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Livelihoods and Niche Markets- a Case Study of Kenyan Smallholder Bee Keepers in Mwingi

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Honey is a product with quality premiums. Organic production is a quality parameter and thus niche markets have emerged with potentially large benefits to producers. Kenya is among East African countries with registered success in niche markets targeting smallholder farmers. However, the benefits to the smallholders depend on access to niche markets, functioning producer and organic farming support groups, extension personnel, skills and knowledge of organic farmers and government support. This study investigates contribution of certified organic honey production to the livelihoods of small scale bee keepers organised in a producer cooperative in Mwingi, eastern Kenya. Data were collected from December 2015 to February 2016 from 54 smallholder bee keepers' groups; 38 organic certified and 16 non-certified. Stratified random sampling was used and a total of 303 smallholder farmers (185 certified and 118 noncertified) were randomly sampled. Qualitative and quantitative data were collected for 2015 and 2008 (retrospectively) for purposes of comparing the before and after organic certification. The data were analysed using STATA. Results indicate no significant impact of certification on household incomes, quantity and price of honey produced and incidence of migration. The results further indicate that non certified smallholders were more diversified, food secure and sold less assets as compared to the certified organic farmers. Only 17% of the certified smallholders attributed their wealth status to being organic certified. There are multiple reasons for lack of certification impact: i) no continuous support to certified farmers after initial phase as it is 100% NGO supported, ii) low premium prices, iii) strong presence of middlemen, iv) lack of governmental support and iv) poorly managed Mwingi bee keepers and crops cooperative society where marketing of smallholders' organic honey is coordinated. This therefore calls for policy formulation that supports organic bee keeping for the benefit of organic farmers. Technical and financial support to the organic bee keepers' cooperative will be vital for marketing and adherence to organic standards. However, results indicate that certified organic bee keeping cannot single-handedly solve the livelihood challenges of smallholder farmers though it is vital for achievement of broad based rural development, sustainable livelihoods and conservation goals.

Keywords: Farmer cooperatives, Kenya, local certified organic production, niche markets, organic honey, rural livelihoods

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Introduction

Most developing countries depend on agriculture as a back bone of their economy practiced by about 80% of the rural poor who directly depend on it for their livelihoods. As such, impacting livelihoods through agricultural development is one of the viable ways for poverty reduction. In order to have an increased income to cater for the needs of households (HHs), rural smallholder farmers in developing countries diversify their livelihoods though options are limited for the very poor HHs (Ellis, 2000; Barrett et al., 2001c; Warren, 2002; Scoones, 2015). Diversification options are even more scarce for the arid and semi arid lands (ASALs)² smallholder farmers because of prevailing conditions. Organic agriculture (OA) has been used as a pathway way to achieve sustainable development goals related to poverty eradication and environmental conservation (Oram, 2016; Ton, 2016). This is because of its multiple benefits; reduction of negative impacts on the environment, productivity improvement on smallholder farms, reduction of application and reliance on external inputs by farmers and creation of both local and export niche markets³ (Seufert, 2012). Evidence from developing countries indicate yield increases from OA of approximately 79% (Pretty et al., 2003). OA also offers yields stability enhancement and resilience to changes in weather conditions in comparison to conventional agricultural systems though the yields are more context dependent (Seufert, 2012). However, Seufert (2012) and Mheen-Sluijer et al. (2016) note that in most of OA studies, there were no adequate controls during data generation and hence it is hard to generalise from findings. The impacts of OA on smallholder incomes have been widely studied in the context of export oriented coffee certifications all over the world with more literature focused on Latin America (Barrett et al., 2001a; Bacon, 2005; Calo et al., 2005; Tovar et al., 2005; Bacon et al., 2008; Valkila, 2009; Mendez et al., 2010; Blackman et al., 2011; Jena et al., 2012; Ruben et al., 2012; Donovan et al., 2014; Ortiz-Miranda et al., 2015) with a few on Africa (Parrish et al., 2005; Jena et al., 2012; Barrett et al., 2001b). Most of these studies highlight higher price premiums paid to the organic farmers (Bacon, 2005; Valkila, 2009; Sustainability, 2013) while others refute the claims and note that there are no financial benefits e.g. Chiputwa et al. (2015) and Soletto (2015). Within the global south, OA besides the financial benefits (Bolwig et al., 2009) is associated with the generation and fostering of social capital through social networks. It can therefore be an empowerment tool for smallholder farmers through their organisation into collective marketing groups or cooperatives (Rice, 2001; Seufert, 2012). To enable OA practitioners to access its niche market benefits, certification is inevitable which can be an expensive venture for the rural poor. Though NGOs have always subsidized certification costs, still most rural resource constrained smallholder farmers have not been able to manage the costs and other requirements of export oriented OA certification scheme. They have resorted to alternative OA schemes⁴ which are recognised by IFOAM (de Alcântara et al., 2004) but their practitioners do not necessarily access international export organic markets. The certification of producers' products in these alternative OA schemes in most cases is organised at national or regional levels. For the purpose of this study, the alternative OA scheme in which smallholder organic bee keepers are involved (group certification with internal control system) is termed as 'local organic certification scheme'. It is important to note in general that the farmers involved in such schemes rely on local or regional markets for the sale of their organic products (Herberg, 2007). With current mixed results from studies on the impacts of mainstream OA certification schemes on smallholder farmers' livelihoods (Mheen-Sluijer et al., 2016), increasing importance of and scanty research on alternative OA schemes or 'local organic certification schemes' (Herberg 2007; Ayuya et al., 2015), this study contributes to filling the gap with two objectives; to assess the impacts of local organic certification scheme on the livelihoods of locally certified organic smallholder bee keepers and to understand factors that have influenced the locally certified organic

² Arid and semi arid lands (ASALs) cover 40% of the global land surface and are a habitat for 35% of the global human population (Mortimore et al., 2009).

³ A niche market is defined as "a small market consisting of an individual customer or a small group of customers with similar characteristics or needs" Or "a small market that is not served by competing products" (Dalgic et al., 1994, p.40).

⁴ Alternative organic certification schemes are locally initiated systems whose control structure is not regulated purely by an external or third party certification (TPC) body, a major component that differentiates them from TPC schemes. They include group certification and Participatory guarantee systems (PGS). Their structure is advantageous in greatly reducing certification costs while providing an assurance system of high quality standards of organic production (Herberg, 2007; de Alcântara et al., 2004; Setboonsarng, 2006; Markandya et al., 2015).

smallholder bee keepers' ability to benefit from local organic certification scheme drawing from a Kenyan ASAL case study in Mwingi.

Material and Methods

This is a unique single case study (Rowley, 2002) based on a mixed method approach for data collection and a livelihoods framework as an analytical lens (DfID,1999; Ashley et al., 2000). The study was conducted in Mwingi⁵, Kitui County in Eastern Kenya with estimated poverty levels of 63.5% (Ayuya et al., 2015), bee keeping known to be an important economic activity since time immemorial, has a considerable production of good quality honey compared to all other areas in the country (Nightingale et al., 1983; Muya, 2004; Muli et al., 2007; Warui et al., 2014) and has well-developed pro-poor OA production approaches and marketing systems (Ayuya et al., 2015). Mwingi lies in ASALs characterized by low rainfall ranging from 500-700mm, high variability of rainfall, high temperatures and frequent droughts (ibid). Data were collected from December 2015 to February 2016 from 54 smallholder bee keepers' groups originally organised under a CBO⁶ which is currently a farmers' cooperative. The 54 groups are comprised of 38 organic certified and 16 non-certified groups. Stratified random sampling was used and a total of 303 smallholder farmers (185 certified and 118 noncertified) were randomly sampled. Qualitative and quantitative data were collected for 2015 and 2008 (retrospectively) for purposes of comparing the before and after local organic certification using a pretested HH survey, key informant interviews, informal conversations, participant observation, participatory rural appraisal, internal document reviews and secondary data. All estimates on selected HH specific variables were annual reports from the smallholder bee keepers. The data was analysed in STATA (Stata corp, college station, TX; version 12) using Kruskal Wallace (K-W) test, Wilcoxon rank sum (Mann-Whitney) test (used as a post-hoc test for statistical differences within the variables), Pearson chi-square (used to analyze categorical variables) and descriptive statistics (provided an overview summary of the variables). The statistical methods above were chosen because most of the data variables were not 100% normal as tested using histogram and Shapiro-Wilk (Swilk) tests. Reliability of the data was checked by looking at the medians and interquartile ranges (IQR). In this case, the IQR of most reported values were lower than the median proving that the data was reliable.

Results

Key study results are summarized in table 1 and 2 where statistical analyses and descriptive statistics of selected variables are presented.

Table 1: Impacts of local organic certification scheme in Mwingi indicated by selected descriptive statistics of sampled smallholder beekeepers' households^A

	Non-Certified (N=118)	Certified (N=185)	K-W test	Wilcoxon rank sum (Mann-Whitney)
Honey quantities, prices, costs & income^B	Median^C	Median	χ^2^D	p-value^E
Honey volume (Kgs) 2015	30 (34)	30 (30)	0.90	0.34
Honey volume (Kgs) 2008	15(18)	16 (23)	0.14	0.71
Honey price 2015	2.27 (1.7)	2.84 (1.25)	3.69	0.05**
Honey price 2008	2.10 (2.39)	1.82 (1.84)	1.98	0.16
Annual bee keeping variable costs 2015	11.37 (10.80)	14.79 (11.94)	9.18	0.003***
Annual bee keeping variable costs 2008	17.06 (20.48)	13.08 (13.65)	2.50	0.11
Total honey income 2015	81.89(88.72)	81.89 (90.43)	0.001	0.96
Total honey income 2008	20.47 (26.16)	34.15 (33.35)	1.21	0.27
Bee keeping gross margin 2015	0.85 (0.23)	0.80 (0.81)	3.70	0.05**
Bee keeping gross margin 2008	0.12 (0.70)	0.16 (0.63)	0.05	0.83
Total HH income 2015	1550.8 (1089.6)	1450.18 (1145.36)	2.02	0.16
Total HH income 2008	852.7 (620. 0)	840.65(638.99)	0.19	0.67
HH assets				
Total asset value 2015	1425.73 (1180.05)	1276.96 (1247.15)	2.62	0.001***
Total asset value 2008	915.56 (783.9)	935.67 (710.58)	1.96	0.16

⁵ Within Mwingi's three divisions and 11 wards all purposively sampled basing on existing literature (Ayuya et al.,2015) and key informant interviews noting that it was the only place where Organic bee keeping training and subsequent certification of bee keepers took place. The three divisions are: Mwingi central, Mwingi North and Mwingi west. Mwingi central selected wards: Mwingi, Kivou, Nguni, Nuu, Waita, Mui: Mwingi North selected wards: Ngomeni, Kyuso, Mumoni, Tharaka: Mwingi West selected ward: Kyome /Thaana.

⁶ The CBO was known as Mwingi honey market place which was started in 2002. In June 2015, it registered as a cooperative under the name: Mwingi bee keepers and food crops cooperative society.

Table 1. Continued...

No. of traditional log hives 2015	15 (17)		15 (17)	0.63	0.43
No. of traditional log hives 2008	15 (19)		10 (16)	4.41	0.04**
No. of Langstroth hives 2015	0 (1)		0 (1)	5.71	0.001***
No. of Langstroth hives 2008	2 (1)		2 (1)	1.37	0.30
No. of IGAs & HH group memberships					
Number of income generating activities (IGAs) 2015	9 (2)		8 (3)	9.00	0.002***
Number of IGAs 2008	6 (3)		6 (3)	0.47	0.49
Total group membership 2015	2 (1)		2 (1)	4.68	0.01**
Total group membership 2008	1 (1)		1 (0)	2.65	0.03**
Migration status					
	Freq^F	Percent (%)	Freq	Percent	
Not migrated 2015	85	72.03	143	77.30	
Migrated 2015	33	27.97	42	22.70	

^AThroughout all tables in this study, unless otherwise stated, N=303 (Non-certified smallholder bee keepers=118 & Certified smallholder bee keepers=185)

^BAll incomes reported in this table and in the text of the entire report are gross incomes in USD.

^CMedians are used by the K-W test and therefore for all tables where K-W test is used, interquartile ranges (IQR) are shown in brackets because they are analogous to the standard deviation of the median.

^DThe degrees of freedom (d.f) associated with the chi-square in this table is 1

^EWith the p-value associated with Wilcoxon rank-sum (Mann-Whitney) test, *indicates significance at $p \leq 0.1$, ** $p \leq 0.05$ & ***Indicates significance at $p \leq 0.001$.

^FFor all variables with shown frequencies in this table and in the rest of the report, the total frequency for each variable is 100.

As indicated in table 1, there were no significant differences in the honey quantities produced by the certified and non-certified bee keepers in 2008 and 2015 respectively, though there was an increase in honey production generally. The certified farmers sold only a meagre proportion (12.4%) of their total honey produced in 2015 through Mwingi organic cooperative to fetch the organic price. This was lower than what the same farmers sold through the same channel before organic certification in 2008 (Table 2). Results in Table 2 further indicate that the number of the certified farmers who sold honey through the Mwingi organic cooperative was more than halved (from 34.6% to 16.8%) and tremendously increased for brokers (from 47% to 71.4%) in 2015. Only 31 certified farmers (17%) indicated that they benefited from selling through the organic cooperative since 2008 mainly by acquiring assets from the honey income. The reasons for farmers' not selling through the organic channel as revealed from farmers' reports and interviews with key informants were; lack of funds at the organic cooperative to purchase farmers honey, poor management and lack of transparency by the organic cooperative management which purchased about 83.8% non-certified honey from a broker and only 16.2% organic honey from certified smallholder bee keepers. Further to this, interviews with selected key informants also indicated that lack of compliance monitoring and absence of an internal control system, coupled with lack of sustained NGO support to the organic cooperative, contributed to farmers' disengagement from cooperative activities. The interviews with some key informants and document review further revealed that there was clear indications of lack of transparency, accountability and mismanagement of the Mwingi organic cooperative by the elected management board and technical staff. The interviews further revealed differences in the objectives of the organic cooperative members (the principal) and those of the elected management and staff (agent) which created the principal-agent issues where the agents have not acted in the interests of the principal. As table one further indicates, median total honey price of the certified farmers was higher compared to the non-certified ($p=0.05$) in 2015 with no significant difference in 2008 ($p=0.16$). There was no significant difference between the certified and non-certified honey income in neither 2008 nor 2015. The results further show no statistical difference in the total HH incomes of the certified and non-certified farmers in neither 2008 nor 2015. The certified farmers incurred more variable costs in bee keeping when compared to the non-certified ($p=0.003$) and there was no significant difference in the costs incurred by both groups in 2008 ($p=0.11$). Consequently, the non-certified farmers had a significantly higher bee keeping gross margin in 2015 when compared to the certified ($p=0.05$) with no difference in margins in 2008 between the two groups of smallholders ($p=0.83$). Considering the wealth status in form of assets, the non-certified had a significantly higher median total asset value compared to the certified in 2015 ($p=0.001$). There was no significant difference in the total median asset value of the two groups in 2008 ($p=0.16$). There was a significant association in

asset selling between the certified and non-certified in both 2015 and 2008 (Pearson⁷, $\chi^2 = 8.19$, $p = 0.003$ and (Pearson, $\chi^2 = 8.19$, $p = 0.003$, and $\chi^2 = 8.19$, $p = 0.01$) respectively with the certified selling more assets as compared to the non-certified farmers. Results further show a significant association between food security situation (reports of a HH being able/not able to meet its HH food needs as a proxy) and organic certification (Pearson, $\chi^2 = 10.09$, 1 d.f, $p = 0.001$) with the certified farmers reporting to be more food insecure. A comparison of the certified and non-certified farmers' number of IGAs in table one indicated no significant difference in 2008 before organic certification ($p = 0.50$). However, after organic certification, there was a significant difference between the two groups with the non-certified farmers having a higher number of IGAs as compared to the certified ($p = 0.002$). There was a significant difference between the number of groups of the certified and non-certified farmers in 2008 where the certified were in fewer groups compared to the non-certified ($p = 0.03$). However, the number of group memberships increased for both the non-certified and certified farmers in 2015 with significantly more groups for the certified as compared to the non-certified ($p = 0.01$). Results indicated no significant association between the certified and non-certified farmers as regards the incidence of migration (Pearson, $\chi^2 = 1.072$, $p = 0.30$).

Table 2: Number of smallholder bee keepers and honey quantities (Kgs) as distributed within different market channels from Mwingi smallholder bee keepers' reports in 2015

Market channels	2008						2015					
	Non-certified (N=118)			Certified (N=185)			Non-certified (N=118)			Certified (N=185)		
	Freq	%age	Honey sold (Kg)	Freq	%age	Honey sold (Kg)	Freq	%age	Honey sold (Kg)	Freq	%age	Honey sold (Kg)
Mwingi honey organic cooperative	31	26.27	166	64	34.59	566	2	1.69	44	31	16.76	932
Brokers	65	55.08	1680	87	47.03	2,465	105	88.98	4346	132	71.35	5296
Individual processors	3	2.54	0	6	3.24	310	3	2.54	326	5	2.70	647
Consumers	1	0.85	10	4	2.16	106	0	0	0	3	1.62	25
Did not sell honey (Honey consumed)	18	15.25	435	24	12.97	470	8	6.78	507	14	7.57	615
Total	118	100	2341	185	100	3917	118	100	5223	185	100	7515

Discussion

The study did not find any significant impacts of certification on quantity of honey produced comparing the certified and non-certified though the quantities were obtained from farmers' reports that might reduce the accuracy of the results as compared to use of long term experimental measurements. The finding on quantities contributes to the debate on whether OA has an impact on increasing yields in smallholder agricultural systems in developing countries and specifically East Africa that points to the need of more studies on the issue as also identified by other scientists (Seufert, 2012). Results indicate generally low quantities of honey produced by both certified and non-certified though there have been increases for both groups in 2015 when compared to 2008. These lower quantities produced indicate a general need for honey production improvement for Kitui county to reach its honey production potential which was still at a deficit of 67% as reported in Mbwika et al. (2013). This is relevant to the Kenyan government if it is to reach its unexploited honey production potential (Carroll et al., 2013). With regards to honey prices, though Mwingi organic cooperative prices were stable compared to the prices of all the other market channels, they were not significantly higher making them almost similar to prices on the conventional market. This makes the Mwingi organic cooperative price lose meaning of being a 'premium' price since in most cases premium prices are significantly above the conventional market prices to reward producers for their additional efforts of practicing OA (Bacon et al., 2008; Mendez et al., 2010). The non-premium nature of the Mwingi organic cooperative price makes it less attractive to the

⁷ With the Pearson chi-square, $p \leq 0.05$ was taken to indicate a significant association throughout this paper.

farmers besides other challenges that might hinder them from selling through it. In this study, the Mwingi organic cooperative prices have been accessed by a very limited number of the certified farmers since 2008 who have always sold smaller quantities of honey through it. More surprisingly, the supply of organic honey by the certified farmers to the Mwingi organic cooperative was more than halved in 2015 as compared to 2008 as producers sold their organic honey to alternative markets especially to the brokers. This attests to the limited number of the certified farmers (17%) who have accessed the certified price leaving out 83%. Such a small number of beneficiaries shows limited evidence of livelihood improvement from the local certification scheme. These results of farmers selling meagre amounts through the certified market channels are consistent with other studies on organic certification e.g. coffee in Latin America and East Africa which have found that smallholder farmers sell outside the certified channels due to relatively low farm gate prices offered by the certified market channels coupled with delayed payments as opposed to the producers' need of urgent funds to fulfil their HH requirements (Bacon et al., 2008; Mendez et al., 2010). In the same vein, producers who sell through alternative markets, especially to brokers in this area do so because brokers pay in cash and are flexible with transport means, thus can collect honey directly in farmers' areas. In fact, the high cost of transport is one of the barriers to smallholders' market access as revealed by Ayuya et al.'s (2015) study findings that market access in terms of distance was one of the challenges for smallholder bee keepers in Mwingi. The study results further concur with Shiferaw et al.'s (2006) and Shiferaw et al.'s (2011) findings in Eastern Kenya that brokers or assemblers, rural wholesalers and transporters were powerful in terms of reaching farmers and being able to purchase their honey in their local areas. For that matter, farmer associations or cooperatives needed to be well organized in order to bypass them (ibid). Further to this, literature indicates that certifications work well for kinds of cooperatives such as those that are highly organized and built on the foundations of good leadership, financial accountability and transparency (Fox, 1992; Mendez et al., 2010; Baka, 2013;). These fundamental aspects were non-existent in Mwingi organic cooperative and this could have contributed to the failure of farmers' participation and hence the lack of certification impacts. Such reasons are consistent with what has been found regarding the failure of many cooperatives in developing countries because of problems in ensuring that the management is accountable to members (the moral hazard) that leads to inappropriate political activities and/ or financial irregularities in management (Sira et al., 1991; Akwabi-Ameyaw, 1997). Such lead to cooperatives' disintegration when membership and sale volumes decrease which in turn has negative effects on profits and hence low margins (Gray et al., 2002).

The higher total physical asset value for the non-certified as compared to the certified HHs could be attributed to the fact that the former were more diversified and could therefore earn slightly more income for reinvestment into assets than the latter. This is supported by other study findings that diversification is positively correlated with high income and total asset value e.g. Ellis (2000) and Barrett et al. (2001a). The higher number of groups by the certified HHs shows that they benefited from certification a higher access to connections and support networks which are vital assets for rural HHs in developing countries. This is consistent with results from different certification impact studies which have shown that certifications expand HH's social networks and access to support groups e.g.(Bebbington, 1996; Raynolds et al., 2004). However, there was inefficiency of the Mwingi organic cooperative in mediating between the certified HHs and the OA supporting and certification organisations. This impeded the growth of real organic certification oriented social capital for the certified farmers. According to Ayuya et al. (2015), smallholder farmers are overly depended on the services of external agencies as regards OA in this area. This can be deleterious as it perpetuates farmers overdependency syndrome on NGOs and donor agencies that start and support directly or indirectly development initiatives mostly without clear sustainability strategies. Therefore, there is need for logical and efficient sustainability plans for the continued existence and proper performance of supported development initiatives. This could help to maintain social ties created during the implementation of such development interventions. The non-certified farmers perceived themselves to be more food secure compared to the certified. This could be attributed to the fact that the certified farmers were involved in fewer IGAs, which could have affected their overall income generation potential and hence low gross income as compared to the non-certified. The low gross income leads to less capability to

purchase food since generally HHs' food production potential is greatly limited by the climatic and soil conditions prevailing in this area (Bationo, 2007). Similarly, Mendez et al. (2010) did not find organic certification impacts on the food security status of the smallholder coffee producers in Central America and Mexico. Related to this, food security studies done in ASALs have noted that food insecurity is the most pressing need for many of the ASAL regions' HHs (Barrett, 2002; Shanguhya, 2008; Muoko, 2010). Barret's (2002) study indicates that diversification is important in dealing with food insecurity in ASAL areas prone to climatic extremes. However, it is important to note that this study did not consider all dimensions of food security as this was beyond its scope. There is therefore need to explore food security issues more because many certified and non-certified HHs reported being food insecure and also because using other food security measures might yield different results. The low number of IGAs involved in by the certified farmers can partly be linked their intensification/ specialization in bee keeping after organic certification. This required them to get involved in more bee keeping activities as compared to the non-certified which in turn implied more production costs. This, coupled with less and or/ no sales through the organic cooperative affected their overall gross margin which in turn resulted in low honey gross incomes. Certifications have been linked to migration where the improved income that comes from access to premium markets helps certified HH members to earn more income which enables them to migrate in search of more profitable IGAs as indicated by some studies on certification impacts e.g. (Lewis, 2005). The study found twice emigration of the certified coffee HH members when compared to the non-certified producers (ibid). However, this study's results did not find any such impacts between the certified and the non-certified HHs' members. This can still be partly pinned to the fact that no increased income could be earned to support the migration of the certified HH members as was the case for the identified case studies in Oaxaca, Mexico (Lewis, 2005). In the Kenyan ASAL, HH' member migration was found to be common in young people searching for profitable IGA alternatives where Mugo et al. (2015) recommended that bee keeping could be a viable option for the young people and could reduce their migration in search of profitable IGAs. This study did not find patterns that point to organic bee keeping helping to curb or support HH member migration. This can be pinned to the fact that organic bee keeping was not a major IGA in the farmers' strategy and therefore it might not influence HH migration as compared to e.g. coffee which is usually a major IGA for the coffee producers. Therefore, organic bee keeping and HH migration especially in the ASAL might need to be studied in detail to ascertain findings in this study.

Conclusions and Outlook

Based on the major study findings, there were no discernible impacts of local organic certification on HH incomes, honey quantity produced and sales prices of the certified farmers. The quantities of honey sold through the organic cooperative by the certified were very low which translated into lower honey income contribution to their total HH income. The certified farmers intensified their bee keeping activity which reduced their capacity to perform a wide range of other income generating activities. This further negatively impacted on their total household income. Quite contrary, the non-certified farmers had a more diversified income portfolio, perceived themselves to be more food secure and sold fewer assets than the certified. Further, local certification had insignificant effects on HH level migration incidence. On a positive note, local certification linked the certified to more support networks. However, linkage to organic support networks has stalled due to a break off between the certified farmers and their organic cooperative which is a major link to these networks. As a market mechanism, the local organic certification scheme has performed poorly given its positive impacts on only 17% of the certified farmers. An overhaul of the institutional and organisational framework in which the organic cooperative operates is needed. This is to ensure transparency and accountability, adherence to organic cooperative internal rules and regulations and the Kenyan cooperative act. This in turn would provide an enabling environment to enhance rebuilding trust of members in their cooperative to revitalize its organic honey marketing activities. Committed organic support volunteers or supporting agencies are greatly required to offer continuous coaching and monitoring of local certified organic schemes to ensure their efficiency and sustainability in a midst of low capacity within the local communities.

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