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Role of NGOs in Addressing Agricultural Challenges through Certified Organic Agriculture in Developing Regions: A Zimbabwe Case Study

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Role of NGOs in addressing agricultural challenges through certified organic agriculture in developing regions: A Zimbabwe case study**Abstract**

Non-governmental organizations (NGOs) are promoting certified organic agriculture to improve livelihoods and revive Zimbabwe's ailing agriculture sector. Certified organic agriculture has the potential to address these challenges by seeking lucrative export markets. A qualitative study utilizing semi-structured interviews and website textual content analysis was used to determine the role of NGOs promoting certified organic agriculture in Zimbabwe. Results indicate that the main role of NGOs was to promote community development with partnerships and advocacy as strategies used to educate and create awareness on certified organic agriculture importance. Lack of government support undermines expansion of certified organic agriculture in the country.

Keywords: certified organic agriculture, Non-governmental organizations' role, partnerships, advocacy

Introduction

Zimbabwe smallholder farmers, who like in many developing countries play a significant role in food security, are facing challenges such as increased food imports from South Africa, heavy government control of commodity markets, ailing economy, and climate change (Anseeuw, Kapuya, & Saruchera, 2012; Masara, 2013; Mpande & Madziwa, 2011; Tsharntke et al., 2012). These challenges put at risk 70 % of the population whose livelihood source is agriculture (Anseeuw et al., 2012; World Food Program, 2016). There is need for other strategies to increase food production and farmer incomes. Nongovernmental organizations (NGOs) through certified organic agriculture are supporting smallholder farmers so that they can increase incomes, restore degraded environment, mitigate against climate change, alleviate poverty, and address social ills such as HIV/AIDS (Ayuya et al., 2015; Jena, Stellmacher & Grote, 2017; Kaite, 2013; Kleemann & Abdulai, 2013; Kleemann, Abdulai, & Buss, 2014; Mpande &

Madziwa, 2011). Through promotion of certified organic agriculture that in turn yields environmental, economic, and social benefits, NGOs are contributing to the development of these poor smallholder communities (Jena et al., 2017; Jouzi et al., 2017; Seufert, Ramamurthy, & Foley, 2012).

Certified organic agriculture is a form of sustainable agriculture that uses specific production, processing, and certification standards while at the same time upholding the health of soils, people, and ecosystem through its dependence on ecological processes, biodiversity, and cycles adapted to local conditions (IFOAM, 2012). Farmers' profits are maximized due to reduced external input costs, access to organic markets, contract farming arrangements, and premium prices from product sales in the global North (Ayuya et al., 2015 ; Bolwig, Gibbon, & Jones, 2009; Chiputwa, Spielman , & Qaim 2015; Kleemann & Abdulai, 2013; Kleemann et al., 2014; Jouzi et al., 2017; Pretty, Toulmin, & Williams, 2011). Higher incomes from sales enables farmers to invest money in health care, livestock purchase, and labor thereby improving their standard of living and livelihoods (Aigelsperger, Njuki, & Hauser, 2007; Girma & Gardebroek, 2015). Fair trade certification provides farmers with community development revenue (Elder, Zerriffi, & Le Billon, 2012; Jena et al., 2017; Valkila, 2009).

Because certified organic agriculture employs environmentally friendly practices and does not use synthetic chemicals but enhances the health of soils and ecosystems, productivity is enhanced through improved soil fertility (Barrett, Browne, Harris, & Cadoret, 2002; IFOAM, 2012; Reganold & Wachter, 2016; Seufert et al., 2012). Cover crops, crop rotation, and mulch reduce vulnerability to harsh weather and climate change by increasing soil moisture retention and enhance carbon sequestration due to high levels of organic matter in the soil (Müller, 2009; Müller et al., 2012; Scialabba & Müller, 2010; Scialabba, 2007). These management practices

are a solution to erratic rainfall patterns, infertile soils, and high erosion rates prevalent in much of Zimbabwean smallholder farming communities (Alumira & Rusike, 2005; Campbell, Bradley, & Carter, 1997; FAO, 2006).

Zimbabwe agriculture background

In Zimbabwe, conventional agriculture has mainly benefitted large-scale commercial farmers (LSCF) through input subsidies, extension, research, and market support (Alumira & Rusike, 2005; Anseuw et al., 2012; Bratton, 1987; Whiteside, 1998). Conversely, smallholder farmers struggle to acquire inputs and compete in mainstream markets due to lack of adequate financial resources and marketing skills (Alumira & Rusike, 2005; Chokera, Ngwenya, Njovo, 2014; FAO, 2006). Smallholder farmers are often poor, marginalized, and operate low input, low production farming systems and conventional agriculture exacerbates poverty due to high external input costs (Bennett & Franzel, 2013; Campbell et al., 1997; FAO, 2010; Muir, 1994; Whiteside, 1998).

Table 1: Rural household survey for eight provinces in Zimbabwe for 2012/2013 and 2013/2014

Year	Agriculture expenses	% households who planted maize	Community challenges	Proportion of food insecure households	Irrigation Capacity
2012/2013	Fertilizer: 38 % Seed: 22%	79%	Food insecurity, water access, inputs and poor markets and prices	19%	24% capacity but 38% functional
2013/2014	No data	80%	Food insecurity, water access, inputs, poor markets	25%	22% capacity but 40% functional

This concurs with rural livelihoods assessment by the Zimbabwe Vulnerability Assessment Committee (ZimVAC) for 2012/2013 season for all the provinces in Zimbabwe which indicated that external inputs such as fertilizers and seeds were 38% and 22% of total agricultural expenses which is expensive for smallholder farmers (Table 1) (ZIMVAC, 2012). The agricultural supply chain and markets have collapsed since 2000; due to a declining economy, hence, most agriculture inputs are imported, making it difficult for smallholder farmers to access inputs and credit due to increased costs (FAO, 2006; Govere, Foti, Mutandwa, Mashingaidze, & Bhebhe, 2009; Nyakanda, 2013). Top down approaches, short-term goals, government control of commodity crops prices and markets, political interference and an under-performing economy have undermined agriculture productivity with smallholder farmers worst affected (Anseeuw et al., 2012; Bratton, 1987; Whiteside, 1998).

Government budget constraints have resulted in elimination of free inputs as well as limited agriculture training and extension support (FAO, 2010; Matimba, 2014). Agriculture training and extension support of smallholder farmers is critical who currently manage over 70 % of Zimbabwe's agricultural land making them the country's food producers (FAO, 2006; Moyo & Yeros, 2009; Vitoria, Mudimu, & Moyo, 2012). Mono cropping with crops such as maize dominating (Table 1) has decreased crop yields, accelerated land degradation, and soil fertility decline (Alumira & Rusike, 2005; Whiteside, 1998). Volatile government policy, land tenure insecurity, and HIV/AIDS pandemic have worsened the situation (Mazzeo, 2011; Vitoria et al., 2012). Sustainable management practices associated with certified organic agriculture go a long way in addressing food security, inadequate water access, poor markets and pricing (Table 1).

Certified organic agriculture in Zimbabwe

Zimbabwe just like many African countries with the exception of Tunisia does not have a supporting policy framework for certified organic agriculture, resulting in NGO driven certified organic initiatives (Huber, Schmid, & Möller, 2016). The majority of NGOs promoting certified organic agriculture in Zimbabwe are membership organizations formed in the early 1990s and they include Fambidzanai Permaculture Center (FPC), Participatory Ecological Land-use Management (PELUM) Zimbabwe, and Zimbabwe Organic Producers and Processors Association (ZOPPA) (Parrott & Van Elzakker, 2003; Walaga, 2005). Outreach by these organizations has resulted in the formation of other local NGOs such as Zimbabwe Institute of Permaculture (ZIP), Schools and Colleges Permaculture Program (SCOPE) and Natural Farming Network (NFN) (Parrott & Van Elzaker, 2003; Walaga, 2005).

Purpose of study

This study sought to clarify the role of NGOs as certified organic agriculture promoters within the Zimbabwean context due to recognition of organic agriculture benefits locally and regionally by policy makers (Gama, 2016; Masara, 2013). Zimbabwean smallholder farmers are facing challenges such as low yields, erratic rainfall patterns, food insecurity land degradation, poor markets and prices, heavy government control of commodity markets and a struggling economy and certified organic agriculture may be able to address these challenges (Anseeuw et al., 2012, Masara, 2013; Mpande & Madziwa, 2011; ZIMVAC, 2012; ZIMVAC, 2013; ZIMVAC, 2014). However, there is limited research on certified organic agriculture in many African countries including Zimbabwe let alone goals targeted through certified organic agriculture promotion by NGOs. Current research explores benefits, certification, fair trade, and market challenges of certified organic agriculture in Africa (Ayuya et al., 2015; Bolwig et al., 2009; Bolwig et al., 2013; Elder et al., 2012; Freidberg & Goldstein, 2011; Huber et al., 2016; Jouzi et al., 2017;

Kleeman & Abdulai, 2013; Kleemann et al., 2014; Preißel & Reckling, 2009; Svotwa, Baipai, & Jiyane, 2009).

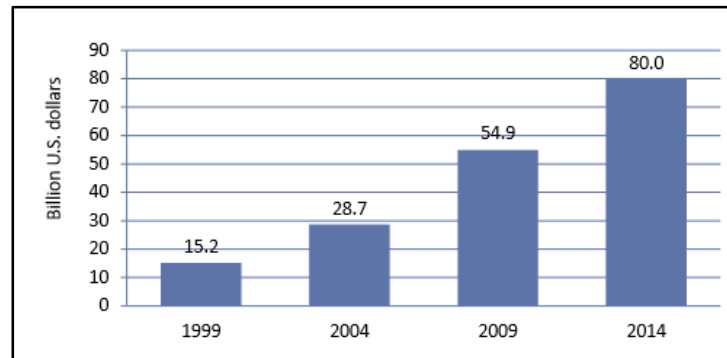


Figure 1: Global sale of organic food and drink (Willer & Lenourd, 2016).

In Africa, private companies and NGOs drive certified organic agriculture but little information exists as to what their role is (Jouzi et al., 2017) despite growing organic markets and global sales (Figure 1) (Willer & Lenourd, 2016). Some policy makers in Africa have realized that certified organic agriculture has potential to address poverty, climate change, and land degradation (Willer & Lenourd, 2016). Unfortunately, research on how NGOs are using certified organic agriculture to address these challenges is very limited in most African countries including Zimbabwe. The main objective of this study was to determine the role and goal of NGOs in certified agriculture promotion in Zimbabwe through NGO leaders' interviews and NGO website textual content analysis. The study will attempt to answer the following research questions:

1. What is the role of NGOs in promotion of certified organic agriculture in Zimbabwe?
2. What strategies are used to promote certified organic agriculture in Zimbabwe despite lack of supporting policy framework?

Methods

Data collection

Data were collected using semi-structured interview, qualitative content analysis, and document review.

Interviews. One hour semi-structured interviews with seven through Skype and one through telephone were conducted with organization leaders promoting certified organic farming in Zimbabwe from July 19th to October 18th 2013 (Table 2) (Hanna 2012; Holt 2010).

Table 2: Study participants

Participant	Occupation	Other important information
1	Independent Consultant	Independent consultant, researcher and farmer
2	Southern Africa Regional Manager	Three years sustainable agriculture experience
3	Director	10 years sustainable agriculture experience
4	Chief Executive Officer	Extensive experience in organic agriculture
5	Community Program Officer	Four years organic agriculture working experience
6	Chief Executive Officer	Over 20 years biodiversity experience
7	Country Coordinator	Coordinates sustainable agriculture activities in Zimbabwe
8	Organization Founder/ Organic farmer	One of pioneers of organic farming in Zimbabwe with 50 years experience

Snowball sampling where organic farming experts in Zimbabwe identified other participants in the study was used to select participants. Reduction of participants from potential pool of 16 to 8 is attributed to busy schedules, lack of interest, and non-functional contact details. Messenger Plus for Skype Software and a digital voice recorder were used to record the Skype and telephone interviews respectively. The interviews were transcribed and transcription copies sent

to participants for clarification. The interview protocol was pretested prior to interviews to test smoothness of questions (Cachia & Millward, 2011; Holt, 2010).

Using a coding key developed prior to data analysis, data was analyzed using open coding where each line of transcribed data was assigned appropriate codes (Rubin & Rubin, 2012). Coded excerpts with same label were extracted, sorted, summarized and compared (Rubin & Rubin, 2012). Major themes identified in the analysis became major categories with smaller sub categories assigned to each major theme (Merriam & Tisdell, 2015; Ryan & Bernard 2003; Taylor-Powell & Renner 2003). Emerging themes were related to literature (Ryan & Bernard, 2003; Saldana, 2009).

Qualitative content analysis. Inductive qualitative content analysis where themes emerge from data was used to interpret textual data content on organizations' websites (Table 3) through systematic coding and identifying themes and patterns (Hsieh & Shannon, 2005; Merriam & Tisdell, 2015). Textual data from websites of eight organizations that participated in the interviews was copied and pasted in Microsoft Word and open coding was used to come up with categories (Elo & Kyngäs, 2008; Merriam & Tisdell 2015; Zhang & Wildemuth, 2009). Patterns and relationships between categories were identified and conclusions drawn (Merriam & Tisdell, 2015; Zhang & Wildemuth, 2009).

Table 3: NGOs who participated in the study

Organization	Primary organic agriculture related activities	Other activities	Beneficiaries
A	Organic mushroom and honey production	Sanitation, water harvesting	No data
B	Organic agriculture training, demonstration plots, marketing	HIV/AIDS support and nutrition, permaculture training	100,000
C	Organic agriculture certification, advisory role	None	1,767

D	Organic agriculture: production, processing and marketing	HIV/AIDs Orphan support, women empowerment	Over 2,000
E	Sustainable use of NTFPs	Women empowerment	3,000
F	Organic nutrition gardens	HIV/AIDS support	780
G	Organic agriculture	Water harvesting	10,000

Document review. Various documents were reviewed and they provided background information as well as used to cross check data collected in the study (Merriam & Tisdell, 2015). Examples of documents reviewed include NGO annual reports, email and Skype conversations with participants, and reports from FAO, UNCTAD, and IFOAM. Certified organic agriculture annual reports included information such as trainings, producers / farmers supported by that organization, certification, farm management, crops grown, and export countries.

Results

Results from interviews, content analysis, and document review indicated that not only NGOs were involved in promoting certified organic agriculture in Zimbabwe but membership organizations, private companies, independent farmers, and trusts were also actively involved (Table 4).

Table 4: Leading certified organic agriculture organizations in Zimbabwe

Name	Founded	Primary activities ^a	Type	Selected donors and partners ^b
Fambidzanai Permaculture Center (FPC)	1988	A, C, E, R, T,	Membership	ZOPPA Trust, Hivos, HEKS, Welthungerhilfe, Threshold foundation of the USA
ZOPPA Trust	*1990	A, C, M, O, R	Membership	CBI, Hivos, NOGAMU, IFOAM, KOAN, OSEC
Southern Alliance for Indigenous Resources (SAFIRE)	1994	A, M, P	Non-membership	Hivos, Phytotrade Africa, SFA
PELUM Zimbabwe	1995	E, R, T	Membership	FPC, Practical Action, VeCo Zimbabwe

Specialty Foods for Africa (SFA)	2002	M, P	Private	Phytotrade Africa, Safire
Maruva cosmetics	2004	C, M, P	Private and Membership	Phytotrade Africa, ZOPPA Trust
Kaite	2007	C, M, R, T	Private and Membership	Phytotrade Africa, Hilfswerk Austria, Silveira House, Kufunda learning village, ZOPPA Trust
BIOINNOVATION ZIMBABWE	2007	A, C, M, P, R, S, T	Research organization	Phytotrade Africa, Kaite, B'ayoba, SFA, Hilfswerk Austria

^a **A:** awareness raising, **C:** facilitates certification, **E:** extension, **M:** Market linkages, **O:** Organic standards monitoring, **P:** product development, **R:** research, **S:** supply chain development, **T:** training

^b **afc:** AGENCE FRANCAISE DE DEVELOPPEMENT, **CBI:** Center for promotion of imports from developing countries, **FFEM:** French Global Environment facility, **HEKS:** Swiss church aid, **IFOAM:** International Federation of Organic Farming, **OSEC:** Switzerland Global Enterprise, **IFAD:** International Fund for Agricultural Development, **KOAN:** Kenya Organic Agriculture Network, **NOGAMU:** National Organic Movement of Uganda,
*ZOPPA was formed in 1990 and changed into a trust in 2008.

These different stakeholders work together with some NGOs and private companies in the forefront of certified organic agriculture initiatives with ties to the Global North (Table 4). Despite lack of formal approval from the government, some government officials were also actively involved in certified organic agriculture activities through collaboration with different organizations involved. The major theme from the interviews and content analysis was that the main role of organizations actively promoting certified organic agriculture was to promote community development such that communities become self-sustaining in the long term. Organizations intentionally target poor marginalized communities and provide them with training, market linkages, certification, research and social support (Table 4) to improve their livelihoods and build better communities through certified organic agriculture (Participant 2, 3, 5, 6, & 7 2013).

On answering the question as to what strategies, organizations were using to promote certified organic agriculture in Zimbabwe, Table 5 and Figure 2 summarizes the major themes from the interviews and website content analysis.

Table 5: Summary of themes

Theme	Rank
Partnerships Collaboration (training, research, market linkages) Organic certification Funding Community social support	1
Advocacy Awareness raising Education	2



Figure 2: Main theme from website content analysis

Interviews indicated that partnerships and advocacy as important themes with partnerships ranked as the most important theme (Table 5). Partnerships between different organizations as well as communities has enabled expansion of certified organic agriculture initiatives in the country despite lack of support from the government. Extensive networks at

local, regional, and international level through partnerships have facilitated certified organic market linkages, certification, funding, risk sharing, and research collaboration (Participant 2, 3, 4, & 6, 2013). Participant 3 indicated that another partner NGO, has “identified some international markets” and some selected farmers were “marketing their produce to countries such as Germany.” Partnerships also allow organizations develop project proposals together and “mobilize funding” (Participant 2, 2013).

What we normally do is work jointly with some of them at a time in terms of developing project proposals and then mobilize funding so that we may be able to reach smallholder farmers together (Participant 2, 2013).

Lack of government support and an ailing economy in Zimbabwe makes certified organic agriculture risky hence NGOs collaborate with the private sector to reduce this risk and promote innovation. “A creative role NGOs can play is to partner with private sector to help share that risk to reduce the risk and to encourage innovation” (Participant 6, 2013). Partnerships also exist between NGOs and the communities they work with (Participant 5, 2013). NGOs provide social support e.g. to vulnerable communities affected by HIV/AIDS. “We work with children living with HIV, we provide them with health care, psychosocial support, school fees, uniforms you name it” (Participant 5, 2013). One of the NGOs has a center where HIV/AIDS orphans can come and play as well as nutrition gardens to improve the health of individuals living with HIV/AIDS (Participant 5 & 7, 2013).

In addition to partnerships, NGOs through advocacy raise awareness and educate people about certified organic agriculture benefits which include livelihood improvement. Participant 3 was on the national radio a day before I interviewed him educating the public about the dangers of using synthetic chemicals in agriculture and his organization was “in the process of organizing

consumer awareness program on conventional or organic produce.” Awareness-raising can change consumer perceptions on traditional indigenous food often viewed as inferior by many Zimbabweans by demonstrating the demand for it in other countries (Participant 6, 2013).

Apart from raising awareness, NGOs educate people on certified organic agriculture benefits (Participants 3,5, & 8, 2013). Children are educated on importance of organic farming as a strategy of “catching them young” ... so that they have organic farming ingrained in their very DNA” (Participant 5, 2013). Demonstration sites are used to educate the public on organic agriculture (Participant 5 & 8, 2013). “We have a demonstration site where people come and see what we are doing” (Participant 5, 2013).

Website content analysis main theme was community development, which resulted from training, partnerships, social support and participatory approaches (Figure 2). Primary activities carried out by NGOs (Table 4) facilitate community development and livelihood improvement in poor marginalized communities. Farmer testimonials on NGO websites (Table 6) indicate that certified organic farming has improved farmers’ livelihoods for they were able to purchase livestock, clothing, school uniforms and pay school fees for their children. People living with HIV/AIDS and HIV/AIDS orphans receive psychosocial support, education, medical care and participate in organic gardening activities (A, B, D, and F). NGO D has a drop-in center where HIV/AIDS orphans can socialize with other people.

Table 6: Farmer testimonials showing products, incomes and livelihood improvement from certified organic agriculture.

Farmer	Organization	Product	Income (US\$)	Livelihood improvement
Memory	E	Marula butter and oil	450 (2012)	School fees for 3 grandchildren, bought blankets, food and a goat

Sekai	E	25 bags of baobab	111 (2012)	School fees for 3 children, bought 2 goats, school uniforms and food
Macia	E	Baobab	42 (one time)	School fees and bought school uniforms for kids
Petronella	C	Lettuce	1080/week (2012)	Planning to buy a truck
Isaac	D	Rosella (Hibiscus)	400 (from 350kg)*	Bought cattle, goats and donkeys
Ivy	D	Chilies	750 (from 250kg) *	School fees for sisters, planning to buy solar dryer

*kg = kilograms

Discussion

Although the main objective of this study was to clarify the role of NGOs in promoting certified organic agriculture in Zimbabwe, results from the study indicate that not only were NGOs active in certified organic agriculture initiatives but the private sector and other organizations also play a very important role. Successful certified organic agriculture initiatives by NGOs require a multi-sectoral approach where different stakeholders come together and work towards the same goal. This approach is gaining momentum in Africa as seen by regional initiatives such as the establishment of the African Organic Network (AfroNet), that brings together all organic stakeholders in Africa, collaborates with other organizations such as International Federation of Organic Movements (IFOAM) and the African Union (Gama, 2016).

These partnerships have assisted NGOs to fulfill their role of promoting community development through certified organic agriculture initiatives in communities they work with through facilitating training, market linkages, certification, research, and social support which in turn results in improved livelihoods (Table 4). Not only are livelihoods of poor vulnerable communities improved but long- term sustainable solutions to restore degraded land in

vulnerable regions such as Sub Saharan Africa are promoted (Ayuya et al., 2015; Girma & Gardebroek, 2015; Jouzi et al., 2017; Kleemann & Abdulai, 2013; Kleemann et al., 2014; Jouzi et al., 2017; Seufert, 2012). Partnerships at local, regional and international levels have helped NGOs to circumvent challenges in countries they operate such as Zimbabwe where policy does not openly support their activities and markets are underdeveloped (Freidberg & Goldstein, 2011; Huber et al., 2016). Partnerships between with NGOs, private companies, and other stakeholders enable information sharing on certified organic agriculture; provide market linkages, funding sources, and certification (Bennett & Franzel, 2013; Goldberger, 2008; Olano, 1993; Preißel & Reckling, 2010). Community development, one of the major themes from the study emanates from these partnerships where NGOs create mutual partnerships with communities they work with, providing social support and equipping members with life-long skills through capacity building, creating, a safe working environment for NGOs who often times are not trusted by the government (Anseeuw et al., 2012; Hofisi & Hofisi, 2013).

Apart from establishing partnerships as a strategy to promote certified organic agriculture in the country, NGOs utilize advocacy to raise awareness on certified organic agriculture. Advocacy is used to enroll farmers, educate the public, and policy makers on the benefits and value of certified organic agriculture (Goldberger, 2008; Olano, 1993; Walaga et al., 2005). Through awareness farmers can explore high value non-traditional crops that include underutilized plants, essential oils, herbs, chilies, cosmetic, and food ingredients targeting lucrative Global North markets thereby ensuring profitability of enterprises in the small land holdings (range from 1-3 hectares) often located in areas of low agricultural productivity (Bennett, 2006; Bio Innovation Zimbabwe, 2013; Kaite, 2013; Svatwa et al., 2009; Venter & Witkowski, 2011; Welford & Le Breton, 2008). Rural household survey in Zimbabwe for 2013

and 2014 show that approximately 80 % of rural farmers grew maize and food insecurity is high (ZimVAC, 2013; ZimVAC, 2014). Therefore there is need to diversify and transfer certified organic technologies to improve yields.

Education, a component of advocacy, on the other hand clarifies certified organic agriculture misconceptions in developing countries such as Zimbabwe where it is often viewed as a list of strict rules and complex practices that farmers need to follow in order to export certified organic products (Scialabba, 2000). Limited certified organic agriculture research within Africa has resulted in lack of information leading to little or no appreciation of organic agriculture as a better farming system than conventional agriculture (Walaga et al., 2005). Organic agriculture research presents the scientific side of organic agriculture thereby legitimizing it in the eyes of donors who provide funding as well as farmers and consumers (Goldberger, 2008). On a limited scale, due to lack of resources, some NGOs in Zimbabwe use demonstration gardens as research tools to show the legitimacy of organic farming (Fambidzanai Permaculture Center, 2013; Kaite, 2013; Nyakanda 2012).

In addition to using education as a strategy to promote certified organic agriculture, NGOs use a holistic approach promoting community development where economic, environmental, and social benefits are realized. Smallholder communities struggle to produce enough food through conventional agriculture due to lack of inputs, collapse of markets, declining economy, and poor agricultural practices (Alumira & Rusike, 2005; Chokera et al., 2014; Matimba, 2014; World Bank, 2012; ZIMVAC, 2013). HIV/AIDS has further impoverished smallholder communities by reducing the agriculture workforce and increasing dependents in the form of HIV/AIDS orphans (Jayne, Mather, & Mghenyi, 2010; Mazzeo, 2011; Whiteside 1998). Such vulnerable communities are intentionally targeted by NGO so as to

improve their livelihoods through certified organic agriculture. Antiretroviral drugs, school uniforms, food, and psychosocial support are some of the forms of support NGO provide HIV/AIDS ravaged communities (Participant 2 & 5, 2013). By taking care of these immediate needs NGOs can effectively engage farmers in certified organic projects.

Primary activities within these projects are multi-faceted to address challenges that farmers face and promote sustainability. Training for example, also focusses on marketing, organic certification, leadership, and capacity building in addition to production to equip farmers with skills they can use for other community projects. Participatory approaches are employed to equip farmers with decision making skills and research has shown that farmers' creativity is strengthened by participation in production and marketing decision making in addition to technical training (Hauser et al., 2010). Technical training by NGOs has resulted in an increase in crop yields through the use of sustainable practices such as cover crops, organic composting, crop rotation, and water harvesting (Bennett & Franzel, 2013; Pretty et al., 2011; Sivotwa et al., 2008). These sustainable practices reduce soil erosion, drought risk, and improve soil fertility (Scialabba, 2007; Müller et al., 2012; Reganold & Wachter, 2016). Use of local inputs as opposed to external inputs, cushions smallholder farmers from rising costs of agricultural inputs and reverses environmental degradation (Bennet & Franzel, 2013; Jouzi et al., 2017; Tiftonell & Giller, 2013).

Apart from training, NGOs facilitate market linkages, organic and fair trade certification enabling farmers to focus on production of high value crops and have a guaranteed market unlike in conventional agriculture where the government sets prices (Anseeuw et al., 2012; Bennett & Franzel, 2013; Bolwig et al., 2009; Pretty et al., 2011; Kleemann & Abdulai, 2013, Mpande & Madziwa, 2011; Nyakanda, 2013). Farmer testimonials (Table 8) indicate that they are able to

invest money in their children's education and livestock purchase. High incomes from certified organic agriculture allow farmers to improve their livelihoods (Aigelsperger et al., 2007; Ayuya et al., 2015; Chiputwa et al., 2015; Girma & Gardebroek, 2015; Jouzi et al., 2017). Fair trade certification demonstrates that farmers are receiving fair prices, and are employing sustainable agriculture practices that enhance environmental and human health which is vital for community development (Bolwig & Gibbon, 2013; Elder et al., 2012; Kaite 2013). Fair trade certification builds smallholder farmers' capacity through standards compliance, acts as an incentive for farmers to utilize sustainable agriculture practices and increase their competitiveness in formal markets (Chiputwa et al., 2015; Jena et al., 2017; Welford & Le Breton, 2008). By facilitating certification, NGOs avoid unsustainable practices utilized by some certified organic operations who often times rigorously adhere to export foreign standards exploiting farmers in the process (Bakewell-Stone, Lieblein, & Francis, 2008; Freidberg & Goldstein, 2011; Tovar, Martin, Cruz, & Mutersbaugh, 2005). However, farmers may not produce enough quantities to meet rising global demand and it may be difficult to come up with harmonized standards for different products (Welford & Le Breton 2008; Valkila, 2009).

Conclusion

NGOs play a vital role in community development through promotion of certified organic agriculture in Zimbabwe. A holistic approach that addresses economic, social and environmental problems results in improved livelihoods. Strategies used by NGOs include partnerships and advocacy. However, having NGOs as both the initiators and implementers of certified organic agriculture jeopardizes long term sustainability of certified organic agriculture since these NGOs heavily rely on donor funds, mainly focus on export markets and have limited powers to address social challenges such as the land reform especially in an environment where the government

mistrusts their motives (Hauser et al., 2010; Hofisi & Hofisi, 2013; Vivian, 1994). A multi-sectorial approach where different stakeholders that include government departments is required to sustainably develop certified organic agriculture in the country. This is because in the long-term efforts of a few local NGOs and their private partners will not suffice to bring the required change despite the networks and partnerships created without the government coming on board.

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