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Towards Organic Agriculture: Assessing the Dynamics of Production and Exporting of Organic Cocoa in Tanzania

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Abstract

Global trade in agrifoods has changed dramatically in the past two decades due to changes in technology, increased competition and shifts in consumer demands, tastes and preferences in terms of food quality, food safety and other food attributes. As a result the demand for organic agricultural products has been growing in international markets. This paper reviews organic cocoa production and exporting in Tanzania using both empirical and descriptive approaches. The findings show a modest growth in production and export of organic cocoa in Tanzania for a period of 2005 to 2013. However, the growth recorded is below Tanzania's organic cocoa existing production potentials, and this can be attributed to lack of organic agriculture policy, shortage of expertise in organic farming and high certification costs charged by buying companies at present. Nonetheless, there exists a growing demand for organic cocoa in global markets and Tanzania produces high quality organic cocoa, implying the need to exploit this existing opportunity by expanding organic cocoa production and exports. Thus, the study recommends a revisit of the agriculture policy and other complementary policies to provide appropriate regulatory and policy framework for organic agriculture in a bid to unlock the potentials and address the challenges that face small-holder farmers.

Key words

Organic agriculture, organic cocoa, exports

JEL Codes: O13, Q13

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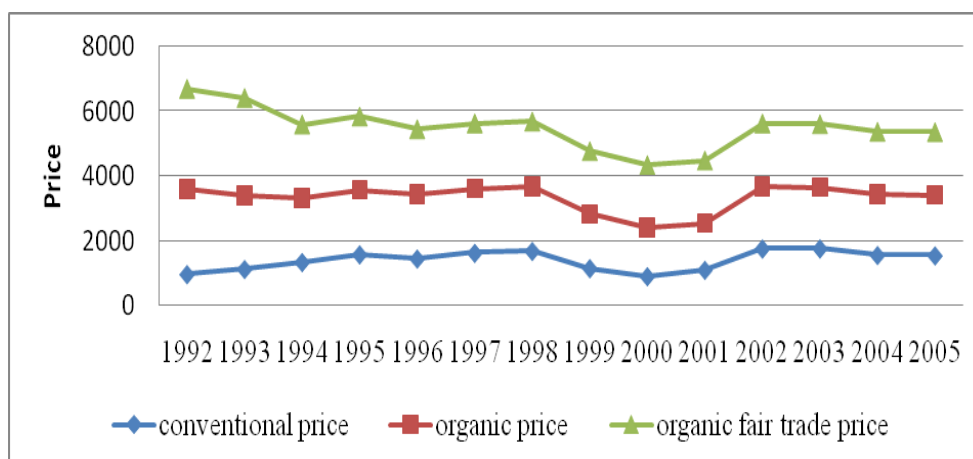
1. Introduction

Agriculture remains the key sector that carries the potentials to contribute significantly in poverty reduction strategies in developing countries. According to Christiaensen and Demery (2007), poverty reduction strategies that have been reviewed before show that agriculture does deliver more poverty reduction than other sectors, especially in the lower income countries (Africa included), because it has strong links with other sectors and because poor people participate more in growth from agriculture than in growth from other sectors. However, the performance of agriculture and its contribution to Gross Domestic Product (GDP) have not been impressive in many developing countries over years thereby constraining poverty reduction initiatives. For example in Tanzania, in 2015 the agricultural sector contributed 29% of GDP compared to 28.8% in 2014, despite being the largest employer in the country providing employment to 65.5% of Tanzanians and in favourable seasons, covers more than 100% of the domestic food needs (Deloitte, 2017). According to Rahmann (2018), there is a growing recognition among policy makers that organic agriculture has a significant role to play in addressing food insecurity, land degradation, poverty and climate change in Africa. Moreover, the shift towards retailer driven global supply chains for agri-food products and the provisions made to protect against Technical Barriers to Trade (TBT) and food safety in the World Trade Organisation (WTO) agreements have increased attention to the use of standards to regulate quality and production around the world (Loconto, 2010). In this context, pursuing organic agriculture is seen as one of the complementary measures to the low productive conventional farming and food production practices in African agriculture. According to the International Federation of Organic Agriculture Movement (IFOAM, 2008), organic agriculture is a production system that sustains the health of soils, ecosystem, and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.

The National Organic Agriculture Development Programme for Tanzania (2009-2015), states that by refraining from use of synthetic fertilizers, pesticides and pharmaceuticals, organic agriculture dramatically reduces the need for external inputs to agriculture. The numbers of certified producers and farmland under organic agriculture is increasing in Tanzania (Bakewell-Stone, 2006, Rundgren, 2008). Estimates of the certified land area in Tanzania indicate that that over 80,000 hectares are under certified organic production, with at least 36 companies and 65,000 farmers involved in producing organically in the country (The National Organic Agriculture Development Programme for Tanzania, 2009-2015). Equally, the organic market for a wide range of organic crops has been growing rapidly. For example, the state of sustainable markets report (2017)

states that organic market surpassed the US\$80 billion mark in 2015 and the leading countries were the United States of America (47% of the global organic market), Germany (11%), and France (7%).

On the other hand, UNCTAD (2015), states that organic agriculture is one of the fastest growing subsectors in the United Republic of Tanzania among all the five countries of the East African Community (EAC– Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania). One of the forms of organic agriculture that is conducted in Tanzania is organic cocoa farming. Kanyeka *et al.* (2012) argue that the distinctive flavour of Tanzanian cocoa has recently been attracting the attention of the international cocoa world. However, the country is yet to exploit its full potential because of poor planting, cultivation and processing techniques (yields are currently less than a half of those being produced in West African growing countries such as Ghana) and large production is concentrated in few districts. The international market for certified organic cocoa has grown rapidly for the past two decades particularly in Europe Union (EU) and North American markets. There is also an increase of global sales of organic chocolates. Consumers' preferences have changed from milk cocoa to high cocoa content, mostly dark and ranging from 45 percent to 72 percent. This is being driven by well publicized health reports (UNDP, 2010). According to International Cocoa Organization (ICCO, 2006), organic cocoa commands a relatively higher price than conventional cocoa, which should cover both the cost of fulfilling organic cocoa production requirements and certification fees. The differential in cocoa bean price between conventional and organic market represents the consumer's willingness to pay for an organic certified product.



Source: ICCO¹ (2005)

Figure 1. World Cocoa Bean Price (US \$/ tons)

Figure 1 shows the lower price for conventional cocoa compared to organic price. As the increase demand of organic cocoa in various organic markets, price of conventional produced cocoa tend to fall in cocoa international markets. For example in 1990s and 2000s, the major cocoa producers like Ghana, Cameroon, Ivory Coast, Brazil, Nigeria and Malaysia experienced drop in production of cocoa hence started to introduce organic farming in the production of cocoa (ICCO, 2006). ICCO, further estimates production of certified organic cocoa at 15,500 tons, sourced mainly from Madagascar, Tanzania, Uganda, Belize, Bolivia, Brazil, Costa Rica, Dominican Republic, El Salvador, Mexico, Nicaragua, Panama, Peru, Venezuela, Fiji, India, Sri Lanka and Vanuatu. Although demand for organic cocoa with premium price is growing rapidly, contribution of organic cocoa in this market is very small. The premium price paid to cocoa organic farmers ranges from US\$100 to US\$300 per ton. In the case of fair-trade cocoa, the essential characteristic is that producer organizations receive a higher price for their beans. The fair-trade price represents the necessary condition for the producer organizations to have the financial ability to fulfill the certifications requirements and to cover the fees. It is calculated on the basis of world market prices, plus fair trade premiums. The fair trade premium for standard quality cocoa is US\$150 per ton. Nonetheless, at present only a very low share of cocoa is sold with the fair trade label, representing about 0.1 percent of global production. The world sales of fair-trade certified cocoa stood at 10,299 tons in 2008. Moreover, 48 percent of all fair-trade cocoa sold worldwide in 2008 was also certified organic (UNDP, 2010). Therefore, the increase of demand in organic crops such as cocoa in the world market, offers an opportunity to Tanzania that needs to be explored in order to increase its exports and foreign currency. Hence, the main objective of this study is to assess the dynamics in organic farming by

¹ International Cocoa Organization (www.icco.org)

exploring production and export performance of organic cocoa in Tanzania and then highlight required policy measures to enable to take full advantage of the existing potentials in organic cocoa production.

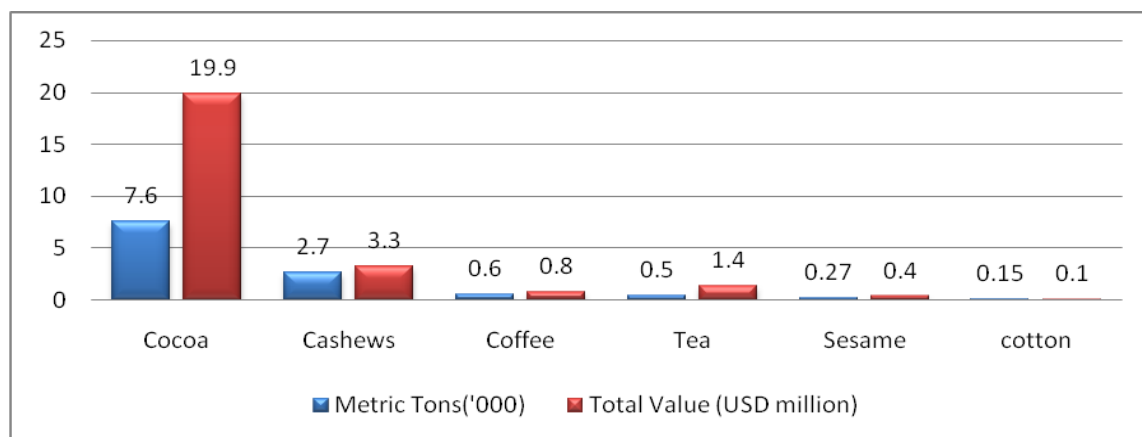
2. Data and Methodology

Secondary data, such as reports, article journals, and annual statistical data were obtained from various institutions. The sources include Tanzania Revenue Authority (TRA), Bank of Tanzania (BOT), Tanzania Organic Agriculture Movement (TOAM), International Cocoa Organization (ICCO) and International Trade Statistics. We use descriptive and empirical approaches in this review.

3. Findings

3.1. An Overview of Organic Cocoa in Tanzania

Tanzania started to produce cocoa in 1960s which originated from Cameroon and was introduced in Districts of Kyela, Rungwe and Kilombero. In 1997, Tanzania started to diversify production of cocoa from conventional to organic as a result of trade liberalization in which private sector was allowed to participate in business (EPOPA, 2008). The introduction of organic cocoa in 1997 was done by the Biolands International Limited which was the first company to work directly with local cocoa farmers in the district of Kyela. Biolands together with other organic cocoa companies work directly with local farmers and assist them to increase production, improve the quality and ensure that fair prices are paid. These companies provide training on Good Agricultural Practices (GAP) and technical advice to ensure compliance with organic certification standards. Due to the growth of demand and the efforts put by organic cocoa companies, in 2009 organic cocoa became the leading organic crop in Tanzanian organic exports as shown in figure 2 below.



Source: Data from TRA² and TOAM³ (2010)

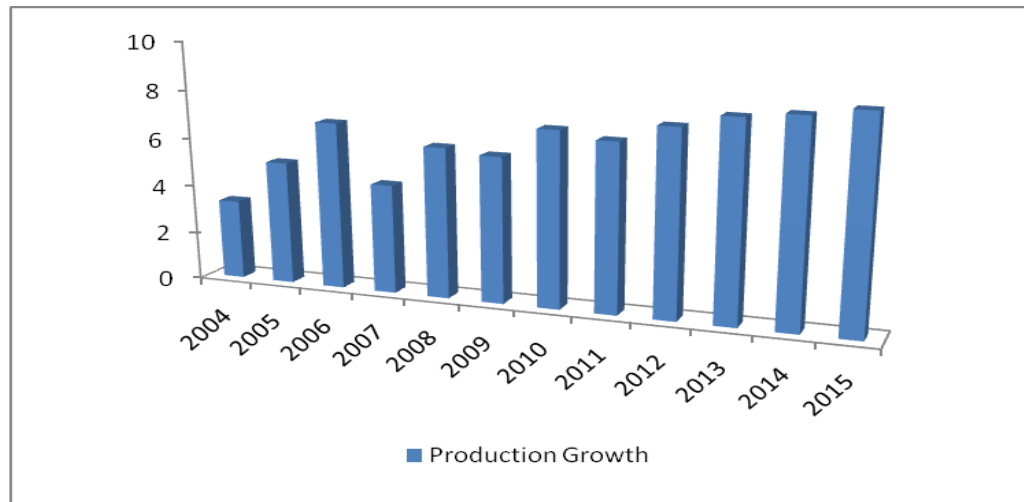
Figure 2. The Export Value (US \$ Million) and Volume (Tons) of Organic Agricultural Products

3.2. Organic Cocoa Production

The production of cocoa is geographically concentrated. The growing condition of organic cocoa is very favorable with plenty of rainfall (1500-2900 mm) per year, while temperature should range between 27-34°C and rich organic soil with chemical free and little erosion. In Tanzania organic cocoa is highly produced in mountainous areas, particularly in southern highlands of Mbeya. The region is high in volcanic deposits and the enclosure by mountains ensures proper rainfall as well as plenty of water running down from the mountains. The production of organic cocoa is done by the association of small holder farmers who are grouped together under the supervision of certified organic companies. These companies have the direct link with importers as well as processors. The certified companies are responsible to ensure compliance in quality and standards of organic cocoa with importers regulations. Figure 3 below shows the growth in organic cocoa production in Tanzania. Its increase is associated with the increase of production areas as well as number of the companies involved in production and export and up to present organic cocoa was still promoted by the private sector under four certified organic companies.

² Tanzania Revenue Authority

³ Tanzania Organic Agriculture Movement



Source: Data from CAOBISCO⁴ and ICA⁵ (2016)

Figure 3. Organic Cocoa Production in Tanzania

3.3. Characteristics of Tanzanian Organic Cocoa

The production of cocoa in Tanzania is 100 percent organic while over 95 percent of production is organic certified. All of the systems involved in production, packaging and export are also organic certified. Although production is organic, yield of organic cocoa is quite high with almost 600kg/ha. Tanzanian organic cocoa is produced with the minimum costs due to the presence of rich organic soils which minimize the uses of organic fertilizers. In production areas, there are limited presence of pests and diseases so organic cocoa is pure organic without any contamination of pesticides or fertilizers and this situation make Tanzania to produce organic cocoa with high quality. In 2006 Carry Balleaut urged that Tanzania is producing the best cocoa compared with other producers in cocoa world market. Carry Balleaut which is the largest manufacturer of cocoa products in the world and also has the long partnership with the Biolands confirmed that Tanzania produces the unique cocoa which is 75 percent in black and also is characterized by the unique test. The reasons behind is the dark volcanic soil nature of productive areas with plenty of rainfall.

Table 1. Percentages in Blackness of Cocoa

Country	Percent cocoa	Cocoa darkness
Melanesia	35 Percent Cocoa	Milk chocolate
Mexico	42 Percent Cocoa	Milk Chocolate
Arriba	50 Percent Cocoa	Dark Chocolate
Madagascar	66 Percent Cocoa	Dark Chocolate
Ghana	60 Percent Cocoa	Dark Chocolate
Tanzania	75 Percent Cocoa	Dark Chocolate

Source: Carry Balleaut (2006)

3.4. Organic Cocoa Beans Market Structure

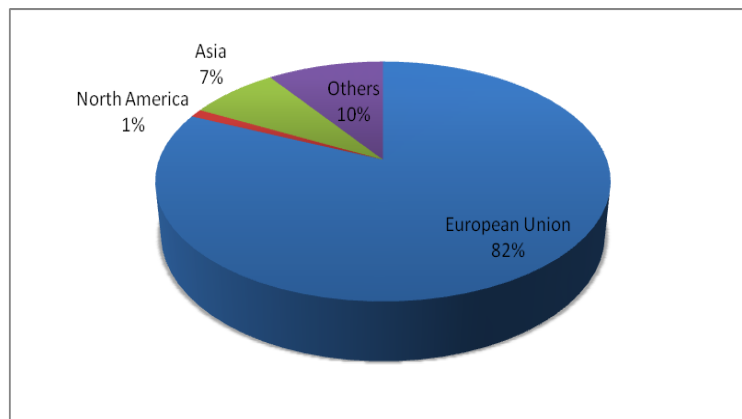
Organic cocoa is extremely suitable for ethical trade and is consumed in large quantities. This product has a well-structured trade channels from the farm to the end user. Due to the dominance of smallholders in Tanzania, the typical supply chain is made up by private enterprises organizing many smallholders as out growers to secure the critical mass of supply. Sometimes farmers are organized themselves in a farm associations for supplying and packaging of cocoa for exporting trading companies (Willer and Kilcher, 2010). There is a direct connection between local farmers, certified companies and manufacturers of organic cocoa products. The Carry Balleaut has direct connection with the Kyela local farmers in which it provides cocoa trees through certified companies and assists in organic standards compliances, also is the buyer of that organic cocoa, so this well-structured supply chain ensures high quality of organic cocoa to cocoa end users.

⁴ Association of the Chocolate, Biscuit and Confectionery Industries of the EU

⁵ International Confectionery Association

3.4.1. Organic Cocoa Markets

Tanzania started to export certified organic cocoa in 2000. The first export was done by the Biolands International Company which exported organic cocoa from Kyela to the Barry Callebaut, a Switzerland manufacturer of organic cocoa products. In the same year, cocoa was also exported to Belgium, Spain, United Kingdom, Germany, Israel, Malaysia, Netherlands, Poland and St Helena. Organic Monitor (2009) investigated the potential of organic cocoa markets in Europe and North America for the Pacific Islands Country (PIC) growers. The expert opinion consensus model was used to calculate the market sizes of organic cocoa. The findings show that a large number of companies and end-users buy organic ingredients. Although the applications vary between product types, most volume comes into Europe and North America via large companies.

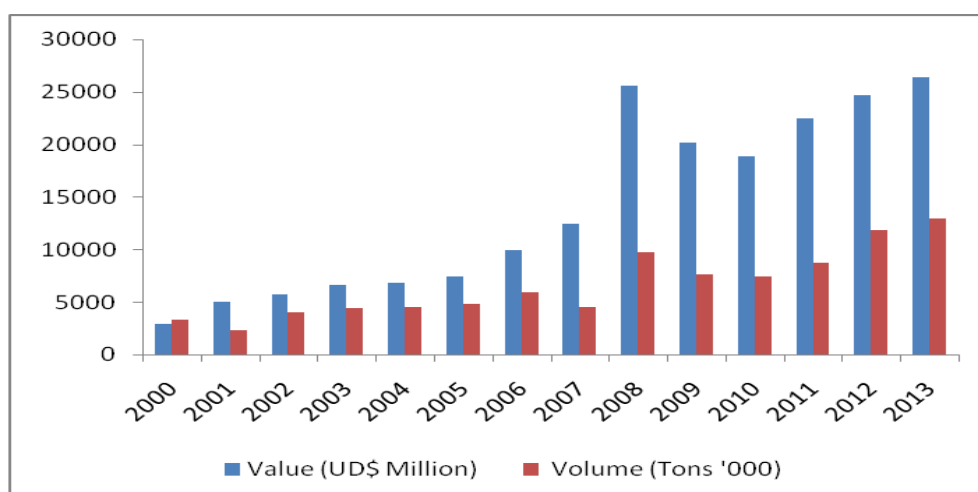


Source: Data from TRA (2016)

Figure 4. Markets for Tanzania Organic Cocoa

Figure 4 shows the destination of cocoa from Tanzania. EU countries are the main importers and the leading countries including Germany, United Kingdom, Belgium, Netherland, Italy, France, Spain, and Switzerland. Other importers are USA, Canada in North America while the major importers in Asia are Japan, India, China, Israel, Singapore, Korea, and Sri Lanka. In Africa organic cocoa is exported to South Africa, Zambia and in all East Africa countries. Organic cocoa is mainly exported in the form of cocoa beans in either whole or broken, and sometimes being raw or roasted. Tanzania domestic market is consuming very little amount of certified organic cocoa and few organic cocoa products are sold in supermarkets. In local markets, organic cocoa which is also grown using organic principles but not certified tend to be consumed locally, sometimes without a price premium and therefore at the same price as the conventionally grown ones (Willer and Kilcher, 2009). The local market for organic products in Tanzania is not well developed due to several factors, like a lack of awareness and understanding of organic agriculture principles and standards, and higher prices of organic goods compared with conventional ones.

3.5. The Export Performance of Organic Cocoa in Tanzania



Source: Data from TRA

Figure 5. The Export Value (US \$ Million) and Volume (Tons) of Organic Cocoa in Tanzania

Tanzania has exported organic cocoa for almost eleven years. Before 2000 Tanzania was exporting conventional cocoa with low value compared to organic. According to the TRA data, in 2010, 2011 and 2012 Tanzania exported cocoa which valued 18.9 US\$ million and 24.6 US\$ million respectively.

Information in figure 5 above indicates the slight export in the first five years while from 2005, organic cocoa exports increased and reached the value of US \$ 25.5 million in 2008. It dropped a bit in 2009 then picked up there after. Therefore in average Tanzania is exporting 6.5 thousand tons of organic cocoa per year. The increase in export of organic cocoa was accelerated by the increase of certified organic companies and the certified organic areas. In 2000 there was only one company which was working directly with farmers in Kyela, as well as connecting importers in international markets. From 2006 onwards there was an increase of other three companies in exporting organic cocoa. The companies are Hai Tanzania limited, Olam and Fidahusseini Company Limited which started to operate in Kyela, Rungwe and Morogoro. The establishment of national organic bodies like Tanzania Organic Agriculture Movement (TOAM) in 2005 and Tanzania Certification Association (TanCert) in 2003 facilitated much in the growth of organic cocoa. TOAM is an umbrella organization for the participants of all organic organization in Tanzania while TanCert is the national certification body. These organizations work close with organic companies and farmers to assist in production, marketing as well as the reduction of inspection and certification costs of international organic certification companies which operate in Tanzania (EPOPA, 2008).

3.6. The Challenges of Organic Cocoa Production and Exporting in Tanzania

i. Lack of Organic Agriculture Policy

The existing National Livestock Development Policy has references to organic agriculture, but there is still no formal policy on organic agriculture in Tanzania, either as a separate policy or integrated within the general national agriculture policy. The organic sector is therefore generally being excluded from various governmental support schemes concerning inputs, extension, capacity building, and research (Willer and Kilcher, 2010). The government continues to support conventional farming, and the good example is Agriculture First initiative in which the government provided to farmers farm inputs such as fertilizers in general while neglecting some of the potential areas such as organic farming.

ii. Low Government involvement in organic agriculture

Most of organic matters in Tanzania are promoted by private sector. The national organic body and national certification body are also non-governmental organizations. TOAM is responsible for policy formulation, advocacy, marketing, information documentation, and information dissemination. TOAM is now part of a task force, representing the exporters and certification bodies.

iii. High Certification Costs

High certification cost is an obstacle to organic production and export. No local farmers who have certified their farms and own organic certificate due to high cost. The costs involve certification and inspection procedures. In Tanzania, there are four international organic certifier companies which provide certification services depending on the expected international markets. Each organic market has its own different certification. This implies that organic cocoa companies need to possess organic certificate for each export market.

iv. Lack of Expertise in Organic Farming

Organic sector is facing the shortage of experts on extension, capacity building and research on organic production in Tanzania. Few organic companies which operate with local farmers are responsible for providing training and all the required assistance in organic farming. It is a challenge to develop organic cocoa production due to the few available number of operating companies.

v. Shortage of skills in international organic cocoa trade and practices

Due to the fact that raw organic cocoa exports are generally handled by larger international enterprises, there is a significant deficit of Tanzanians who possess the relevant knowledge and skills in international organic cocoa trade and practices. Thus, there is a need for building innovative partnership models among entrepreneurs, if the Tanzanian organic sector is to take full advantage of the global organic market growth.

4. Conclusions and Recommendations

Agriculture sector is still an important sector for economic growth and poverty reduction in Tanzania. However, Tanzanian agriculture has been facing a number of problems ranging from low productivity, commodity price instability in international

markets to lack of market access due to failure to meet international standards in various global markets. Organic farming could lessen some of the negative problems associated with conventional farming in international markets. This is because of the growing and the existence of niche markets for organic products such as organic cocoa as a result of the new importing food regulations particularly in European Union countries, North America and Japan. Thus, in order to tap these growing opportunities, there is a need for Tanzania to review its agricultural policies, strategies and other complementary policies in an attempt to increase production of organic cocoa and other organic crops through providing friendly policy environment support and other direct interventions so as to address the challenges associated with organic farming.

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