

Prospects and challenges of floriculture industry in the context of agricultural transformation in Africa: Evidence from Ethiopia.

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KEYS ISSUES & RECOMMANDATIONS FOR ACTION

The cut flower sector has the potential to promote agricultural transformation in Sub Sahara Africa. Growing public concern about the effect of pesticides on health and the environment has prompted some governments to use integrated pest management as an environmentally friendly form of crop production. Alternatives to chemical control of pests, such as biological control methods, organic agriculture, & integrated pest management should be further developed, disseminated, and reinforced through policy reform and comprehensive human and institutional capacity

The floriculture industry has been identified as one of the industries with an opportunity to grow and contribute positively to the agricultural transformation and economy of Ethiopia. Action in response to threats of chemical pesticide use on human health and environmental damage should not be delayed because of the lack of full scientific certainty.

Today, the flower sector in Ethiopia is exposed to the social & environmental unsustainability associated with intensive use of pesticide, water & waste disposal. Securing the sector & economic sustainability and climate-resilient investments are not conflicting, but rather mutually reinforcing. Trade-offs in the management of conflicting environmental, social or economic goals should always be considered in the light of principles of sustainable development.

Promoting local investors and/or diasporas with the same incentives schemes for foreign investors, through public-public and public-private or private-private partnership and cooperation as a case may be. Multistakeholder platforms at the national level may also be set up to facilitate inclusive discussions on agricultural investment. A number of proven models for public-private sector collaboration have emerged at national and continental level.

A comprehensive environment Impact assessment (EIA) of the flower industry be carried out by the government and other regulatory bodies and the Ministry of Social and labour affair and ILO should address the issue of workers safety and health in the flower farms to enforce the labour laws. Strong labor union put pressures on growers to improve social sustainability (safe working condition, living wages, freedom of association. An independent body be instituted to work with civil society to monitor compliance and code of conduct/mandate of flower farms and to intensifies campaigns to provide appropriate protective gears to their workers.

Comprehensive human and institutional capacity-building measures, such as training, education, awareness raising, facilitating access to information and conducting regular surveillance and monitoring activities by NGOs. For instance, the Ethiopian Horticulture Producer Export Association should explore the possibility of exporting organic flowers to European & other markets to expand organic flower growing in Ethiopia.

The state regulatory system has revealed an inability in controlling importation of toxic chemicals toxic to the environment and workers for higher risks. The government's political commitment in this regard has never been observed in the floriculture industries, where there is no supervision or monitoring at all. It requires for a strong political commitment from governments to be responsive and to apply registration for pesticides imported by flower growers.

1- EXECUTIVE SUMMARY

Agriculture remains an important sector of the African economy and the daily lives of the majority of Africans, accounting over 60% of jobs and ranging from 3% to almost 50% of GDP across the continent. Ethiopia is the second most populous country in Africa; agriculture plays an important role in Ethiopia's economy and provides livelihood for a growing population. Arguably, the Ethiopian economy has registered impressive growth over the past two decades and the country has embarked on export promotion as a part of a vision to become a middle-income country by 2025. The focus on export promotion has largely been on the light floriculture sector. In line with this, the floriculture sector is booming in Ethiopia making the country the second largest exporter in Africa and the fifth largest supplier of flowers to the global market. The sector has turned in to among the five top foreign exchange earning commodities and also provides employment opportunity for hundreds of thousands of individuals. Despite the enormous economic advantages of the Ethiopian floriculture industry, environmental and social unsustainability are indeed growing. This policy brief is motivated by a desire to understand the prospects and challenges and the policy issues arising and attempts to deal with them and, finally, the implications of the growth and how it has occurred for other African countries targeting growth in cut flower as a developmental priority. Thus, this brief aims to answer whether the Ethiopian cut flower industry can be a positive example of sustainable agriculture. Using the theoretical framework of sustainability along agricultural commodity chains, data are collected from framers (growers), state experts, greenhouse workers, and consumers through in-depth interviews. The overall result reveals that the current production practices are failed to satisfy two of the main criteria for sustainability. The economic benefits of the flower industry come at the expense of farmworkers' health and safety and the environment flower farms have private regulations (code of practice) to comply in order to prevent workers and the environment from becoming negatively affected, however many of these standards are not followed the way they should. This policy brief argues that economic, environmental and social policy agendas are interlinked and not incompatible. There is some evidence that environmental sustainability may be a necessary pre-condition of sustained economic growth.

Finally, this brief recommended that promoting sustainability in cut flower production requires critical consideration of agricultural technologies and identification of best practices (i.e biological control & organic farming) and strong frameworks for collaboration and mutual accountability and transparency between chain actors (the government, growers, NGOs, and consumers) related to safe and proper use of use of pesticide, water and social justice.

2- CONTEXT AND IMPORTANCE OF THE PROBLEM ADDRESSED

2.1 KEY POLICY ISSUES OF AGRICULTURAL SUSTAINABILITY: A CASE STUDY FROM THE ETHIOPIAN FLOWER INDUSTRY

Despite its central role, the agriculture sector in Africa including Ethiopia faces many new challenges such as environmental risks, low level of market integration, poor infrastructure and policy implementation. The agricultural transformation agenda is a set of interventions that solve systemic bottlenecks within the agricultural sector to catalyze transformation from a subsistence oriented, low output agricultural sector to a high performing sector well integrated into the national economy and to do so in an environmentally sustainable and inclusive manner. For instance, the conditions for agricultural transformation are beginning to materialize in a number of African countries such as in the horticulture including cut flower in Kenya, Ethiopia and Uganda. It has been observed that the inclusion and adoption of horticulture in agricultural production is capable of transforming the nation & economy. By the same token, the three pillar concept of sustainable development (planet, people & profit) has proved to be useful analytical tool for exploring the prospects and challenges of the cut flower in Ethiopia. The key findings are divided into economic, environmental and social impacts to reflect the three aspects of sustainable agricultural development.

2.1.1 ECONOMIC SUSTAINABILITY OF THE CUT FLOWER

The flower sector has stated to show a significant contribution to the Ethiopian export sector, beginning in the mid-2000s. Ethiopia's current (2016) exports have reached about US\$225 million. Currently the sector provides employment for 180,000 workers, of whom about 80 percent is female (EHPEA, 2016). With this much of sectors development the sector is recognize as new engine that drives job creation and innovation. Regarding market access, growers can enter global auction markets for flowers if they satisfy the minimum requirements (which are relatively easy) and sell their products.

However, the case is different for food items like fruits and vegetables. The market for food items requires direct sales (no auction market), which requires searching for and dealing with buyers. In addition, international stringent standards to enter markets of developed country are less stringent in the flower than in the food items. Hence, any export of food items should fulfil international standards, which are mandatory as compared to the voluntary standards for the non-food items, including flowers.

2.1.2 ENVIRONMENTAL SUSTAINABILITY CHALLENGES

Environmental implication of floriculture is related with the intensive use of pesticide use and water and improper waste disposal. The use of pesticides has proved to be very beneficial in agriculture since they lead to improved productivity due to protection of crops from pests and diseases. However intensive use of pesticide is blamed as an environmental challenge in agriculture including in the floriculture production. For the roses alone, more than 212 types of pesticides with different active ingredients were used (Joosten, 2007; Sahle & Potting, 2013). All interviewed growers reported the use of pesticides that the WHO classifies as Class II (highly toxic) & III (moderately toxic). Although none of growers reported the use of Class I-pesticides, some growers nevertheless still use WHO class I active ingredients. Besides, some pesticide that entered for the flower industry is found on the WHO negative pesticide list (prohibited/unknown on the European Union Pesticide Database (EUPDB, 2015). The other problem facing the environment today is related to intensive use of water. Although accurate scientific data is not available, it is often said that the proximity of farms and the lack of technology about how to treat agro pesticides causes contamination of water and overuse of groundwater (Metaferia, 2009; Tilahun, 2013). In general, unsustainable exploitation of water may lead to unforeseen problems such as arsenic contamination of drinking water in Ethiopia and contradict with the principle of 'Blue Economy', sustainable use of water resources for economic growth. The other concern in the flower industry is unsafe management of solid and liquid wastes. Flower farms in Ethiopia have been heavily criticized for not having adequate means of waste management systems.

2.1.3 SOCIAL SUSTAINABILITY CHALLENGES

On the social front of sustainability challenge is the conditions of workers in the flower industry have come under persistent attack in pesticides short and long term effects on workers' health. Pesticides can cause cancer, birth defects, reproductive and nervous system damage, and floriculture workers are exposed at numerous stages of plant growth (WHO, 2011). There are few studies or statistics found about pesticides use and over health effects in the flower industry in Ethiopia. For instance (Negatu et al. 2017) performed two cross-sectional surveys comprising different farming systems among 1491 subjects. They found increased risks for chronic cough and shortness of breath among the exposed subjects. Their findings indicate an increased risk of adverse respiratory health among workers exposed to pesticides. In this study, from interviewed 180 workers in 29 farms, I found that personal protective equipment is provided in most (67%) farms while 33% farms of workers use their own clothes and some old and torn gloves to protect themselves. Most sprayers were provided with spray suits (overalls) (71%), rubber boots (68%) respirators (62%), and impermeable gloves (57%). However, only 13% of the sprayers were provided with impermeable goggles. Some PPE items were rarely used since they hindered the speed in spraying (47%), were uncomfortable in the humid climate (53% or made it difficult to breathe properly. All sprayers reported incidents of pesticide-related health symptoms including eye irritation, permanent sight reduction, skin irritation, headache, and abdominal pain after routine pesticides application. All growers reported to have a workers' union and 81% of the workers said they are member of such associations. These workers' unions function very differently; while some are virtually non-existent, a few others strive actively to change working conditions. Wage is a crucial issue and vital for workers. However, the industry is paying the workers shockingly low wages. All (100%) respondents are dissatisfied with their wage. The majority of workers earned between 18-30 ETB (approximately \$0.9-\$1.5) for an 8 hour working day. Besides the aforementioned problems, other social issues like grievance, harassment, safety concerns about travelling home at night, sick leave, inappropriate punishment, dismissal, deductions from pay and related problems are repeatedly mentioned in many flower farms.

3- POLICY ISSUES ARISING AND ATTEMPTS TO DEAL WITH THEM : OBSTACLES, DRIVERS AND IMPLICATIONS IN PRODUCING SUSTAINABLE FLOWER

3.1 WEAK LAW FOR STRONG INDUSTRY

During the last decade Ethiopia developed many policies and laws that link to improving the environment such as the pesticide registration and control proclamation (PRCP) No 674/2010. However, are there gaps between the policy made and the actual implementation to improve environmental outcomes (Mengistie et al,2015). This brief also revealed that the cut flower industry is not properly regulated by the Ethiopian government. For instance, (i) the government made an interim arrangement allowing flower growers to import unregistered pesticides (ii) a lack of specific laws to regulate the sector, (iii) a lack of commitment to enforce relevant laws, (iv)the government provides long-term credit on very generous terms (Getu, 2009). Besides, flower farms have private regulations (i.e EHPEA code of practice) to comply in order to prevent workers and the environment from becoming negatively affected, however many of these standards are not followed the way they should be and thus put at risk the environment and health and safety of workers. Critics on industry self-regulation suggest that without explicit sanctions, such structures will fall victim to opportunistic behavior. By the same token, even at the international level regulatory standards are generally weak cut flowers have loose regulatory status in the importing countries because they are not edible crops and are exempted from regulations on pesticide residues, hence they are not inspected for residues though they carry 50 times more the amount of pesticides allowed on foods (Kargbo et.al, 2010; Tenenbaum, 2002; Donohoe, 2008).

3.2 IS ENVIRONMENTAL & SOCIAL CERTIFICATION A VIABLE OPTION FOR SUSTAINABLE FLOWER PRODUCTION ?

Given weak state capacity and lenient environmental and social regulation in many developing countries third party certification is an important alternative for remedying some of the negative impacts of global supply chains in the South. In all at least 20 different certification and labeling schemes social and environmental and/or standards launched world-wide in cut flower export (Grote,1999; Riisgaard,2009) such as Fair trade, Ethical Trade Initiative, MPS-ABC, MPS-SQ , Fair Flower Fair Pant, EHPEA code of practice among others. In Ethiopia some farms have all of these and some have none. The majority have at least one certification. This brief reviews the different literatures with respect to their impact on trade and their effectiveness and ability to improve environmental and social

conditions. Studies by Humphrey (2008) in Kenyan horticulture and Mengistie et al.(2017) in the flower industry of Ethiopia presented support the notion that the adoption of emerging certification on standards can play a positive role by serving as a catalyst for promoting a positive image and act as reputation insurance against negative events. But it is hard to see how certifications make a visible difference in ground or reality in terms of safety for the environment and workers health.

3.3 WHO IS DRIVING THE SUSTAINABILITY AGENDA IN THE CUT FLOWER INDUSTRY?

Nowadays sustainable flower production is an issue for growers. What is the role of different stakeholders (growers, traders, consumers, certification schemes, governments, and NGOs) in improving social and environmental conditions and what is at stake?. Accordingly, the principal actors involved in shaping sustainability of the flower industry are the government agencies. Arguably, in this case most effective government intervention in monitoring at farm level makes pathway more important. In addition, sustainability is nowadays a criterion for the consumer and important for companies. The green consumer is becoming environmentally conscious and aware of workers' rights. Western consumer pressure combined with trade union action has had a significant impact in improving workers' working conditions and environmental management. This scenario support the inclusion of both boycotting (punishing business for unfavorable behavior) and buycotting(rewarding business for favorable behavior) measures in future. This brief reflect more generally on the ways in which all players in the global flower supply chain should feel responsible for fair social and environmental conditions and act accordingly. This can only be achieved through transparency and tractability of the entire supply chain approach.

3.4 WHO PROFITS? WHO HAVE BEEN BENEFITED NOW AND HOW MIGHT THE DISTRIBUTION OF BENEFITS CHANGE IN FUTURE?

It would not be an exaggeration to say that every stakeholder involved in Ethiopian floriculture at this point has benefitted in some way. Ben Taylor (2011) on his research on 'Ethiopia's growth set to bloom? A global production networks analysis of an experiment in economic liberalization' addressed the question of who profits as follow: Firstly, labourers have taken their cash income from ranges from \$1 to \$2 per day, with little opportunity cost as this has occurred through a utilization of surplus labour, which represents a huge percentage increase in their incomes and a probable increase in the food security of their households. Secondly, from a government perspective, benefits to this point have come primarily in the form of foreign exchange, a highly desirable feature of a new industry in a country with a severe balance of payments deficit. Besides, the government has seen employment

created in rural areas and will, in future, receive significant tax income from the industry if it remains. Thirdly, the majority of domestic investors have entered an industry in which they previously had little or no experience. They have acquired knowledge from experienced foreign investor in the industry to allow some of them to be successful. Fourthly, the infrastructural improvements through CSR such as construction of school, healthcare, road which, whether financed directly by the farms or by government in order to facilitate exports from the industry, have facilitated the marketing of surplus produce by smallholders, further contributing to food security.

By the same token, some of the general critiques applied to floriculture in Ethiopia are relevant for developing countries. (i) In terms of the direct impact on the poor, the integration of smallholders into export markets is near impossible with flowers due to their knowledge and capital intensive nature (ii) Critics have noted the distribution of benefits from floriculture as favouring large and commonly foreign companies over local entrepreneurs and labourers. The industry is dominated by foreign ownership. (iii), Those whose land has been repossessed for lease to floricultural farms and those that have been affected negatively by the environmental and social impact of the industry and (iv) In relation to the direct impact of floriculture on the environment and human health if it continues to grow at its current rate in parallel with the growth of new export industries, devaluing the natural capital of the country.

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Belay Tizazu Mengistie studied PhD in Environmental and Agricultural Policy and Governance at Wageningen University of The Netherlands and MSc in Development studies from Addis Ababa University. Currently he is a senior lecturer and researcher at Addis Ababa University with a strong academic background and practical experience in teaching and researching in the areas of agricultural and environmental governance, policy and sustainability. He published a number of peer reviewed journal articles and policy briefs. He also attended many national and international conferences and trainings. He possess versatile knowledge, skill and experience on technical and policy issues with different developmental actors, stakeholders and partners. In his IDEP visiting fellowship programme, he aims to assess the opportunities and challenges of floriculture industry in the context a transformative approach in agriculture for African economies in general and for Ethiopian in particular.

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