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Envisioning a Future for Ethiopian Small Farmer Involvement in Development and Food Security

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Abstract
In this paper I attempt to answer the question of how small-scale Ethiopian farmers can best participate in, contribute to and benefit from the development process. In addition, I seek to clarify the implications and potential nature of local food systems and their ability to achieve greater food security through small farmer involvement. Modern development ideology often focuses on large scale projects and export-led growth, ignoring the importance of smallholder farmers and rural vitality. These farmers are increasingly marginalized through this process. In Ethiopia 85% of the population is employed in the agricultural sector, the majority being small farmers that live in remote regions. It is crucial that effective techniques are applied which enable these farmers to play a central role in the development process, guaranteeing the sustainable growth of Ethiopia's economy as well as greater food security. Given the recent volatility of global food markets and the severity of local droughts, effective solutions are more urgent than ever.

Keywords
Smallholder Extension, Irrigation, Local Sovereignty, Ethiopia, Food Security, Global Food Market

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Envisioning a Future for Ethiopian Small Farmer Involvement in Development and Food Security

GS 440

By
Will Cauffman

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In this paper I attempt to answer the question of how small-scale Ethiopian farmers can best participate in, contribute to and benefit from the development process. In addition, I seek to clarify the implications and potential nature of local food systems and their ability to achieve greater food security through small farmer involvement. Modern development ideology often focuses on large scale projects and export-led growth, ignoring the importance of smallholder farmers and rural vitality. These farmers are increasingly marginalized through this process. In Ethiopia 85% of the population is employed in the agricultural sector, the majority being small farmers that live in remote regions. It is crucial that effective techniques are applied which enable these farmers to play a central role in the development process, guaranteeing the sustainable growth of Ethiopia's economy as well as greater food security. Given the recent volatility of global food markets and the severity of local droughts, effective solutions are more urgent than ever.

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Introduction

For nations on the periphery – those marginalized by the effects of globalization, finding ways to include small holder farmers in the processes of development and greater food sovereignty should surpass any efforts to undergo grandiose development projects or achieve status as a "modern" state. Prior to the influence of globalization, many societies relied on subsistence based strategies for survival. By creating a market dynamic in which most people do not engage in subsistence farming, however, globalization has made it so that most humans are now dependent on food systems to bring them the food they need. At the same time, the process of rapid development and industrialization has not occurred uniformly across the globe. Instead, countries lacking infrastructure, institutional strength, skilled labor and capital have become sidelined, only being able to participate in current neoliberal markets because of their abundance of cheap labor. In this sense, the market does not work to their benefit and certainly not to the benefit those inhabiting remote areas.

Small farmers have found it particularly difficult to benefit from global markets because of the constant downward pressure on food prices as well as limited access to markets. Starting in the mid 90s, opposition to this global food system became formalized under the Food Sovereignty Movement, a movement which seeks to transfer control of food from markets and corporations to the people who produce, distribute and consume it. Countries that are still in various stages of development are faced with conflicting ideologies as to what steps they should take to ensure continued development as well as food security. Can an emphasis on small farmer empowerment and the creation of local food systems best achieve these results? This paper analyzes Ethiopia as a case study, looking at if and how Ethiopian smallholder farmers can play a role in development while contributing to greater food security. This involved conducting

research on the availability of practical development principles and their applicability to Ethiopia. In addition, I analyze the effectiveness of rural development strategy initiatives that could be implemented by the Ethiopian government.

I conclude that farmer access to low-cost, low-risk technologies is the most effective way to enable their participation in the development process through the production of higher yields. In Ethiopia, cheap, water-lifting, storing, and distributing technologies provides the most effective solution. In addition, I emphasize the importance of the local and remote in policy approaches to development and food security. This includes the creation of effective extension package programs, local value-added processing, middle-support organizations for farmers and rural businesses as well as the development of rural-urban links, and protection against the encroachment of transnational corporations. Analyzing the role of the Ethiopian government, I conclude the importance of a selective trade policy, land reform, combating corruption and support of grassroots initiatives as being central to ensuring effective smallholder farmers participation in the development process.

The results of this paper have important implications beyond Ethiopia. Throughout the world, 800 million people make a living on small, rural farms[1], 85% of which are smaller than 5 acres.[2] Policies and initiatives focusing on development often fail to design solutions that work for them because they do not acknowledge their potential. In fact, small farmers produce more than half the crops, meat and dairy products of most developing countries.[3] Policy makers in developing nations looking to ensure greater food security need to understand how to work with smallholder farmers.

[1] Polak, 30
[2] Ibid, 119
[3] Ibid, 121

I start the conceptual framework of this paper by highlighting some of the failures of the Green Revolution Model in the ways that it was applied to Africa. I go on to review the Food Sovereignty and Local Food movements looking at their potential for benefitting producers as well as the nation as a whole. The last part of the conceptual framework reviews the work of Paul Polak, founder of International Development Enterprises (IDE), an organization which has successfully empowered small holder farmers around the world to lift themselves out of poverty through low-cost, low-risk solutions. The body of the paper synthesizes the previous discussion with the specific conditions that exist in Ethiopia, offering criticisms and discussing alternatives.

Conceptual Framework

Green Revolution Development Model

The Green Revolution is responsible for saving millions, if not billions of lives during the latter half of the 20th century. By creating a food production method in which yields and productivity were greatly increased as labor requirements decreased, the Green Revolution transformed the world so that the majority of the population could find jobs outside of agriculture. Key attributes of Green Revolution farming include mechanization, improved seeds, chemical fertilizer and herbicide inputs. While the Green Revolution model is said to have largely failed in the developing world, continued efforts to push its implementation are being made on the part of the World Bank and Gates Foundation. The thinking behind using this model as a development approach is that greater yields will lead to higher income, creating more employment and a higher multiplier effect.[4] Unfortunately, these assumptions overlook the technological reality of Green Revolution Technology and it's ability to benefit smallholder farmers.

[4] Teshome, 8-9

While Green Revolution technology has certainly led to an increase in overall global production levels, it has also brought harmful consequences to rural communities, especially those situated in countries with inadequate infrastructure and low skill level. Capital intensive, high input farming is inherently suited for large plots of land which produce monocultures. Characterized by a high cost of entry, this method is largely dominated by agricultural enterprises. Because developing nations view these enterprises as being efficient vehicles for economic growth, they often welcome them in. Applying a Green Revolution "solution" in Africa, however, entails subordination to agricultural enterprises, a devaluing of tenant farmers and the destruction of local farming and food culture.[5] The ability for large agriculture to create a multiplier effect that would stimulate growth also should be questioned. By using capital intensive production methods in countries in which cheap labor is the dominant factor of production, production power is essentially being wasted. Whether local farmers have their land purchased with often inadequate compensation packages, or are simply relocated as is often the case in nations with corrupt governments, they generally end up in slums, competing fiercely in the informal urban economy.[6] The assumption that Green Revolution approaches can be applied to small farm plots is also flawed. Small farmers must take out loans in order to buy the expensive inputs that the "improved seeds" require. In the event of a drought, monsoon or collapse in commodity prices, farmers find themselves unable to repay these loans.[7] Lastly, by focusing on producing export based crops, this method does not allow for a planned, gradualist approach in which local, value added processing industries can have the opportunity to develop. In conclusion, while the Green Revolution led to impressive results in developed nations, it is

[5] Choi, 1169
[6] Polak, 161
[7] Gabre-Madhin, 5

economically ill-suited for countries in which smallholder farmers make up the majority of the population.

Food Sovereignty Theory and Ideology

Opposition to the Green Revolution model, which is largely seen as being tied to neoliberal economic policies and an exploitative capitalist food regime has come under considerable scrutiny in recent decades in the form of the Food Sovereignty Movement. In general, the Food Sovereignty Movement suggests an agricultural system which provides people with sufficient amounts of affordable, healthy and culturally appropriate food, living wages, economic opportunities in rural economies, a better livelihood for farmers, and conservation and proper management of rural environments.[8] While the social and environmental benefits of Food Sovereignty Movement are very apparent, proponents fail to consistently address the economic implications. For instance, some writers like Peter Rosset, author of *Food is Different: Why we must Get the WTO Out of Agriculture* even encourage a return to subsistence based strategies and strong insulation from the world economy.[9] Within the context of this paper, I attempt to find solutions from within a market context.

Many of the beliefs of the Food Sovereignty Movement are predicated on the understanding that farming and food production should be done by small farmers who use sustainable or agro-ecological methods to produce their crops.[10] These approaches have ecological benefits such as less stress on local ecosystems and better management of soil quality as well as economic benefits. The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), extensively documents the superiority and greater efficiency of these methods, concluding that

[8] Rosset, 463
[9] Ibid, 464
[10] Akram-Lodhi, 559

> "The world needs a paradigm shift in agricultural development: from a 'green revolution' to an 'ecological intensification' approach. This implies a rapid and significant shift from conventional, monoculture-based and high-external-input-dependent industrial production towards mosaics of sustainable, regenerative production systems that also considerably improve the productivity of small-scale farmers."[11]

Given the inability of the Green Revolution model to be applied to small scale farmers, this paradigm shift should be adopted as soon as possible.

Local Food System Approach

The Local Food Movement, while tied in many ways to the Food Sovereignty Movement is more focused on the formation of economically viable, local food networks. The implications of this movement involve revitalizing agriculture and restoring the viability of rural communities through an emphasis on greater urban-rural coexistence and minimizing the distance that food travels between producers and consumers.[12] Conventional food chains have largely been dominated by non-local manufacturers, processors and retailers who capture a large proportion of the market value of food. Local food systems advocate local processing or direct sale for products that do not require processing. By forming these links, a regional multiplier effect can develop[13] and a larger portion of the final value can be captured locally.[14] How this is achieved various historically, but has generally relied on cooperative networks or some kind of knowledge exchange or skill sharing network.[15]

The Local Food Movement is not without criticism. Born and Purcell argue that there is nothing inherent about scale, pointing out that any scale system has the potential to be unjust.[16] They go on to assert that this movement is part of a vision to shed the capitalist model and return

[11] IAASTD (2012)
[12] Choi, 1172
[13] Choi, 1169-1170
[14] FAAN, 34
[15] Ibid, 37
[16] Born and Purcell, 195

to “an imagined past of localized and non-capitalist food systems.”[17] While earlier, Born and Purcell address the issues of the current capitalist model, they do not offer an alternative. Therefore, contemporary dialog surrounding local food systems should provide answers from within the capitalist, free market context. Another criticism is that local production cannot guarantee self-sufficiency because conditions vary from place to place and are dependent on soil, climate, and the availability of land and water.[18] This is a valid criticism. For this reason, local food systems should be considered as a means rather than an end, with the goal being food security.

The criticisms posited by Born and Purcell are all valid. Similar to the Food Sovereignty Movement, the Local Food Movement it is also somewhat ambiguous as to what trade model it espouses. While the emergence of these systems are often seen as counter-globalization, it is clear that they are the result from an active creation of networks of various actors in the production chain. Instead of being a purely market influenced force, it seems to largely consist of social motivators.[19] Nonetheless, if local food systems attempt to be economically and socially sustainable, they need to determine ways to become competitive with global markets. National economies should not simply prop up an “inefficient sector”, but instead invest in farmers in a way that allows them to continue to create value. Kwon and Kim argue that this can be done through agricultural products overcoming seasonal limitations, farmers and local enterprises creating effective marketing strategies as well as local brands gaining recognition.[20] Another report indicates that local foods systems benefit employment because they are more labor

[17] Ibid, 199
[18] Halweil
[19] Renting, 399
[20] Choi, 1171

intensive and can lead to a multiplier effect in processing, retailing, and tourism.[21] Up to this point, however, there does not appear to be any conclusive research proving the superiority of local food chains. With this in mind, it is perhaps wise to not adhere to an orthodox approach in applying these systems, but instead to pursue them cautiously, recognize their limitations and continuing to seek out innovative approaches.

Development theory of IDE

International Development Enterprises (IDE) is a nonprofit organization which seeks to create income and livelihood opportunities for poor, rural households. The strategies that they employ are very counter-intuitive to industrialists and those who believe that technology will be the savior of the poor. Nonetheless, they have proven to be extremely effective at what they do. The founder of IDE, Paul Polak, has spent over 25 years working on poverty irradiation. Through his efforts, over 17 million people have been lifted out of poverty.[22] From his time working with the rural poor across the world, Polak has become highly critical of applying Green Revolution techniques to development. He points out that most small farmers living in remote areas cannot afford the "improved" seeds and other inputs like fertilizers and herbicides required in this method of production. Many are encouraged by extension programs to purchase these inputs on credit with the expectation of a higher return. In the event of a monsoon or drought, however, all of these expenditures may be lost for a season, putting the farmer in debt.[23] Instead, what Polak advocates throughout his book *Out of* Poverty are low-cost, low-risk approaches that harness the potential of small farmers. These approaches do not entail forcing small farmers off of land and into lifestyles that are unfamiliar to them. Rather, it meets them where they are at and

[21] FANN, 39
[22] Polak, Intro
[23] Ibid, 124-125

allows them to develop in risk-free, albeit more gradual ways. An added benefit of this approach, which tends to be based on more agro-ecological methods is that it positively effects biodiversity and food security.[24]

Instead of suggesting that farmers go back to subsistence strategies and insolate themselves from markets, Polak believes that poverty and hunger will end only when smallholder and grassroots farming enterprises can find ways to earn enough to buy the food that they need.[25] In this way, they are actually given the power to invest in things that are a priority to their family and livelihood. Even though many farmers live on small parcels of land, Polak claims that they should be able to produce enough to significantly increase their income and get out of poverty through inputs like low cost drip-irrigation, water storage tanks and manual treadle pumps. IDE has put considerable effort into designing these inputs so that they are affordable to smallholder farmers and can be repaid within a year. Because the productivity of farmers is constrained by the dry season, technologies that are able to mitigate lack of water can greatly extend growing possibilities. Polak believes that this is best done through growing diversified, labor-intensive, high value cash crops. In addition, high-value fruits and vegetables can be produced off season, adding a premium to the final value.[26] The unique competitive advantage that these farmers have is low labor rates. Without access to lots of land or capital, they need to find solutions to make the land that they already have more profitable. One of the key reasons why this approach has not gained traction is the entrenched mindset surrounding how development should look. Polak points out that most researchers regard small farms as

[24] Ibid, 174-5
[25] Polak, 85
[26] Ibid, 129

"embarrassing stone age aberrations."[27] As a result, agricultural research is generally done on large, western farms which require a completely different approach than small farms.[28]

Local Food Movements in Europe, Korea and Cuba

To better understand the feasibility and potential structure and development process of local food systems and small farmer involvement in development, it is critical to observe the implementation of these systems in other countries. This section provides a review of local food systems in Europe, Korea and Cuba. While the systems in Europe and Korea provide examples of local food movements, they cannot be applied directly to developing nations, the citizens of which generally do not have as much social and financial mobility. Nonetheless, it is valuable to look at the policy choices of these nations in the ways that they relate to the development markets and structure and traction. The local food and farmer empowerment movement in Cuba can provide a more suitable, on-the-ground solution because its population has a larger percentage of low income citizens. From these case studies it is clear that successful local movements require both government support and grassroots initiative.

Europe

The FAAN Project, a research initiative conducted within several countries in Europe between 2008 and 2010 was undertaken with the purpose of studying alternative agro-food networks and what they imply for policy and practice. The findings of this study provide ideas for ways in which small farmers can become suppliers in local food systems. Highlighted themes included suggestions for policy changes, unique initiatives, as well as an emphasis on the importance of grassroots farmer involvement. It is, of course, important to recognize that Europe and Ethiopia are very different. Nonetheless, certain aspects of local food systems in Europe

[27] Ibid, 123
[28] Ibid, 121

have transferability. The implementation of education and training programs through local authorities and organizations was emphasized as a way for farmers and processing business to be able to access markets and meet hygiene restrictions. In addition, these training programs can help small business owners and farmers who are often unaware of market opportunities as well as value-added practices that can increase their share of the final price.[29] The FAAN project also emphasized that a shift in ideology of grant giving to include small farmers led to increased viability in rural producers.[30] Often times, government programs and other lending institutions have minimum grant thresholds that they are willing to finance. In a similar vein, FAAN Policy recommendations included increased funding for locally initiated projects that involved innovative approaches. [31] Another common theme emphasized throughout was the implementation of standards what are favorable to small farmers. Often times, this requires eliminating certain restrictions that inhibit the convenience of processing and direct marketing.[32] If farmers can do either of these, they have the potential to greatly increase their income. Lastly, the importance of bottom-up initiatives were emphasized as a requirement for the social sustainability of local food systems.[33] All of these findings have implications for policy and procedure in Ethiopia.

Wanju-Gun

Wanju-gun, a county in South Korea implemented an initiative in 2008 to address the problems faced by its rural districts by encouraging local production and distribution. As a primarily agricultural district, Wanju-gun lacks high value-added industry. The population, being unequipped to work in factories, is primarily engaged in work on farms, 70% of which are less

[29] FAAN, 41
[30] Ibid, 39
[31] Ibid, 37, 47
[32] Ibid, 41
[33] Ibid, 47

than one hectare.[34] The initiative to begin a local food system was influenced by the general lack of opportunities in rural areas, unnatural business structure, low population density, lack of variety in employment, inefficient social services, and lack of living and social services leading to a population outflow and reduction in vitality.[35]

At the center of this plan was the goal to use local agriculture to promote greater urban-rural coexistence.[36] To launch this initiative, several organizational and infrastructural changes needed to be made. This included the creation of a department for managing food and middle-support organizations as well as distribution companies and community businesses. Together, this coordinated network helped to organize systems and provide businesses and producers with the resources they needed to make themselves profitable. Efforts targeting farmers were focused on low-input technology as well as small quantity batch production systems.[37] Middle-support organizations are particularly important in this network because they provide coordination and communication and ensure that individual actions are connected with those of institutions.[38] In addition to these roles, they help to find new entrepreneurs, and form local consultancy groups.[39] The coordinated efforts of these groups are aimed at a community and village level.[40]

While the success of this initiative will not be analyzed until 2018, it has a lot of momentum, and has proved to be well received in many ways. As of 2014, there were already a number of farming cooperatives, distribution companies and various processing industries which had been established.[41] In total, between 2009 and 2013, around 160 businesses have been supported, including 11 town companies, 10 cooperative farms, 41 community businesses, 2

[34] Choi et al, 1172
[35] Choi et al, 1172
[36] Ibid, 1172
[37] Ibid, 1172
[38] Ibid, 1183
[39] Ibid, 1187
[40] Ibid, 1183
[41] Ibid, 1180-81

direct markets, 1 distribution center and one processing center. Important factors in the success of this initiative are the emphasis on rural infrastructure and rural-urban linkages, clear goal setting and planning, the creation of middle-support organizations, support and education on a local government scale, the formation of community businesses and the eager participation of local farmers.

Cuba

Cuba is a nation that adopted a local food system out of necessity. Prior to the fall of the Berlin Wall, agriculture in Cuba was characterized by large, monoculture farms that were reliant on heavy inputs. When the Soviet Union collapsed, Cuba suddenly found itself without adequate oil. In addition, inputs that were previously used had suddenly become too expensive. Faced with a dire situation, Cuba made a radical transformation in its agricultural sector. This consisted of fracturing and redistributing state farms to be tended by farmers on smaller plots, encouraging the production of a variety of crops, replacing machinery with animals, promoting family and urban gardening, determining farmer's market prices be the forces of supply and demand and creating farmer's co-ops.[42] This unique example from history provides a look at a shift back to agro-ecological methods of farming and demonstrates the potential of small farmer involvement in development and food security. With no choice but to develop a local supply that met national demand, Cuba was able to establish robust agricultural production run by entirely by smallholder farmers. In this model, state power was transferred to farming communities and associations, with the state serving a more supportive and protective role.[43]

Solutions Applicable to Ethiopia

[42] Ayres, 65
[43] Ibid, 68

Introduction to Case Study

Ethiopia is a nation with huge potential for agricultural production. Possessing vast amounts of fertile land, a diverse climate and an abundance of cheap labor, it is well positioned for economic growth in this sector. At the same time, however, many factors are inhibiting this potential for progress. Soil degradation, poor infrastructure and frequent droughts present themselves as serious hurtles. Just within the past year the nation has experienced its worst drought in decades. This has dire consequences for agriculture. As of 2011, over 7 million Ethiopians still faced food insecurity.[44] In this context, the Ethiopia government recognizes that it is critical to determine what its best prospects are for sustained, long-term growth. This is reflected by the degree of commitment Ethiopia has taken in trying to meet its Millennium Development Goals and Poverty Reduction Strategies. Despite this commitment, intentions cannot be realized without an effective strategy that actually meets the needs of those most effected. With the majority of Ethiopians living on farms that are less than 5 acres, it is critical that any goals and strategies promoted by the government are tailored to benefit and include them.

One of the most influential figures in recent Ethiopian history, former prime minister Meles Zenawi was very critical of the idea of neoliberal economics as the silver bullet for effective development, believing that the private sector lacked the means to develop on its own. Instead, he believed that in order to overtake the poverty gap, a state needed to be able to enact persistent and concerted political action.[45] This approach is modeled after the East Asian development model which is characterized by export-led industrialization with an initial focus on agricultural growth and productivity. Following this approach allows for the country to accumulate capital

[44] Ethiopia's Climate Resilient Green Economy Strategy (2011), 7
[45] Zenawi, 164

and increase supply in agricultural industries. In turn, it can lead to greater demand for manufactured goods.[46] While there is a strong emphasis on state led growth with selective private sector incentivizing, the Ethiopian government has also been focusing on facilitating an attractive environment for foreign investments. This includes tax incentives in several target sectors as well as the creation of state run and private industrial zones.[47] While many within the government seem to be striving for a state that promotes effective, sustainable and equitable private sector growth, either through multinationals or domestic entities, the reality reveals an often corrupt state that colludes with multinationals at the expense of its most impoverished citizens.

While the role and nature of agriculture in development approaches is often unclear or contradictory, it has very much taken a forefront in discussion over the last two decades. Currently, agriculture accounts for about 85% of employment, but only contributes to around 42% of total GDP. With this in mind, the government looks to use other sectors to spur development, but understands that the central role of agriculture means that it cannot simply be abandoned.[48] Recognizing this, they have strategized several development and poverty reduction plans with agriculture at the center. The Sustainable Development and Poverty Reduction Plan (SDPRP), formulated in 2002-3 through the IMF and World Bank and based on the Millennium Development Goals puts a significant emphasis on citizen participation and community empowerment.[49] The degree to which the government actually implemented these changes, however, indicates that the plan did not accurately emphasize their goals. The second major development plan was the Plan for Accelerated and Sustainable Development to End Poverty

[46] Altenburg, 16
[47] Davies (2016)
[48] Davies (2016)
[49] Teshome, 2

(PASDEP) which began to be implemented in 2005. This document was different from the SDPRP in that it advocated for a duel approach focusing on a 'massive push to accelerate growth' with large-scale agricultural commercialization as the driving force as well as a continued emphasis on the support of smallholder farmers. [50]

The commercialization focus seems to have come from a desire to see expedited economic growth, and a recognition that attempts at smallholder development were languishing.[51] At the moment, however, complications in Ethiopian land reform as well as its recent socialist past mean that investors are still hesitant to enter its markets. This ideological shift is evident in the language of the PASDEP which emphasizes a revamping of attempts to attract investors.[52] Solutions like greater land tenure security and macro-economic stabilization to insure a stable exchange rate have been identified as ways to increase investor interest.[53]

The government's view on the role of smallholders in development can be seen to shift slightly between the SDPRP and the PASDEP. While the SDPRP indicated ambitious efforts to improve the viability of smallholder farmers, the PASDEP reflects the failure of those efforts and the subsequent shift in rhetoric to smallholder farmers as recipients of aid rather than agents in the development process. The initial SDPRP included the implementation of a massive agricultural extension credit service which provided technology packages of seeds and fertilizers among other things. [54] This extension program has grown faster than any in the world. In 2009 it employed over 45,000 workers specializing in crop production, animal health and resource management. When it reaches it's goal of 3 workers per *kebele* (ward), it will have the lowest

[50] Ibid, 4
[51] Ibid, 5
[52] Teshome, 9
[53] Ibid, 4
[54] Ibid, 4

employee to farmer ratio in the world.[55] Despite ambitious efforts to establish this program, it has experienced many drawbacks as farmers with small holdings in impoverished conditions became indebted when a bad harvest made them unable to repay their loans. Others simply did not participate because it was too expensive.[56] The early 2000s saw a collapse in food prices and a subsequent reduction in the use of fertilizers by farmers. This, of course, led to lower production levels.[57] While it has certainly experienced drawbacks, the government is still promoting this program which currently has over 7.3 million participants.[58] A recent survey revealed that many farmers still do not participate in the program because they do not have enough money, or do not have enough arable land to qualify.[59] While focusing on inputs like fertilizers, herbicides and improved seeds, this program has largely ignored irrigation, with only 1.3% of total cultivated land in Ethiopia covered as of 2015.[60] Several aspects of this program are problematic. First, restricting loans based off of property size means that the poorest farmers have no chance at social mobility. Second, by focusing on supplying Green Revolution inputs like improved seeds, fertilizers and herbicides that can be disrupted by adverse weather and market conditions, instead of inputs like irrigation which can insure a harvest, this program is essentially channeling smallholders into debt. A further reason that this is problematic is the fact that inputs determined by extension services are supplied and controlled by the government and state-owned companies.[61] This prevents farmers from seeking out alternative inputs or from taking advice from NGOs, which must be partnered with extension services.

[55] Kassahun et al, 200
[56] Teshome, 8
[57] Gabre-Madhin, 5
[58] THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA: CENTRAL STATISTICAL AGENCY, 10
[59] Ibid, 288
[60] Ibid, 9
[61] Kassahun et al, 204

While it acknowledges the failures of this approach, the PASDEP appears to simply give up on the notion of smallholder farmer viability, instead looking to support them with safety nets and continued reliance on foreign aid. This document appears to be a compromise or stalemate between two groups. One group, composed of the Ministry of Finance and Economic Development (MoFED) and the World bank were promoting a focus on commercial agriculture initiatives while the other group, made up of technical and ministry representatives pushed for a continuation of the extension technology packages which had seen limited success under the SDPRP.[62] Ultimately, neither of these propositions appear to provide a sustainable solution to the problems facing Ethiopia.

The somewhat contradictory emphasis of this document suggest that there is not a clear focus or plan. In summary, it seems that the government has continued to support smallholder farmers, even though it does not believe that they have any potential to contribute to development. Drawing upon the experience of Polak and IDE, it appears that neither of these approaches recognize the potential of smallholder farmers. On the one hand, there is no reason to believe that a continuation of the extension credit services that were formed during the early 2000s will not continue to cause farmers to become indebted. On the other hand, there is great reason to be skeptical about the supposed benefits of a commercialization pathway for agriculture. Should agricultural companies be allowed to accumulate land, it is likely that it would result in the displacement of all of the previous owners. Many liken this to a return to feudalism with landowners and landless farmers. Another criticism is that there is actually an inverse relationship between farm size and productivity. This was witnessed in the state farms of the 1980s.[63] Commercialization also raises the question of long term social and environmental costs.

[62] Teshome, 8
[63] Teshome, 9

After adopting agricultural commercialization as a development approach, neighboring Kenya experienced pollution of ground water and issues with labor and payment conditions.[64] These environmental and social costs need to be taken into consideration. Lastly, the supposed trickle-down effect of agricultural commercialization is not only unproven, but also very unlikely to happen in Ethiopia given its present demographics and development status.[65] While commercialization may lead to an immediate bump in GDP, it is likely to be temporary and not actually contribute to sustainable poverty reduction.

The efficacy of a nation's development is largely contingent upon its transparency and commitment to the betterment of its people. In Ethiopia, these values are not always upheld. Small farmers often being those with the least say in the political arena can be harmed the most when a state is predatory. In Ethiopia – a nation that believes the state should play a central role in guiding development, transparency should be more important than ever. Unfortunately, corruption does loom large, with Ethiopia ranked 111th out of 173 countries in the 2013 addition of Transparency International's corruption perception index.[66] Bribery and careless spending are common occurrences. This political economy environment has only directed small amounts of domestic surplus into development investments which actually help the poor. In 2005, hundreds of millions of dollars were spent on urban project and in the import of luxury goods while vast amounts of the rural poor were suffering from a chronic food deficit.[67] To actually revitalize a lagging sector, the government will have to undergo major changes or simply be bypassed by more socially effective actors.

[64] Ibid, 11
[65] Ibid, 9
[66] Tura (2016)
[67] Ibid

Being able to produce a greater quantity, or higher value crops means nothing to a farmer unless he is able to transport them to market. At the moment, Ethiopia is defined by weak market integration and high transaction costs.[68] Focusing only on improvements in farming while ignoring other systemic issues will only mean a continuation of past failures. Market failures in Ethiopia can largely be attributed to a lack of standards and certification. This means that goods are often inspected and repackaged at numerous points, leading to handling costs averaging 26% of the final price.[69] In addition to the costs of contract enforcement and information search, these costs make investments in domestic processing very unattractive. At present, less than 5% of Ethiopian grain is processed industrially.[70]

Ethiopia has experienced three major agrarian reforms just within the last few decades. This lack of stability and consistency can be pointed to as a contributing factor to poverty as security of tenure is a necessary precondition for intensifying agricultural production.[71] The nature of land ownership has significant implications for farmer livelihood. Presently, the government of Ethiopia still officially owns all land. As with the PASDEP and SDPRP, much of the justification for this is contradictory. Some reports cite examples of large-scale Saudi Arabian investments in agricultural schemes that displace local farmers, the justification being that agricultural output could potentially be doubled.[72] At the same time, however, the government justifies it's continued ownership of land by claiming that, "land policy prevents land consolidation and the emergence of powerful economic actors who might threaten the ruling party, while ensuring the dependence of the rural population on the state for land access." It goes on to say that this can provide social protection because land consolidation can mean exploitation

[68] Gabre-Madhin, 4
[69] Ibid, 4
[70] Ibid, 4
[71] Teka et al. 944
[72] New African (2012)

of poor farmers.[73] Recent occurrences seem to disprove the legitimacy of this statement as the government has been evicting small farmers to expand urban centers and allowing for the entry of large-scale private commercial agriculture.[74] Clearly, government ownership of land coupled with the ideology of growth through large scale agriculture has created a dire situation for smallholder farmers. The unpleasant reality is that groups like pastoralists who have been historically and socially marginalized are taking the brunt of the current food crisis.[75] In addition, this lack of assurance prevents small farmers from making investments in things like irrigation and soil health.[76] Now, more so than ever, these farmers are treated as a population to be propped up or moved aside.

Techniques for Smallholder Farmers

The approach advocated by Paul Polak and IDE addresses many of the failures Ethiopia has experienced and could provide a more favorable solution than the approaches recommended in the PASDEP and SDRPD. While the current extension package program is intended to provide smallholder farmers with resources, its implementation in Ethiopia has been flawed. By applying the lessons Paul Polak learned from his many years of working with small farmers, this extension program could become more adequately equipped at increasing farmer's yields while decreasing their likelihood of defaulting on loans. Changes to this program should consist of a move away from the promotion of high cost "advanced" seeds, fertilizers and herbicides towards technologies that can insure water provision. Polak reports that smallholder farmers around the world have consistently told him that water for their crops is the most important thing they need

[73] Tura (2016)
[74] Ibid
[75] Tura (2016)
[76] Bekele et al, 450

in order to move out of poverty.[77] For Ethiopia, a nation plagued by drought, this is the most logical solution to address the most urgent need.

The most plausible means by which these approaches could be implemented are through Ethiopia's pre-existing extension package program. Other routes could be NGOs or social enterprises such as IDE. As will be discussed later, farmer initiative is also crucial to the sustained effectiveness of this initiative. If the government initiated extension package were to implement these changes, it should involve a shift to agriculture that is more knowledge intensive rather than input intensive.[78] This would require the creation of training and education programs that supply information on new crops or more complex crop mixes.[79] IDE's training method which shows farmers how to use drip irrigation systems and smart nutrient management required 6 sessions over the course of 3 months.[80] One aspect of the PASDEP that will go a long way in smallholder farmer-centered initiatives is the acknowledgement that Ethiopia is composed of diverse ecological regions and that each region requires a different approach.[81] Knowledge acquisition should, therefore, be tailored to each region's characteristics. Farmers should be assisted in determining several crops that they can grow off-season through the help of irrigation systems. By producing in the dry season, they can receive a much higher price for their crops.[82] Another critical approach is the inclusion of cheap water-lifting, storing, and distributing technologies in Ethiopia's extension package programs. The systems, developed by IDE and other organizations, are made in the most rudimentary designs so that they can be affordable to smallholders. In addition, it would be wise to encourage agro-ecological farming methods – a

[77] Polak, 102
[78] Osterveer et al, 263
[79] Halweil, 38
[80] Polak, 118
[81] Teshome, 4
[82] Polak, 129-30

form of farming that is generally more labor intensive, but can produce higher per-hectare yields while maintaining soil health. Because small farmers have limited land and often practice subsistence, they are hit hardest by soil degradation. Lastly, in order to become a mechanism that can benefit the most impoverished, the extension package program must expand to include those with the smallest holdings. This may, of course, require a more concerted effort, or more NGO involvement and activity. A distinctive aspect of these approaches is that they are not simply safety nets, but means by which farmers can increase their income without taking out loans they cannot pay back. Once they have earned enough income, they have greater mobility and are free to choose another livelihood if they see fit. Contrasted with the forced relocation of smallholder farmers from land destined for large commercial operations, this method provides a far more socially and economically sustainable alternative.

Markets that Benefit Rural Development

Smallholder farmers cannot receive the benefits of producing a surplus unless they have a place to sell it. Inhabiting rural areas, devoid of infrastructure, most small farmers in Ethiopia have little control over or understanding of what a fair price for their crops actually is. For this reason, they often produce for subsistence, sell in local, informal markets to family, friends and ethnic connections,[83] or sell to whomever is available to transport their produce to market. Discovering a way for markets to work for smallholder farmers instead of constraining them is crucial to enabling their contribution to development and greater food security. While there are initiatives that smallholder farmers and rural communities can take to participate more actively in markets, access to markets is largely determined by external factors and preexisting infrastructure.

[83] Gabre-Madhin, 4

Determining a way to more firmly establish the informal markets and food systems that already exist throughout rural Ethiopia could prove to be an effective initiative for smallholder inclusion in the immediate future. Similar to the original conditions in Wanju-gun, rural Ethiopia is faced with an unnatural business structure, lack of variety in employment and poor social services. Wanju-gun was able to experience its success in large part through the creation of a middle-support organization which insured that links in the food chain were coordinated. The key process in this involved determining what local farmers were most effective at producing and then developing processing to meet that need. An additional role that organizations like this can play is the coordination of procurement programs or contracts, similar to those in local food systems in Europe. In Ethiopia, this type of role could be taken up by local government or simply be coopted into the existing extension program. One feature that can have a deep impact on rural development is the establishment of local processing.

> "For the developing world in particular, local processing capacity not only offers an opportunity to make extra money, but also helps to maintain the supply of food throughout the year." Relatively simply drying, canning pickling, and other processing techniques allow a family to "put up" food for a later date - a form of insurance against crop loss or the seasonal dip in availably between harvests, and a potential solution to the large quantities of food currently wasted around the world due to poor transportation and storage."[84]

Polak agrees, stating that Small-Acreage farmers need a range of post harvest processing tools that can add value at the farm or the village level.[85] This, in turn, can provide more jobs at the village level and lead to a positive multiplier effect.[86] Another important feature is the establishment of more marketing options. Currently, farmers in remote areas only have the option to sell at stands, or to hawkers and wholesalers.[87] The ability to transport crops is another

[84] Halweil, 43
[85] Polak, 72
[86] Ibid, 153-154
[87] Ibid, 127-128

crucial feature in establishing functional local markets. Similar to the adoption of low cost inputs in farming, the same approach should be taken for transportation. Modes of transpiration such as motorcycle trailers, donkey carts, and rickshaws are especially suited for areas with poor infrastructure and can greatly increase a farmer's income.[88]

The transition into markets can often be somewhat risky for farmers who depend on subsistence for survival. This paper does not advocate the production of specific crops, or even of market oriented production over subsistence farming, recognizing that farmers are faced with different growing conditions and varying infrastructural challenges. Generally, farmers understand their situation best and should, therefore, grow what will give them the most value for the least risk. Because many do not have proper access to markets and cannot be assured payment, they may have to rely on subsistence methods until they can access markets effectively. Ultimately, they will be presented with more opportunities once they can trade in a market, but this must be done in a risk-free way. Farmers can best mitigate risk by diversified production and gradual adoption. The later method entails first converting a small portion of land to a selection of high-value crops for sale. Taking note of the potential success of this trial and the availability of buyers, farmers can continue to expand.[89] This approach should be the modus operandi for extension programs rather than encouraging an immediate and full market integration.

The Role of Government

Ethiopia has come a long way in the past few decades, experiencing remarkable growth in the most recent one. While the government has stated very ambitious goals for agriculture, they are often contradictory, some favoring smallholders and some leading to their displacement and further marginalization. This paper asserts that agricultural development in Ethiopia must

[88] Ibid, 152
[89] Polak, 129-130

involve smallholder farmers to ensure sustainable growth and greater food security. Instead of arguing for an alternative global economy, I have attempted to find solutions on the national level that work within the prevailing neoliberal context. In the case of Ethiopia, instead of full integration or full insulation, I argue for selective integration with a focus on developing beneficial, local economic linkages and solutions. Ultimately, farmers should be able to determine for themselves how much they want to integrate. To achieve the goals of food security and sustainable growth through smallholder participation, the government must reevaluate its overarching role, implement new policies and enact and modify existing initiatives.

The overarching role of government in Ethiopia needs to emphasize support of local initiatives, the protection of smallholders from potentially predatory external forces, a move away from dependence on aid and an emphasis on combating corruption. Much of what proved successful in European local food movements reflects a responsiveness on the part of the government to the needs of rural communities. This type of responsiveness, as opposed to a purely top-down system is more likely to be sustainable because it reflects the actual needs of farmers and rural business owners. In a practical sense, this could take the form of increased funding for local community initiated projects as was the case in several countries in Europe.[90] In Cuba, state power was essentially transferred over to farmers. In Ethiopia this may require a greater responsiveness on the part of the extension program which has been shown to stifle grassroots initiatives.[91] A move away from dependence on aid is also crucial to achieving sustainable growth. Ethiopia is currently one of the most food aid dependent countries. This can be attributed to both external and domestic factors. One is simply the fact that Western nations are in no rush to eliminate markets for their food surpluses. Domestically, this aid trap means

[90] FAAN, 47
[91] Kassahun, 212

that farmers have no incentive to develop key skills or invest in new technologies.[92] In the first half of 2012 alone, more than 3.2 million Ethiopians required food aid.[93] This figure may be even higher now with the extent of the drought. Combating corruption is crucial to enabling a system that is less reliant on external aid. With bribery and careless spending being common practice in Ethiopia, the most urgent, long-term needs will not be met. In addition, large donors such as the UN Development Program are only willing to coordinate with governments that they deem stable and free of corruption.[94]

This type of environment, where government officials are looking to benefit financially, is often where multinational corporations can be most damaging to smallholder livelihood. While multinationals are very effective at increasing GDP and fueling trade, it is important to determine if their presence actually promotes the goals of a nation. Harvard Economist Dani Rodrik states that "Trade is a means to an end, not an end in itself…Globalization should be an instrument for achieving the goals that societies seek: prosperity, stability, freedom, and quality of life." Rodrik advocates that countries should be able to pursue these goals through raising trade barriers if necessary.[95] This method, after all was successfully used by the US during the 19th century as well as many East Asian countries post WWII.[96] The presence of crop subsidies in developed nations threatens those who's livelihood is most fragile in Ethiopia. Because fully blocking transnational participation in the Ethiopian agricultural economy could greatly constrain growth, it is important for the government to let them in, but ensure that they conduct business in a way that works to the benefit of rural farmers. Currently, the private sector is not investing

[92] Tura (2016)
[93] Kassahun, 201
[94]Polak, 186-187
[95] Rodrik, 240-241
[96] Gibson, 57

significantly in local food businesses.[97] This indicates that the government must selectively seek out willing investors, or promote initiatives from within.

To effectively involve smallholders in the development process may require the formation of new institutions and initiatives or simply the enhancement and modification of preexisting ones. Extension package programs have certainly been effective at bringing inputs and knowledge to farmers. By modifying this program to reflect the changes recommended by Polak, it could provide more suitable inputs and knowledge and go a long way in activating the potential of the millions of smallholders across Ethiopia. In addition to modifying the extension program, the formation of village level, middle-support organizations, similar to the one in Wanju-gun Korea, could catalyze food chain linkages and promote local value-added processing. A component of these organizations could be increased funding or micro-loans for local-initiated projects similar to partnerships that exist in Europe.[98] In addition, middle support organizations could connect small farmers with businesses at the local and urban levels. It is possible that this initiative could make up for the lack of investor interest in local food businesses. This would not only ensure steady contracts to farmers, but would also create economic benefits from the presence of local industry. Lastly, it is crucial that Ethiopia undergo land reform to ensure the security of smallholders and incentivize them to invest in more intensive production. While this would ideally entail the full privatization of land, a step in that direction would simply be the cessation of forced land redistribution. In summary, the government needs to reaffirm its commitment to and support of smallholder farmers in order to invest in sustainable development and long-term food security.

[97] Halweil, 53-54
[98] FAAN, 47

Conclusion/ Discussion

The results of my research indicate that there are very realistic solutions to the economic and food insecurity faced by smallholder farmers. These solutions acknowledge the failure of Green Revolution approaches, advocating instead for knowledge intensive, rather than input intensive agriculture. The inputs that it does advocate are inexpensive and involve little risk - inputs that mitigate the volatility inherent to agriculture. Ethiopia has initiatives in place that could easily accommodate this change, but a shift in focus would require a greater analysis of the most urgent needs of smallholders, as well as better responsiveness and commitment. The extension program, which is already well established even in remote areas, could be the vehicle for this change. Currently, this program is inefficient, only providing selected inputs that are decided by the government and state-owned companies. For the most part, these inputs are not suitable for smallholders, causing many of them to become indebted. Several other factors contribute to the continued stagnation of smallholder development. Lack of land ownership coupled with a state has been known to displace smallholders in order to establish large, commercial farms contributes to the continued marginalization of smallholders. In addition, the continued reliance on food aid has discouraged concerted efforts to develop. A more sustainable alternative is to establish middle-support organizations that connect farmers with local processors and provide loans to build rural infrastructure. If the current inefficiencies and development mindset persists, it is likely that continued urban-rural stratification will persist and development will remain stagnant. Only by using an approach that is cognizant of the potential of smallholders, will development be set in motion.

Globalization has created a dynamic in which those with mobility, information and capital can greatly benefit. Smallholder farmers in remote locations often possess none of these, and are severely handicapped as a result. Ensuring that they do not become further marginalized by this system will require a concerted effort to develop solutions that give them access to mechanisms for growth. It will also require that governments acknowledge this dynamic and take appropriate steps to mitigate it. The baseline measure that Ethiopia should take is the protection of smallholders and rural communities from predatory practices, whether from within the state, or at the hands of transnational corporations. From there, aggressive efforts should be taken to activate the potential of smallholders and come alongside local grassroots development initiatives. In this way, some of the most harmful effects of globalization can be prevented, and Ethiopia can develop in a more equitable way.

One thing that surprised me throughout my research was the sheer number and scope of agricultural initiatives and development plans that have been launched in Ethiopia. It is clear that there are many government officials who understand the importance of working to support Ethiopia's farmers. At the same time, however, I was surprised at the failures that have occurred within many of these initiatives. It is clear that the ideology behind many development plans has not undergone a complete shift away from Green Revolution strategies.

I believe that the conclusions of this paper have global implications for a vast number of the world's population. Considering that 800 million people make a living on small, rural farms[99], and that 85% of all farms are smaller than 5 acres,[100] this is not a minor issue. For nations with a high population of small farmers, it is paramount that they not only be aware of the nature of small farmer vulnerability, but also develop comprehensive measures to place them

[99] Polak, 30
[100] Ibid, 119

in a central role in the development process. While not all developing nations have similar governments to Ethiopia's, they face similar challenges of corruption, lack of infrastructure and unfavorable market conditions. The plight of smallholder farmers is not just reserved for developing nations, but for remote areas throughout the world. As is the case in Europe and Korea, networks had to be actively formed between farmers and local businesses and processors. In the future, this process of forming local food chains and creating synergy in local food industries will be crucial in maintaining rural viability and food security.

Additional Research

The arguments within this paper are largely based off of a qualitative analysis of past food system models and ideologies, instead of quantitative data. While I believe that this approach is most suited to the topic, it would be valuable to have quantitative data for future research. Specifically, more research needs to be conducted on the domestic multiplier effects created by urban-rural linkages versus those created by industrial, export based agriculture. In addition, more extensive research needs to be done on the long-term economic effects of rural displacement. Lastly, more academic attention should be focused on the concept of decentralized development. In summary, the harmful effects that globalization has had on the remote and rural should spark a concerted effort to determine practical solutions.

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