producer Organizations homogenous (similar) or heterogenous (different)? (e.g. same ethnicity, similar family composition, land holding size, wealth, etc.)

- ○ Homogenous (please specify the similar aspects in the text box) (2)
  _____
- ○ Heterogenous (no social classifications applied in granting membership) (1)

Q45 Is anyone allowed to join the FPO? (Are there NO restrictions to membership?)

- ○ Yes, there are no restriction to membership (1)
- ○ No, there are restrictions (please specify restrictions) (2)
  _____

Q46 What is the frequency of conflicts within the supported Farmer Producer Organizations? (conflicts that require mediation and may jeopardize the operation of the FPOs) Please provide an annual estimate.

_____

Q47 Please list and elaborate the main challenges in supporting the FPOs?
(e.g. gaining trust, cooperation, legal issues, regional violence)

_____

_____

_____

_____

_____

End of Block: Social factors

Start of Block: Monitoring

Q48 Does your organization have a **Monitoring Learning Evaluation** protocol for the FPOs promotion program?

- ○ Yes (1)
- ○ No (2)

Q49 Is there a **Theory of Change or Logical Framework** for the intervention?

- ○ Yes (1)
- ○ No (2)
- ○ Other logical model (please specify) (3) _____
- ○ Unsure (4)

Q50 Does your organization have a reporting framework to the granting agency?

- ○ Yes (please specify the frequency of the reporting) (1) _____
- ○ No (2)

Q51 Does the organization collect household level data of its members **prior** to the intervention?

- ○ Yes (1)
- ○ No (if no, please specify why) (2) _____

Q52 Does the organization collect household level data of its members **during and after** the intervention?

- ○ Yes, we collect data during the intervention only (1)
- ○ Yes, we collect data after the intervention only (4)
- ○ Yes, we collect data during AND after the intervention (2)
- ○ No, we do not collect data during nor after the intervention (3)

Q53 Does your organization collect management level (organization level) data from the Farmer Producer Organizations?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Does your organization collect management level (organization level) data from the Farmer Produce... = Yes

Q54 How frequent does your organization collect management level (organization level) data from the FPOs?

_____

Q55 Does your organization have an internal evaluation for FPO performance?

- ○ Yes (1)
- ○ No (2)

Q56 What metrics are used to measure the success of the project/intervention?

_____

_____

_____

_____

_____

Q57 Who determined these metrics? (select all that apply)

- ☐ Granting agency (1)
- ☐ Government institutions (2)
- ☐ Academic literature (3)
- ☐ Internally determined by your organization (4)
- ☐ Other (please specify) (5) _____

Q58 By these metrics, how many successful FPOs have your organization promoted in the country?

_____

Q59 Following the completion of current Farmer Producer Organization promoting program, will your organization continue to promote Farmer Producer Organizations in the country?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Following the completion of current Farmer Producer Organization promoting program, will your org... = No

Q60 Why won't your organization continue promoting FPOs in the country?

_____

_____

_____

_____

_____

Page Break

Q61 This is the end of the survey.

Thank you for your participation.

End of Block: Monitoring

Annex 2: Interview Guide - Farmer Organization Promoting Organization

Interview Guide - FPO-Led Small Farm Market Access Models	
Interviewee: **Organization:** **Contact:** **Country:** **Project:** **Project Years:** **Granting Agency:** **Link to survey response:** **Interviewers:** **Date of Interview:** **Modality:** **Recorded:**	
Beginning of Interview	
Section 1: Granting Agency	
Q1: *How did the organization acquire the grant from the donor to promote FPOs? (e.g. invitation, application, through other programs)*	
Q2: *What Are the expectations/outcomes the donor organization is expecting from the grant provision?*	
Q3: *How involved is the granting agency in the decisions and operation of the intervention?*	
Q4: *a. Does the grant organization specify the expected outcomes of the project or is it decided by your outfit?* *b. What are the specific expected outcomes from the grant organization?*	

c. What are the expected outcomes for you (promoting organization)?	
Q5: *a. What is the goal of your organizations FPO promotion activity?* *b. How is success determined?*	
Section 2: FPO Promotion Protocol	
Q6: *a. How are FPOs promoted by your organization? (e.g. through access of technology, market access, vertical integration, certification)* *b. What are the various steps taken to set up an aggregation model?*	
Q7: *Is the support integrated with government extension services?*	
Q8: H*ow are target groups identified? (e.g. randomly selected, or by what criteria)*	
Q9: *a. What are the steps taken to mobilized people for the formation of groups?* *b. How long does it take?* *c. Are the groups entirely new or are they based on an existing organization?* *d. If known: What was the origin of the existing organizations?*	

Q10: *How is the location and community for the intervention identified?*	
Q11: *Is there any training provided to the groups? If yes, what is the training, and its duration?*	
Section 3: Business Model	
Q12: *What is the main source of revenue for the FPOs that are created?*	
Q13: *How are the economic activities of FPO determined? (e.g. who decides, and how)*	
Q14: *How do you convert a group of farmers with no business experience into a business?*	
Q15: *How are linkages with factors (input) markets formed?*	
Q16: *What are the major challenges in forming linkages with factor (input) markets?*	
Q17: *How are linkages to product markets formed?*	
Q18: *What are the major challenges to forming linkages with product markets?*	
Q19: *What are the additional resources required to promote successful FPOs?*	

Section 4: Social Factors	
Q20: *What are the major challenges in group formation? (e.g. cultural barriers, trust, lack of local leadership)*	
Q21: *Do you leverage existing social capital to form groups?*	
Q22: *Is social capital created as a result of group activities? How so?*	
Q23: *What are the major free rider problems the groups have to deal with? (e.g. are non-contributing members easy to exclude, who can reap benefits of the FPO without contributing?)*	
Q24: *What are usually the main causes of group conflict?*	
Q25: *What conflict resolving mechanisms do you have in place?*	
Q26: *Do groups get disbanded? If so, what are the main reasons?*	
Q27: *How does the FPO fit in with already existing local (village) institutions and/or groups?*	
Q28: *What is the perception of the FPOs within the community?*	

Section 5: General - Vision	
Q29: *What do you consider a to be a successful FPO?*	
Q30: *Why is support to FPOs in aggregation important to your organization?*	