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**One Stop Organic Shop East
Africa (OSOSEA)**

**Kenya Policy Gap Analysis Study
Report**

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EXECUTIVE SUMMARY

This report outlines the findings from the Policy Gap Analysis Study for the OSOSEA project. The overall aim of the survey was to gather and provide product and market information and support services; facilitate linkages between producers, processors, aggregators, traders, exporters, and consumers; and create a platform for policy advocacy to enhance cross border trade. In Kenya the macadamia value chain with a focus on Kirinyaga and Embu counties was selected. The objective of the policy gap analysis study therefore was to gather data, document and analyze resource poor farmers’ barriers to organic trade, leading to conclusions and recommendations for remedial action, particularly relating to policy advocacy. The study carried out took a mixed methods approach comprising of a desk study, 6 key informant interviews as well as borrowing from 4 farmer case studies that were carried out under the baseline study of farmers.

The summary of findings is provided here:

The value chain for macadamia is generally short covering farmers, at the primary end of the chain most of who are smallholder farmers. Also in the value chain are cooperative societies or producer groups, brokers, and local processing companies. At the other end of the value chain are foreign wholesalers and retailers as majority of the crop is for export as opposed to local sale and consumption. Other players in the value chain include banks and micro-finance institutions.

The barriers to trade in organic macadamia produce in Kenya are mainly poor nut quality, high cost of inputs, and limited access to markets. There is low productivity and inferior nut quality as compared to that of large-scale macadamia farmers, resulting in poor prices. This is caused by inadequate knowledge and access to information including inadequacy of information on the right varieties for the various Agro-ecological zones. Also inadequate extension services which therefore result in poor agronomic and husbandry methods hence low quality nuts, as well as insect pest damage. Existence of too many brokers in the macadamia trade also results in poor prices for the farmers which is unethical. Additionally entry to macadamia farming and/or expansion is difficult for smallholder farmers as seedlings are too expensive for such farmers to afford. In terms of markets, the trading processes and scenarios are still far from ideal. For example the ban of export of raw nuts is said to harm the small farmers because any time the ban is imposed it causes a drop in the price of nuts. Further, smallholder farmers cannot manage to transport their produce to the factories hence have to rely on brokers to buy from them at the farm-gate at less than optimal prices. Organic macadamia production also requires farmers to be certified. Key informants have said that while the market for organic macadamia may be more lucrative, the process of certification is quite tedious which may therefore lock out farmers. These barriers are influenced directly or indirectly by existing policy and/or the lack of it and in essence restrict resource poor farmers’ access to organic markets for macadamia. The policy issues and recommendations thus are summarized below:



Inputs

The government needs to develop policies that will enable farmers to access seedlings affordably. Policies that support the formation of programmes such as processors providing the inputs thereby tying the farmers to a contract to supply them, or government providing subsidized seedlings e.g. through KALRO, farmers being supported through extension services to develop their own nurseries are but a few examples. The government through policy also needs to protect the processors so as to encourage them to invest in the training and inputs for organic farming and certification. Another school of thought is that processors should also be compelled by the government to develop nurseries for seedlings based on their quantities of exports.

The government should also develop policies to help regulate the sale of seedlings so that sales are made with certain conditions and knowledge of the farmers and where they are farming. In so doing, the best variety for any given farmer will be sold for the best results based on their agro-ecological zones. Alternatively or additionally, policies that support education of the farmer would help them know what varieties they should buy. Policies that support nursery formation by processors and farmer groups alike need to be developed and implemented with a push specifically for multiplication of the new varieties.

Further still in terms of inputs, the government should come up with policies to support use of organic inputs like pesticides and fertilizers e.g. through extension

Farming

There is need for a practical curriculum for farmers; one that encompasses organic production. The government needs to take charge of the development of this curriculum and bring on board all the stakeholders to participate in its development. Hand in hand with this is provision of adequate extension support for further education and awareness creation on best organic crop husbandry practices in a hands-on and practical manner.

Policies around the harvesting of the macadamia nuts also need to be reviewed. Though the government has tried to focus much on regulation in terms of immature harvesting of nuts, smuggling of raw nuts for export, there is still a gap here in that the practices are still rampant. There is need therefore need for policy to strengthen regulation perhaps instituting tighter controls at county level. Policies that result in the increase of security in and around the farms and the produce should also be looked into as theft of nuts is a major issue which lends to poor quality yield since the nuts are often harvested immature.

Currently there is also an absence of laws to protect smallholder farmers who are practicing organic macadamia farming. The situation on the ground is such that not all farmers join organic



farming hence what neighbouring farmers do in terms of use of chemical and synthetic fertilizers and pesticides affects the organic farmers. Additionally some regulations on intercropping are also needed over and above training so that farmers intercrop macadamia with crops that are not pesticide intensive like coffee. There should be an organic crop protection policy that should include this among other things.

Selling/Marketing

Some checks and balances are needed as far as marketing and selling of macadamia is concerned if the farmer is truly to be protected. The government has instituted some controls and regulations but none in marketing or pricing which has left the farmer at the mercy of the brokers. Unscrupulous practices, seen and unseen persist as perpetrated by the brokers and the processors through the brokers. For example one Key Informant informed us that most of the weighing scales at the buying centres are faulty – calibrated to be in the favour of the broker so that the weight of the farmers produce is lower than the actual weight thus resulting in less pay for him/her than actually deserved. Tighter controls therefore are needed by the county governments so that even equipment such as this is inspected from time to time.

Smallholder farmers need to be strengthened so that they can have a stronger voice and say in the value chain. There is need for an intervention at policy level to require farmers to form groups and/or belong to groups. There need to be clear guidelines or standards for the formation, management and functioning of these groups so that farmers can reap the benefits such as collective bargaining strength so that they can attract a better price for their produce especially if they bulk and sell as a group.

Formalizing the channel of macadamia production and sales would also resolve the issue of theft, premature harvesting and sale of nuts. The macadamia industry can borrow from the tea sector where all tea farmers are registered and can therefore be the only ones to sell their tea to the factories. All macadamia farmers must be registered with details of their trees and level of production so that only those who own macadamia farms can be allowed to sell their nuts.

Brokers have been known to be very unscrupulous in their buying and selling activities. It is therefore not enough to register them, but also ensure the rules under which they are allowed to operate are stringent. Alternatively policies can be put in place to redefine the broker to become a direct agent of the processor companies, employed by the companies so that when they approach the farmer it is very clear who they are working for and under what guidelines. This will increase responsibility and accountability in the industry.



Processing

There is need for the processors to be compelled to maintain certain standards of trading so as to benefit the farmer as well as invest more in the crop. Failure to do so will see the farmer ripped off to a point where they opt to abandon macadamia production and do something else as was the case with coffee. A law should be passed that forbids them from accepting immature nuts. Were the processors not to take the immature nuts then there would be nowhere to sell them and the farmers and brokers would be forced to wait for the nuts to mature.

There is also need to develop small scale industries for processing macadamia at the village level i.e. cottage industries. This will greatly reduce handling problems which is key when it comes to organic produce, reduce pollution in movement of the produce, enhance employment at village level and increase responsibility and motivate farmers so they see what is coming out of their own work.

Processors should also be compelled by law to practice either organic or conventional macadamia production, but not both. This would further enhance traceability and reliability thus increasing consumer confidence at the end of the value chain.

Export

As previously intimated, there is an opportunity to do more in terms of investing in research and knowledge exchange from an international market perspective. In so doing we can better channel local investment and growth in the macadamia industry so as to introduce best practices and deliver what the end consumer in the international market wants given that 90% is for export. The government therefore needs to put in place policies that support regular research and development in macadamia.

The government also needs to be lobbied to develop a policy on organic production. In the case of macadamia in particular this makes a lot of sense what with the premium prices available for the same in international markets. There is opportunity to use macadamia as the entry point for a drive for an overall organic policy for the country by building awareness and support for the same through organic macadamia.



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LIST OF ACRONYMS

AFFA	Agriculture Fisheries and Food Authority
KES	Kenya Shillings
KIIs	Key Informant Interviews
KOAN	Kenya Organic Agriculture Network
MT	Metric Tonnes
NOGAMU	National Organic Agriculture Movement of Uganda
NutPak	Nut Processors Association of Kenya
OSOSEA	One Stop Organic Shop East Africa
TOAM	Tanzania Organic Agriculture Movement



1.0 INTRODUCTION

1.1 Project Background and Context:

Ecological agriculture fosters biodiversity that is, in itself, resilient to impacts of climate change (Ensor, 2009). It depends on and sustains ecosystem services as well as tapping into and enhancing the knowledge, practices and innovations of local communities leading to more reliable and increased food security and incomes. Biodiverse agriculture works with nature, in contrast to the 21st century ‘conventional/industrial’ agriculture, which leads to factory-style agricultural systems and reduced diversity (Lim Li Ching, 2011). The challenge confronting East Africa then is to speed up, scale out, and share relevant knowledge, practices and experiences and appropriate policies and strategies to put into practice ecological organic agriculture by educators and farmers.

Policy barriers to regional organic trade abound. For example, the different national Bureaus of Standards do not recognize each other’s compliance certificates for processed goods. Kenya’s maize export ban seriously compromised regional trade, while the introduction of GMOs hinders access to lucrative European markets for organic produce. It is clear that policy makers need to be lobbied to support reforms and provide exceptions to well-meaning but counterproductive policy instruments.

There are constant complaints from buyers / processors / exporters that there are no organic products, and from organic producers that there is no market. The reality is that there is a ready market for quality natural produce, and many thousands of producers looking for markets. It is clear there is weak communication and coordination between the different actors along the value chains. Meanwhile consumers are constantly asking: “Where can we buy organic produce?” Driven by health consciousness and food safety concerns around chemical contamination, it is clear that consumers are ready to buy if produce is available.

1.2 Purpose of the Study:

Tanzania Organic Agriculture Movement (TOAM) in collaboration with the Kenya Organic Agriculture Network (KOAN) and National Organic Agriculture Movement of Uganda (NOGAMU) wish to create an influential joined-up lobbying and advocacy mechanism to tackle policy barriers to trade in organic products, as well as creating a One Stop Shop for the Organic Sector in East Africa. The One Stop Shop will gather and provide product and market information and support services; facilitate linkages between producers, processors, aggregators, traders, exporters, and consumers; and create a platform for policy advocacy to enhance cross border trade. In preparation for this they sought to carry out policy gap analysis studies in each of the three countries. The studies aimed to:



- Undertake research and gather data on the policy gaps that hinder or facilitate national, regional and international trade in organic macadamia,
- Estimate the value of organic trade lost by policy barriers,
- Raise consumer awareness,
- Lobby governments on key policy barriers,
- Create three national and one regional organic policy platforms.

Research PLUS was commissioned to carry out the Kenya study. This document outlines the report for this study.

1.3 Scope of Study and Objectives:

In Kenya the macadamia value chain with a focus on Kirinyaga and Embu counties was selected. The objective of the policy gap analysis study therefore was to gather data, document and analyze resource poor farmers’ barriers to organic trade, leading to conclusions and recommendations for remedial action, particularly relating to policy advocacy. Specific objectives/research questions are as follows with information areas for each:

Table 1: Research Objectives, Questions and Information Areas

Research Objectives/Questions	Possible Information Areas
1. To document and analyse barriers to trade in organic macadamia produce in Kenya	<ul style="list-style-type: none"> - Types of players in the macadamia market - Roles of the different players in the macadamia market - Typical macadamia trading scenarios/processes and how the different players interact - Challenges/bottlenecks experienced in the different trading scenarios/processes - Opportunities
2. To identify policy barriers that restrict resource poor farmers’ access to organic markets for macadamia	<ul style="list-style-type: none"> - Current policies (national and county level) on crops and more so oil and nut crops and how they restrict market access - Current policies on macadamia (national and county level) and how they restrict market access - Current policies on local and international trade and how they restrict



	market access
3. To estimate the value of organic trade lost as a result of the barriers identified	<ul style="list-style-type: none"> - Current estimated volume and value of macadamia traded - Current estimated volume and value of organic macadamia traded as a proportion of macadamia traded - Maximum potential volume and value of macadamia trade - Maximum potential volume and value of organic macadamia trade - Why the difference? Links to barriers?
4. To document evidence of hardship caused by the barriers identified	<ul style="list-style-type: none"> - Specific stories of adversities, destitution, suffering or difficulties caused as per each barrier identified
5. To identify key recommendations that can improve resource poor farmers access to organic markets / national trade of organic produce in Kenya	<ul style="list-style-type: none"> - ‘Ideal’ trade attributes/scenarios and processes and reasons thereof - Steps that can be taken towards achieving the ‘ideal’
6. To guide future awareness raising, advocacy and policy improvements in the organic sector in Kenya	<ul style="list-style-type: none"> - Descriptive ideas, views and suggestions on awareness, advocacy, and policy interventions



2.0 STUDY METHODOLOGY

The study carried out took a mixed methods approach comprising of a desk study, key informant interviews as well as borrowing from farmer case studies that were carried out under the baseline study of farmers which has been reported on separately.

2.1 Desk Study

A desk study was conducted to help gather and analyze relevant data that would help give as close as possible an indication of the policy gaps in organic trade as relates to macadamia. From the desk study, a thorough literature review and analysis of issues that satisfy the research questions was conducted and developed into an initial report. Information gaps identified were used to develop the interview guides for the Key Informant Interviews and the Farmer Case Studies.

2.2 Key Informant Interviews

The desk study was supported by interviews of Key Informants i.e. people who are extremely knowledgeable about the organic market for Macadamia and/or macadamia farming in Kenya with special emphasis on Kirinyaga and Embu counties. With regard to objective 3, in order to support any statistics that might become available through the desk study, respondents will be asked to give realistic estimates of the values and proportions over a given period of time. Interviews were done in-person at the convenience of the respondents.

A total of 5 KIIs was targeted and a total of 6 were achieved due to a last minute recommendation to include a bonus one that was expected to give more useful insights. Selection of Key Informants to satisfy this sample size was done purposively with a lot of input and support from KOAN to identify the most suitable persons to be interviewed with regard to satisfying the critical information areas where there are knowledge gaps. The number of interviews carried out sufficed to satisfy knowledge gaps and further enrich the draft report developed from secondary data at desk study stage. The achieved sample distribution was as follows:

- 1 Government Authority
- 2 Processors
- 1 Research Institution
- 1 University
- 1 Nut Processors Association

2.3 Farmer Case Studies

Similarly, alongside the Key Informant Interviews we carried out 4 farmer case studies so as to bring alive the findings in form of ‘real life’ stories that supports or illustrate the key findings as



derived from the desk study and the Key Informant Interviews. Though the farmer case studies were carried out under the baseline study we extracted some information needed for this policy gap analysis study since the overall topic of discussion was the same and the locations of study were the same. A total of 4 farmer case studies were carried out; 2 in Embu and 2 in Kirinyaga.



3.0 FINDINGS

3.1 Macadamia Farming in Kenya

3.1.1 Introduction

Kenya is the pioneer of macadamia farming and production in Africa (Nutpak, 2012). Having been first introduced in Kenya in 1944 from Australia via Hawaii, the farming of this crop has a long history in Kenya's agricultural sector with widespread production taking off in the late sixties. The crop is mainly farmed by smallholder farmers as an intercrop with other cash crops e.g. coffee and food crops. Most farmers own 5 to 100 trees each, all at various ages or stages of growth and cultivated under a wide range of husbandry practices (CAB International, 2005). Latest estimates from Nutpak indicate that there are over 2 million smallholder farmers in the country. Traditionally macadamia has been grown in Central and Mount Kenya regions but other areas have recently emerged including Taita hills, mid Rift Valley, and Western Kenya. On average every tree yields about 40-60kg per year which translates to 1.8 tons per hectare (In Shell) and 400 Kilos (Kernel). The projected production (In-Shell) by year 2020 is 30,000 MT (Nutpak, 2012). Indeed steady growth in export has been realized since the early 1990s (CAB International, 2005). The table below shows the latest production quantities by county.

Table 2: Macadamia Production Volume and Value by County

County	Area (Ha) 2013	Area in (Ha) 2014	Quantity (MT) 2013	Quantity (MT) 2014	Value in Million (KES) 2013	Value in Million in (KES) 2014
Kiambu	416	416	3,816	4,007	202.30	212.42
Muranga	308	308	3,037	3,189	200.30	210.32
Meru	437	437	2,833	2,975	168.70	177.14
Nyeri	149	149	2,516	2,642	135.60	142.38
Kirinyaga	235	235	1,901	1,996	114.40	120.12
Embu	762	762	2,610	2,741	149.90	157.40
Tharaka	158	158	936	983	51.10	53.66
Taita Taveta	243	243	1,057	1,110	41.10	43.16
Others	369	369	2,216	2,327	68.00	71.40
TOTAL	3,077	3,077	20,922	21,968	1,130.60	1,188.00

Source: AFFA, 2013 and 2014

The government noted the importance of macadamia as an export crop hence why it was made a scheduled crop and is now being regulated.



3.1.2 The Macadamia Value Chain

The value chain for macadamia in Kenya is generally short. It includes farmers, at the primary end of the chain most of who are smallholder farmers. Also in the value chain are cooperative societies or producer groups, brokers, and local processing companies. At the other end of the value chain are foreign wholesalers and retailers as majority of the crop is for export as opposed to local sale and consumption. Other players in the value chain include banks and micro-finance institutions. The roles generally played by the different members of the value chain are as follows:

- Farmers – production and initial nut processing including harvesting, drying and storage.
- Cooperative societies/producer groups – collective marketing and selling on behalf of various farmers.
- Brokers – buying from farmers on behalf of main processors as well as export market
- Processors – over and above buying from farmers and processing of the nuts, also provide advisory services, training of nursery men, and provision of planting materials.
- Wholesalers – Sell to retailers.
- Retailers – Sell to end consumer.
- Banks/Micro-Finance – Provision of credit to farmers.

Interviews with Key Informants reveal that the value chain for organic macadamia is shorter than that of conventional macadamia. This is because the processors realize the need to have a more direct relationship with the farmers so as to ensure that organic requirements and standards are adhered to. As such, many of the middlemen i.e. the brokers who are a typical characteristic of many value chains are cut out.

“If you deal organic it must be direct organic, direct method because you need to keep your tabs on what the farmer is doing so they is no way you... you are not gullible so if a company wants to do organic farming they must invest in serious extensions system because you have to monitor surveillance and all that and then you have to hand hold the farmers for them to adopt the best practices” **Processors Association**

3.1.3 Macadamia Trading Processes/Scenarios

The typical trading scenario is that the farm-dried nuts are sold mainly at the farm-gate to the brokers who then sell on to the main processors (CAB International, 2005). Interviews with Key Informants confirm this to be the case. Most often brokers approach farmers and negotiate a price, after agreement the brokers organize for people to harvest and de-husk. Thereafter the produce is weighed and the farmer is paid. The broker then transports the macadamia to the local buying center, where this produce is put together with that which has been collected by other



brokers. The processor then shuttles this to the factory where further sorting and testing is done and drying and packaging for export.

“When the processor is collecting nuts in that area, He knows if I buy a hundred kilograms of nuts I will probably get just about twenty kilograms of kernel and so he works backwards, I will say so the maximum price I can offer for this is this, so they sort themselves out well in advance. If the crop improves, too good for the processor”

Research Institute

According to CAB International, 2005, selling however also occurs through the SACCOs who then sell to the processors or the brokers though during our study we did not find any farmers who were selling through SACCOs. Also, though not explicitly stated in any of the available literature or secondary data reviewed, it is implied that the processors also buy directly from the farmers given that they provide extra services like advice and planting material to these farmers. Indeed

According to key informants, the organic trading process/model of macadamia cuts out the broker which is more beneficial to the farmers. It empowers farmers to participate in the value chain and to enhance their bargaining positions and incomes. Farmers are empowered to take ownership of the value chain and to take on more roles such as transport, bulking and quality management. The organic macadamia trading process also enables traceability. This should be an incentive for the government to support organic macadamia production.

“If you look at that package in Germany, it will tell you this nuts comes from farmer x located in this GPS location, harvested on these dates, dried on these dates, processed on these date, packed on this date and if you go to the Macadamia Fans website which is open to the members you can be able to track” **Research Institute**

3.1.4 Trading Challenges/Bottlenecks

According to deliberations by various stakeholders (CAB International, 2005), some of the main challenges that arise with the current trading scenarios and roles and responsibilities of the different players in the value chain can be summarized as follows:

Nut Quality

There is low productivity and inferior nut quality as compared to that of large-scale macadamia farmers, resulting in poor prices. Contributing factors to this situation is the inadequate knowledge and access to information including inadequacy of information on the right varieties for the various Agro-ecological zones. This is coupled with inadequate extension services which therefore result in poor agronomic and husbandry methods hence low quality nuts. Quality of nuts is also affected by insect pest damage (CAB International, 2005).



“But you find that even before that there are people who are buying it locally, unaona tu ma lorry sha!! Inaenda (you just see lorries taking off with produce).” Processor (on sale of immature nuts in months when the ban has not been lifted)

Although there has been a ban on harvest of immature nuts, the practice still persists as confirmed by the key informants. It would be beneficial to invest in more education and awareness for the farmers as opposed to just regulation – people will find a way to circumvent regulation if they do not understand why the regulation and why it is good for them. The situation is such that the government has invested more in regulation but not as much in education and awareness. Farmers need to know when to harvest and how to harvest. They need to appreciate how they would be better off in terms of better yield if they adhered to best practices and that they would earn more from their nuts if they waited for them to mature. Additionally, farmers need change of mindset and behaviours as they have got accustomed to doing things in certain ways and may not see the need to change just through regulation; instead education and awareness are key. For example farmers are often not open to top work by KALRO on their old trees so as to graft the new varieties. They are content with the 10kgs per year that they get from the old varieties.

In terms of quality and yield, farmers are not knowledgeable about the new varieties and what can do well in their ecological zones. Discussion with key informants revealed that there are more than 10 varieties now available but to a great extent, farmers still plant the 2 that were first introduced in the country. The new varieties are much better in terms of yield i.e. quantity and quality. However the key informants also caution that farmers should not just rush to invest in the new varieties without certainty as to which specific ones would do well in their zones. Failure of this could result in them investing in particular varieties only for 5 years to lapse after the trees are mature only to find they were not the best for their zone.

According to the Key Informants, lack of knowledge and awareness that impacts nut quality also abounds amongst other members of the value chain and not just farmers. The agro vets for example also lack information.

“If you walk into an agro vet today and ask him what fertilizers do I use for Macadamia more often that they hesitate... they don’t know, most likely they will treat it maybe probably like any other tree crop. So that is one of the areas which was addressed... that was identified as a drawback at the stakeholders’ forum” Research Institution

Discussions with some key informants as well as farmers revealed that those who have embraced organic farming are reaping the benefits in terms of better quantities and quality of yield. This is because organic macadamia farming not only focuses on forbidding use of chemical/synthetic



fertilizers and pesticides, but also teaches the farmers about proper care and husbandry of the trees which then results in better yield. Unfortunately however there exist misconceptions about organic farming in that some believe that it produces low yields given that by default our smallholder farmers are organic since they do not do anything to the trees resulting in low yields. These misconceptions may be the reason why there is no serious uptake of organic farming as an issue for policy.

“Can anyone show me a package of inorganic solutions to a farmer who has a one acre plot growing maize that can actually double his productivity? It’s almost non-existent really.” **University Representative**

Brokers

It appears that the existence of too many brokers in the macadamia trade not only results in poor prices for the farmers which is unethical (CAB International, 2005), but could also be a contributing factor to the limited extension services. The existence of more and more brokers would likely push the main processors further and further away from working directly with the farmers hence severing the relationship where the processors input in terms of advice and planting materials in order to get a good harvest from the farmers.

The KIIs confirmed that brokers are the biggest challenge to the macadamia value chain. Broker challenges are not unique to the smallholder macadamia farmers but replicated across other value chains – the farmer is always losing because he lacks information and bargaining power. Other players in the value chain are better informed and use this to their advantage. Some key informants especially those who are pro-organic were quite adamant that brokers should be done away with altogether while others feel they should be maintained but the bigger proportion of business in the value chain should be direct between farmer and processor or at least 50-50. They suggest formation of farmer groups to empower the farmers even as they deal with the brokers. The same groups can also be used to pass on knowledge, education and awareness on best practices of macadamia farming.

Increased competition is bringing about improved and more efficient trading processes for example where farmers quantity of harvest is recorded digitally and payment transferred to them real time through mobile money. Processors are however competing for limited nuts as currently demand outweighs the supply. As such many processors are enlisting the help of brokers to go out to the farms and purchase macadamia from the farmers. The gap between the processor and the farmer is thus widened. AFFA has been registering brokers but not really regulating them. Brokers are being used by the companies to go and buy nuts from the farmers at as low as KES 20 even when the embargo for nut selling has not been lifted. The processor companies are hiding behind the brokers. Additionally those investing in organic farming of macadamia i.e. processors are disadvantaged as there is no law compelling farmers to be tied to them despite the



heavy investment they make towards registering the farmers, training them on organic production, and getting them certified, among other extension services they offer to these farmers. They are not sure that the farmers will sell their nuts to them. This leaves such organic processors in a very vulnerable position. One says that 90% of the produce from their farmers is bought by other processors! They have the capacity to do 700 tonnes of organic produce of macadamia at the moment but cannot do so with other processors also competing for the same nuts from the same farmers.

“We are only left with 10% so now organic becomes discouraged so many players in organic they even say let us do the conventional and play the dirty game.” **Organic Processor**

Based on data from the OSOSEA Baseline Survey carried out alongside this study, organic farmers in the Embu and Kirinyaga counties are producing 2782 MT while conventional farmers are producing 1955 MT. This is despite the proportion of organic farmers and conventional farmers being approximately 50:50. This means that if more farmers were to adopt organic farming methods, the production quantities would increase. We are losing 832MT more that conventional farmers could do if only they adopted organic farming. This translates to a value of KES 95,680,000 working with an average price of KES 115 as computed also from the Baseline Survey.

Cost of Inputs

The CAB International 2005 report also indicates that most farmers lack modern equipment for production and processing, and cannot afford the high cost of farm inputs as their household incomes are quite low which also implies therefore that access to credit is sufficiently lacking despite the existence of banks and micro-finance institutions in the value chain. Indeed key informants confirm that entry to macadamia farming and/or expansion is difficult for smallholder farmers. Seedlings are too expensive for such farmers to afford. In terms of input cost of organic fertilizers and sprays is actually lower than that of conventional ones but there is little or no awareness amongst farmers and also how they can identify and where to get them.

CAB International, 2005 also indicates that the tendency to export in-shell nuts is also killing the local industries as farmers are also unaware of the final products. The main perpetrator of this is the broker as implied by the literature. Findings from KIIs indicate that the government focuses much on regulation in the macadamia value chain and not much else. Immature harvesting of nuts, smuggling of raw nut exports, are their main concern. Even then, the regulations are not working very well as the farmer is still suffering as is the job seeker/employee at factory level because smuggling still goes on as does theft of nuts, as well as brokers buying immature nuts.



The tragedy of this local trading scenario and the challenges as described there above is that when international market prices are good as has been the case in some years, inadequate availability of high quality seedlings and the high cost attached to the available planting materials is a major bottleneck to rapid expansion of Macadamia in Kenya.

Markets

Although it may seem that smallholder macadamia farmers are easily able to access market by virtue of the demand outstripping the supply, the trading processes and scenarios are still far from ideal. To start with, the although the ban of export of raw nuts is good in terms of creating processing jobs, some key informants state that it harms the small farmers because any time the ban is imposed it causes a drop in the price of nuts. One key informant cites a case where the price dropped from KES 90 to KES 40. As such hundreds of thousands of farmers are not protected in the name of protecting approximately 10,000 jobs. In line with this, another key informant argues that it would be necessary for the government to carry out a cost benefit analysis to determine whether indeed ban of raw nut exports is beneficial or whether the smallholder farmer is being sacrificed. The ban on raw nut exports is said to be unfriendly to the farmer because high levies are imposed on processed exports as compared to raw produce. Processors are charged these levies which are inevitably transferred back to the farmer.

Additionally many key informants complained that large companies push for the ban on export of raw nuts but any time these are impounded at the port they are found to belong to the same large companies. Also, it has been difficult for other smaller processors to get export licenses because the larger companies have niche markets which they want to maintain as their own. The license issue though has recently eased up somewhat even though AFFA recently withdrew all licenses as a way of reviewing all exporter's practices and adherence to the laws. Key informants also claim that processors are not declaring fully the quantity of nuts they are buying from smallholder farmers from specific counties and likewise what they are exporting. There is therefore a lot of macadamia produce that is going underground, produce for which the smallholder is paid very poorly.

Transportation of produce and expansion of processors to other regions of the country also impacts market. Small holder farmers cannot manage to transport their produce to the factories all the way in central province – a few processors have started sending trucks to western Kenya.

Experience from other value chains e.g. dairy where smallholder farmers are the producers, show that formation of groups helps for bulking, processing, and accessing better markets. The macadamia value chain can borrow from this.



Organic macadamia production also requires farmers to be certified. Key informants have said that while the market for organic macadamia may be more lucrative, the process of certification is quite tedious which may therefore lock out farmers.

3.1.5 Opportunities

Producer Groups

The study findings indicate that there may be opportunity in farmer groups in terms of more farmers forming or joining SACCOs or producer groups. This would potentially enable them to negotiate for better prices with the processors, export market, and/or brokers. The producer groups could also mean that farmers have greater possibility to access the export markets and/or main local processors through a shorter value chain i.e. cutting out the many brokers. Increased access to processors through farmer groups would be achieved through more efficient and effective coordination by the groups so that every farmer is reached and well-served in terms of the additional services that processors can provide. Knowledge sharing can also be done through groups so that farmers get to know more about the final products and get involved in processing. Similarly the groups can act as a link between the farmers and the financiers for credit and other financial services that could act as an enabler for macadamia farming e.g. in terms of being able to afford the necessary farm inputs and processing technologies.

Organic

Most macadamia is by default organic in that most farmers do not do anything to the trees in terms of spraying pesticides or applying fertilizers. While this is not the ideal organic situation as organic requires better care nonetheless it presents an opportunity to leverage this and indeed transform it into organic best practices. There is an opportunity to take the farmer a step further to understand what he is doing that disqualifies him to be truly organic, why he should be organic, and what else he now needs to do. There is also an opportunity to engage the government to make organic production a standard for macadamia because that is where the money is in terms of exports and the extra revenue this is likely to attract. Those who are farming macadamia should be required to do so organically so that as a country we export organic macadamia. This should be the standard that should be carried on to new areas in the country where the government is planning to introduce macadamia farming.

“I think most of the challenges faced is depending on the knowledge of the farmer most of them do it the conventional way though they think it is by default organic and that’s why the investment in the proper organic process is very crucial because it comes with the whole package of educational training on how to take care of the tree, how to prepare the organic manure, pest control, using the biological safe methods and all that so in a situation where they lack this you find that there is a big variation there are those



farmers who don't do this you find a tree can produce as low as thirty kilograms per year but there is a farmer that we work with that they are able to produce a hundred and fifty in a year so that's really big.” **Organic Processor** (on yield issues)

Combination of fair trade and organic is an interesting one and potentially very beneficial to the smallholder farmer. They share similar principles and the ways in which they are being implemented at this time are also similar whereby farmers are being recruited and trained and the brokers are being cut out so that the farmer and the processor have more direct contact. The benefits of this should be leveraged for stronger lobbying for policies that are pro-organic and pro-fair-trade.

Further Processing

Currently there are limitations on further processing because of little or no understanding as to what the consumer on the other end wants. There is an opportunity here for investment in research and information on the international markets thus utilizing the processing plants of the processors more and create more employment.

“the branding and the processing you find that we would be able to get much more compared to what we are getting now because even in those markets its not rocket science, the research can be done so that we can know Americans this is how they like their macadamia and we can do it. So it's just now that we are doing it like that because the environment is very weak and then also we don't have data on how they want it and things like that so the more we process the more we create more jobs and also income in terms of revenue as a country” **Processor**

Inputs

Commercial nurseries have seen the opportunity in macadamia and are beginning to invest in it though they have little or no knowledge in grafting of the new varieties. They are hoping to get someone to assist when the time comes. Embu and Kirinyaga counties are deemed to be quite ahead in uptake of new technologies.

3.2 Policies

3.2.1 Overview of Agricultural Sector and Related Policies

Prior to 2013, there were over 131 pieces of legislation enacted to govern at least 10 agaric sub-sectors in Kenya. There were several institutions under each Act, legislation were obsolete, contradictory and overlapping and this led to calls for reform of the law. The reform was also brought about as a result of introduction of devolved governance by the new Constitution (2010); the government became leaner as a result of reduction of the number of ministries from 44 to



between 14 and 22. There was therefore need to revise and consolidate the 131 pieces of Agricultural legislation and reduce the agricultural institutions into four legislations as follows:

- The Agriculture, Fisheries and Food Authority Act, 2013(AFFA Act);
- Crops Act, 2013;
- Kenya Agricultural and Livestock Research Act, 2013 and;
- Pyrethrum Act, 2013 (Simiyu, 2013).

We review some of these legislations and other relevant ones (not listed by Simiyu) such as the National Oil and Nut Crops Regulations, as they relate to the restriction of access to markets for macadamia by resource poor farmers. Note that though our counties of interest are Embu and Kirinyaga, initial search and enquiry from these counties reveals that so far there is a draft policy on macadamia for Embu County. We also review this draft. There is mention or claim also that the other counties are also in the process of developing policies for macadamia since it is a key revenue earner in these counties. Nonetheless the national policies still remain very relevant for these counties as per the constitutional provisions which we also review below:

3.2.2 The Constitution of Kenya

The constitutional provisions on devolved agriculture can be summarized as follows:

- The Fourth Schedule provides for administrative devolution in the distribution of functions between the national and county governments; in various sectors including agriculture:
 - Part 1 of Section 29 – National government is exclusively responsible for Agricultural Policy Making and Counties are to Act in accordance with policies of national government
 - Part 2 of Section 1 – role of County governments is Agriculture including crop and animal husbandry, livestock sale yards, county abattoirs, plant and animal disease control, fisheries
 - National government is to act as the ‘regulator’ of agriculture through policy formulation
 - Counties are to ‘implement’ national policies on agriculture, act as ‘facilitators’ and ‘providers’ of agricultural services in the various sub-sectors.
 - Both governments must respect the constitutional principles on devolution

There are some weaknesses in the constitutional provisions on devolved agriculture in that the Constitution does not define the term ‘agriculture’. In fact, the term ‘agriculture’ is only mentioned twice in the Fourth Schedule of the Constitution. The Constitution also merely provides a list of the probable sub-sectors within which counties may discharge ‘agriculture’ (Simiyu, 2013).



It is not clear therefore whether the counties can actually form their own policies and if they do in essence it is implied that they must be in line with the national ones. It is therefore also not clear what the value of this would be given that it is likely to be a duplication of effort. Also, if the counties are required to only implement the national policies, then what recourse is there for the counties if they have specific strategies and practices that they would like to include that are relevant for their county, and others that they might like to leave out if they don't work well for their county? There is a gap here that indicates that there may therefore be need for a constitutional provision. According to Simiyu, 2013, AFFA Act is developed for furtherance of these provisions. We review this below to see how well it does this.

3.2.3 AFFA Act, 2013

The purpose of this Act is to provide for the consolidation of the laws on the regulation and promotion of agriculture generally, to provide for the establishment of the Agriculture, Fisheries and Food Authority, to make provision for the respective roles of the national and county governments in agriculture excluding livestock and related matters in furtherance of the relevant provisions of the Fourth Schedule to the Constitution and for connected purposes.

In terms of devolution Section 29 (1) and (2) of the AFFA Act provides that:

1. Each county government shall within its area of jurisdiction be responsible, for agricultural matters in accordance with Part 2 of Fourth Schedule to the Constitution.
2. The national government shall, in accordance with Part 1 of section 29 of the Fourth Schedule to the Constitution, be responsible for agricultural policy and for assisting the county governments on agricultural matters.

It seems however that AFFA Act also goes against devolution which could have negative implications on the counties access to markets for their macadamia produce. It is stated in Section 4 that the Authority shall, in consultation with the county governments, perform among others the following functions:

- (a) Promote best practices in, and regulate, the production, processing, **marketing**, grading, storage, collection, transportation and warehousing of agricultural and aquatic products excluding livestock monitor agriculture
- (b) Be responsible for determining the research priorities in agriculture and aquaculture and to advise generally on research thereof;

According to Simiyu, 2013, the aspect of 'promoting best practices in agriculture, monitoring agriculture, collecting and collating agricultural data and being responsible for research priorities for agriculture' creates confusion and conflict in relation to devolved agricultural functions at the county level. It is neither apparent nor implied what would be the role of counties as facilitators and providers of agricultural services. She holds that AFFA Authority will overstep on the



functional and institution distinctiveness of counties. Indeed if the AFFA Authority is mandated to regulate marketing and research priorities, then the county governments’ hands may be tied in cases where they wish to carry out research on markets for their macadamia produce for example and come up with strategies on how to market and sell the same. It is not clear therefore what the role of AFFA is versus that of the counties on matters of market access. Do the counties have a say in the rules and regulations that AFFA comes up with? To what extent if at all do the AFFA rules and regulations take into account county-specific needs and unique scenarios? Could these rules and regulations end up stifling market access for the counties?

3.2.4 Crops Act, 2013

The purpose of this Act is to consolidate and repeal various statutes relating to crops; to provide for the growth and development of agricultural crops and for connected purposes. The objective of this Act is to accelerate the growth and development of agriculture in general, enhance productivity and incomes of farmers and the rural population, improve investment climate and efficiency of agribusiness and develop agricultural crops as export crops that will augment the foreign exchange earnings of the country, through promotion of the production, processing, marketing, and distribution of crops in suitable areas of the country. This Act applies to all scheduled crops specified in the First Schedule. Although Macadamia is not one of the scheduled crops, the Act is still relevant in that it also applies to all agricultural land whether privately or communally held as well as to farmers, farmers' organizations, cooperatives and community associations. Additionally the Act states that the Cabinet Secretary may, by notice in the Gazette, declare any other crop to be a scheduled crop for purposes of the Act. Further, there are penalties described under the Act which, are also referred to under the National Oil and Nut Crops Regulations (NONCR) under which macadamia is now a scheduled crop. They state that a person who contravenes any provision of this Act, or commits an offence for which no penalty is prescribed, shall be liable, on conviction, to a fine not exceeding five hundred thousand shillings, or to imprisonment for a period not exceeding one year, or to both. We discuss the impact/effectiveness of these penalties in other sections of this report and policy gaps thereof.

3.2.5 National Oil and Nut Crops Regulations

NONCR came into being as a result of the powers conferred to the Cabinet Secretary by Section 40 the Crops Act. The purpose of these regulations is to provide guidelines on the Nuts and Oil Crops industry including directions and forms and also provide for the following:

- Application processing procedures and forms
- Conditions for registration and licensing of produce dealers, and nursery operators
- Contracts between produce dealers and Nuts and Oil Crops producers
- Compliance with quality standards
- Harvesting, processing and marketing of Nuts and oil crops



- Imposition of levies
- Such other matters as may be deemed necessary for effecting these Regulations

A review of NONCR reveals that overall the government is quite preoccupied with regulation of the value chains for oil and nut crops. There are very many licenses and permits required for the players in the industry. At the moment the smallholder farmer may not be required to have many of these however if we are to cut out middlemen so that we have a short and effective value chain in which the farmer benefits more, then it is still going to be cumbersome for the farmer to apply for all these licenses and permits and also afford the cost as these need to be renewed every year. It is not clear also how efficient the application and renewal process is. Additionally does the option of registering with an association (for smallholder farmers) cover for all the activities the farmer may wish to do in terms of nursery, production and trade?

The NONCR covers registration of all players in the value chain from nurseries through to processors/exporters. While there are plenty of players at different points of the value chain there is limited availability of inputs i.e. seedlings, which therefore necessitates either more nurseries or motivation or support of current nurseries to undertake rapid multiplication of seedling varieties for macadamia. While it is good that NONCR focuses on regulation there are no other guidelines or policies that foster development and expansion of players in the value chain and this is much needed. Another example is the brokers who can be described as a necessary evil with many complaining that they are ripping off the farmers as well as the processors. While the NONCR requires them to be registered and regulated, there is more that needs to be done in terms of their development and redefining in order to get them to function in a manner more beneficial to other players in the value chain such as the smallholder farmers

The review of NONCR also reveals that the law forbids any trade without a license. No movement of the crop is allowed without a license/permit. Every time one has to move the crop there is a fee of KES 500 per tree which on further investigation reveals has to be paid up front. This could be a contributing factor to many farmers opting to sell their produce at the farm gate. However it is not certain that all brokers are licensed and are paying for permits to move the product which in essence means that implementation of the regulations also needs to be strengthened. The penalties for brokers operating without licenses and permits are also not stringent enough.

Other areas covered by NONCR that affect smallholder farmer's access to markets include compliance with local and international standards for production, levies on exports, and traceability records. The different local and international standards that value chain players have to comply with especially those involved in export are quite tedious. There is need to look into how the local standards can be incorporated into the international ones and/or development of a regional standard that all can adhere to. The levies on processed macadamia vis a vis the ban on



export of raw nuts affects the smallholder farmer as with the ban come reduction in price for the farmer and as the processor/exporter passes on the cost of the levies to the farmer. NONCR covers issues on traceability of produce which is a plus for organic macadamia since the consumer has a chance to verify that what he/she is buying is indeed organic and the farmer on the other hand has an opportunity to attract a premium price for his produce. Does the farmer know this?

3.2.6 County Macadamia Policy (Embu County)

According to this draft policy, its overall objective is to accelerate and sustain growth and development of macadamia sub-sector to enhance its contribution to the county vision and mission. In recognition that the sub-sector attracts a number of processors from all over the country, the policy seeks to put in place a platform that will enhance fair competition, upgrade the value chain and enable the processors to effectively compete both in the domestic, regional and international markets. It is intended and/or expected that the implementation of this policy will help develop the macadamia nuts industry while at the same time improve the income of farmers in Embu county.

The draft policy document rightly summarizes the challenges of macadamia production and marketing:

The sub sector is currently faced with serious and emerging challenges at all steps of the value chain which need attention to unlock the envisaged potential. Although the crop has been grown in the County for over five decades, the growth of the industry is not commensurate with the demand and market potential that exists. Some of the challenges facing the macadamia Sub sector in Embu include lack of cultivars adapted to various agro ecological zones, inadequate high quality planting materials, high cost of the available good quality planting materials, poor agronomic practices and pests and diseases. These challenges lower the post-harvest quality of the nuts.

At the moment the macadamia tree orchards are poorly managed with low production estimated at 2.5 tons per hectare against a potential production of up to 6 tons per hectare. The Per capita holding has also remained low with little expansion mainly due to poor and unpredictable returns and limited land holdings. Potential exists in increasing yields per tree per year, per unit area and expanding production to non-conventional macadamia growing areas.

The marketing channels have remained unclear and exploitative to the producer leading to low investment into the crop.

Broadly the policy aims to accelerate and sustain growth and development of macadamia sub-sector to enhance its contribution to the county vision and mission. Specific Objectives as stated in the draft policy include:



- Facilitate increased production of high quality macadamia nuts in Embu County
- Promote value addition and consumption of macadamia
- To build the capacity of farmers to form strong producers/ marketing organizations so as to fully participate in development and growth of macadamia industry in Embu County
- Establish and develop infrastructure to support macadamia sub sector in the County
- Establish and strengthen legal and regulatory framework for macadamia sub sector in the County.

A review of this draft policy in terms of the policy interventions finds that while it generally identifies the key issues and proposes relevant policy interventions, these in most cases are not followed up by specific implementable actions that will see the realization of the objectives outlined. The proposed policy interventions remain rather broad and high level. There will be need to drill down further and come up with actionable undertakings that can be implemented, regulated, and monitored.



4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Policy Gaps

Existing policy that touches on macadamia is high level as the crop is grouped under nut and oil crops yet there are some unique issues to deal with. Indeed there are some guidelines and policies that have been gazette specifically for macadamia but these have been more in terms of regulation on harvesting and export. There is need for specific policies for macadamia at county level; we have reviewed a draft for Embu County which still requires extra effort to make it more specific. Additionally the elements of organic are completely left out of all the policies.

Given the current state of devolution to county governments there is an opportunity to develop county level policies for organic macadamia among other crops. Policies at county level however should go beyond just imposing extra levies on the farmers – there is a lot of interest in the counties on macadamia because it is a main income earner but their immediate focus is imposing cess to earn income for the county governments. All these fees and charges are eventually passed back to the farmer. The whole value chain needs to be managed; incentivize or motivate all players and all other players to see that with better organization and adherence to best practices the output can be bigger and better thereby greater gains for all.

Based on the information and findings discussed so far, we thus summarize the policy gaps as per the various stages of the macadamia value chain and give recommendation of possible policy interventions that can be lobbied to the government for development and implementation.

Inputs

The government needs to develop policies that will enable farmers to access seedlings affordably. Policies that support the formation of programmes such as processors providing the inputs thereby tying the farmers to a contract to supply them, or government providing subsidized seedlings e.g. through KALRO, farmers being supported through extension services to develop their own nurseries are but a few examples. Note that farmers are currently doing some of their own seedlings though this is happening haphazardly through nuts that fall on the ground and germinate on their own. The government through policy also needs to protect the processors so as to encourage them to invest in the training and inputs for organic farming and certification. Another school of thought is that processors should also be compelled by the government to develop nurseries for seedlings based on their quantities of exports. For a certain proportion of kilos of macadamia exported, processors should be required to have so many seedlings in their nursery. This way the more the seedlings are available, the more the cost will go down thus making it possible for the farmer to afford them. There is currently an interesting initiative by Tensenses whereby they support farmers in training beyond farming macadamia; they incorporate extras that can indirectly but positively impact the farming e.g. training them on



merry go rounds and saving together in small groups (micro savings). Such groups can be tapped into to take up development of nurseries for macadamia seedlings as their group projects.

The government should also develop policies to help regulate the sale of seedlings so that sales are made with certain conditions and knowledge of the farmers and where they are farming. In so doing, the best variety for any given farmer will be sold for the best results based on their agro-ecological zones. Alternatively or additionally, policies that support education of the farmer would help them know what varieties they should buy.

New improved varieties of macadamia also exist but there is no rapid multiplication of these so even if the farmers are made aware they still will not be able to access them. Policies that support nursery formation by processors and farmer groups alike need to be developed and implemented with a push specifically for multiplication of the new varieties. The commercial nurseries are supposed to take up the multiplication of the new varieties as KALROs mandate is simply to research and introduce new technologies then the market players should take them up. The challenge has been that it is an expensive and rather difficult process; it takes eighteen months from the time a nut is seeded to the time one is able to check a seedling out of the nursery and even then only 40% will germinate. The government should offer some kind of incentives for those investing in nurseries for macadamia seedlings be they farmers, processors or commercial nursery owners.

Further still in terms of inputs, the government should come up with policies to support use of organic inputs like pesticides and fertilizers e.g. through extension whereby awareness can be created about the benefits of these organic inputs, and also ensuring the prices of these are even lower by not taxing these products or reducing tariffs on them so that more farmers are compelled to use them. Organic farming inputs in terms of pest control and fertilizer also need to be made readily available. Farmers who are motivated to do organic farming do not always know where to get the substitutes.

Farming

There is need for a practical curriculum for farmers; one that encompasses organic production. The government needs to take charge of the development of this curriculum and bring on board all the stakeholders to participate in its development. Hand in hand with this is provision of adequate extension support for further education and awareness creation on best organic crop husbandry practices in a hands-on and practical manner. Policies that also require processors to train farmers and agents should also be put in place. Indeed AFFA supports this proposal and would potentially implement it by making it a requirement for any processor who wants a processing/export license.



Policies around the harvesting of the macadamia nuts also need to be reviewed. Though the government has tried to focus much on regulation in terms of immature harvesting of nuts, smuggling of raw nuts for export, there is still a gap here in that the practices are still rampant. There is need therefore need for policy to strengthen regulation perhaps instituting tighter controls at county level. Policies that result in the increase of security in and around the farms and the produce should also be looked into as theft of nuts is a major issue which leads to poor quality yield since the nuts are often harvested immature.

“But now due to the high returns currently, theft becomes a problem, the farmer also wants to maximize from his returns altogether without the risks of the nuts being stolen or being diverted so that makes a big challenge, and that is going to have a big issue of reducing the quality and the taste of our nuts internationally” **Research Institute**

“If you look at nuts which have been harvested that way you have premature harvest even reaching up to forty percent. This reduces the quality of the Kenyan nut.” **Research Institute**

Currently there is an absence of laws to protect smallholder farmers who are practicing organic macadamia farming. The situation on the ground is such that not all farmers join organic farming hence what neighbouring farmers do in terms of use of chemical and synthetic fertilizers and pesticides affects the organic farmers. Additionally some regulations on intercropping are also needed over and above training so that farmers intercrop macadamia with crops that are not pesticide intensive like coffee. There should be an organic crop protection policy that should include this among other things.

“I may say right now they may not be a lot of challenges as far as intercropping with coffee now is concerned because the prices of coffee are down but if they improve, farmers will have the incentive to improve their coffee, with the variety that the farmers are growing now there is no way they are going to survive without the pesticides, and some of those pesticides are the pesticides now which highly conflicts with organic farming.” **Research Institute**

Selling/Marketing

Some checks and balances are needed as far as marketing and selling of macadamia is concerned if the farmer is truly to be protected. The government has instituted some controls and regulations but none in marketing or pricing which has left the farmer at the mercy of the brokers. Unscrupulous practices, seen and unseen persist as perpetrated by the brokers and the processors through the brokers. For example one Key Informant informed us that most of the weighing scales at the buying centres are faulty – calibrated to be in the favour of the broker so that the weight of the farmers produce is lower than the actual weight thus resulting in less pay



for him/her than actually deserved. Tighter controls therefore are needed by the county governments so that even equipment such as this is inspected from time to time.

Smallholder farmers need to be strengthened so that they can have a stronger voice and say in the value chain. There is need for an intervention at policy level to require farmers to form groups and/or belong to groups. There need to be clear guidelines or standards for the formation, management and functioning of these groups so that farmers can reap the benefits such as collective bargaining strength so that they can attract a better price for their produce especially if they bulk and sell as a group. Such groups could also be instrumental in purchasing equipment such as weighing scales for the produce so that they do not get conned by brokers. The formation of groups for farmers is an exercise that can be driven by county governments.

Formalizing the channel of macadamia production and sales would also resolve the issue of theft, premature harvesting and sale of nuts. The macadamia industry can borrow from the tea sector where all tea farmers are registered and can therefore be the only ones to sell their tea to the factories. All macadamia farmers must be registered with details of their trees and level of production so that only those who own macadamia farms can be allowed to sell their nuts. This will deter theft as no one can who is not a registered farmer with their number of trees and level of yield estimated can appear with macadamia nuts and try to sell them. This will streamline the industry and protect the smallholder farmer since it is claimed that it is the large companies and cartels that benefit from the contraband material. Electronic methods of weighing and recording at farm gate are also good so that cheating does not happen in between – some agents can be corrupted to take from one farmer and place for another for example. Policies on traceability of nuts to specific farmers also need to be instituted as this will result in better returns for the farmers.

Although the embargo on buying and selling of nuts is supposed to curb the immature harvesting and selling of macadamia, this is in some instances working against organic macadamia farming since organic farmers are well ahead of others in embracing the new varieties some of which produce all year round. As such, seasons for selling and buying of nuts in order to control immature harvesting of nuts, should be determined at county level after consultation with all stakeholders since different varieties suited for different ecological zones mature at different times while others may even be producing all year round.

Brokers have been known to be very unscrupulous in their buying and selling activities. It is therefore not enough to register them, but also ensure the rules under which they are allowed to operate are stringent. Alternatively policies can be put in place to redefine the broker to become a direct agent of the processor companies, employed by the companies so that when they approach the farmer it is very clear who they are working for and under what guidelines. This will increase responsibility and accountability in the industry. A good example is what Tenseses



have done with their direct agents. They recruited brokers, retrained them and integrated them into their fair trade system. They also have layers of staff to monitor what goes on at the ground level to ensure the agents are offering the correct price to the farmers.

“No not brokers, but those who were previously brokers we trained them to our standards yeah so they don’t because now we agree on the pricing so they can’t quote pricing that” **Processor**

Processing

There is need for the processors to be compelled to maintain certain standards of trading so as to benefit the farmer as well as invest more in the crop. Failure to do so will see the farmer ripped off to a point where they opt to abandon macadamia production and do something else as was the case with coffee.

The issue of immature nuts for example can potentially be arrested from the point of the processors. A law should be passed that forbids them from accepting immature nuts. Were the processors not to take the immature nuts then there would be nowhere to sell them and the farmers and brokers would be forced to wait for the nuts to mature.

There is need to develop small scale industries for processing macadamia at the village level i.e. cottage industries. This will greatly reduce handling problems which is key when it comes to organic produce, reduce pollution in movement of the produce, enhance employment at village level and increase responsibility and motivate farmers so they see what is coming out of their own work.

“Government should give like relief from taxes because most of them there are some machinery that has to be imported like packaging machines, some drying lines, some things which have to be imported for this agriculture. There used to be a rule whereby all the Agricultural products are not taxed. They are not implemented by the customs.”

Processor

Processors should also be compelled by law to practice either organic or conventional macadamia production, but not both. This would further enhance traceability and reliability thus increasing consumer confidence at the end of the value chain.

“We have the same same factories doing organic, the same same factories doing the conventional. That should not be allowed. It’s either we build one factory for organic which should be on its own because of traceability. Because our key thing in our project is traceability; with the 2800 farmers we do total traceability. A farmer can even come back and say ‘can I have back my nuts? This is what we worked so that we can have an upper hand in the international market. We can have an upper hand but while we are



mixing all the goats and cows I think we are going to...it's like a suicide” **Organic Processor**

Export

As previously intimated, there is an opportunity to do more in terms of investing in research and knowledge exchange from an international market perspective. In so doing we can better channel local investment and growth in the macadamia industry so as to introduce best practices and deliver what the end consumer in the international market wants given that 90% is for export. The government therefore needs to put in place policies that support regular research and development in macadamia.

The government needs to be lobbied to develop a policy on organic production. In the case of macadamia in particular this makes a lot of sense what with the premium prices available for the same in international markets. There is opportunity to use macadamia as the entry point for a drive for an overall organic policy for the country by building awareness and support for the same through organic macadamia.

Local organic standards and certifications need to be developed in line with international ones to the extent that they can adequately satisfy the needs and demands of international ones hence are trusted. Currently the processors who are doing organic macadamia are working with international standards and certifications the cost of which is in the end passed on to the farmers. As such farmers who are currently converting to organic macadamia farming are not enjoying as premium a price as they should for their nuts and this is therefore discouraging for other farmers who want to farm organically.

It would be essential for us to have in place modalities that govern the introduction of any rule/regulation. There should be thorough cost benefit analyses and/or other relevant analysis carried out before gazettment of any new rules/regulations. A good example is the ban on export of raw nuts. There ought to have been a cost benefit analysis done to clearly demonstrate what the country gains in terms of local job creation for the processing companies versus what the farmer loses. Without clear analyses it is difficult to tell which is the better option – some feel that the ban on raw export of nuts is a good thing because of local employment (only that a reduction on levies of processed exports should be championed) while others do not support it entirely.

Finally some review of current regulations in terms of processor associations and export regulation/licenses needs to be done. AFFA currently requires all processors to join an association of which there is only one. The organic processors feel that this association does not cater to their interests but rather mainly focuses on or favours the conventional processor



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6.0 APPENDICES

6.1 Key Informant Discussion Guide

A. SCREENER

Key Informants for this study will be those who are well versed with the production and marketing of macadamia i.e. the macadamia value chain and can therefore be able to critically point out, analyze, and critic this in line with policy.

They will include:

- Nut processors
- Nut processor associations
- Relevant agricultural Government bodies/authorities
- Agricultural research bodies/institutions
- Universities with strong agricultural faculties

Once a possible organization or institution has been identified, it will be necessary to identify a suitable individual within that organization to participate as the key informant. It may be necessary to conduct a short screening exercise to determine whether they are indeed suitable. Screen as follows:

Policy – are they aware of the different policies that affect macadamia? **IF YES include in sample**

Products – are they currently involved in macadamia production or marketing or are they sufficiently knowledgeable about it? **If YES include in sample.**

B. INTRODUCTION

Thank you for agreeing to participate in this interview. As you may already be aware we are from Research PLUS. This particular interview is for a research study about macadamia. My name is and I am going to take you through the discussion.

I would like us to start by getting a quick introduction of you: who you are, the work that you do and your involvement with macadamia. We request your permission to record this discussion just to enable us move quickly through the interview; this recording will be a reference for us when analyzing and preparing our findings. However we assure you that this interview is completely confidential and you will not be quoted directly for anything you tell us.

Type:	
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Name:	
Occupation:	
Organization / position:	
Telephone number:	
E-mail address:	
Physical address:	

ASK CURRENT ONLY:

Can you briefly tell me about your work with or involvement with macadamia in Kenya?

Probe: When did your involvement with macadamia begin? What in particular is your area of knowledge, expertise or involvement with macadamia?



C. BARRIERS TO MACADAMIA TRADE

1. Based on your knowledge and experience in macadamia, can you please describe to me the value chain for this crop?

Probe:

- Different players and their roles
- With respect to Embu and Kirinyaga counties
- With respect to organic versus non-organic macadamia

2. Where are the strongest and weakest linkages along the macadamia supply chain, and what are the characteristics that demonstrate strength and weakness?

3. What are the typical trading scenarios for macadamia? How do the different players interact within these scenarios?

Probe:

- With respect to Embu and Kirinyaga counties
- With respect to organic versus non-organic macadamia

4. **FOR EACH TRADING SCENARIO/PROCESS ASK:** What challenges or bottlenecks if any exist within this? Please explain.

Probe:

- How if at all are these dealt with OR how do you think they can be dealt with? What would be the ideal and how can it be achieved?
- Is there a role for policy here? How so? To what extent are existing policies able to deal with these challenges? Please explain with particular reference to a given policy.

5. **FOR EACH TRADING SCENARIO/PROCESS ASK:** What opportunities if any do you see within this? Please explain

Probe:

- How if at all can these be realized? What would be the ideal and how can it be achieved?
- Is there a role for policy here? How so? To what extent can existing policies help with realization of these opportunities? Please explain with particular reference to a given policy.



6. What are the most critical cost issues shared by smallholder macadamia producers alike that require immediate and common attention? What do you propose should be done? **Probe for organic specific where possible**
7. What are the most critical productivity (i.e. yield and quality) issues shared by smallholder growers that require immediate and common attention? What do you propose should be done? **Probe for organic specific where possible**

D. MARKET ACCESS

I would like us to spend some time discussing the existing policies and how they affect or influence poor farmers' access or the lack of it to markets for macadamia. I am particularly interested in organic macadamia so if you are able to make any distinctions with respect to this, please do so.

8. Thinking about the Constitution of Kenya, how if at all does it restrict market access for macadamia farmers? What provisions need to be made in it for it to enhance rather than restrict market access?

Probe:

- Specifics within the Constitution as identified by the review so far - weaknesses in provisions on devolved agriculture; not clear if counties can actually form own policies and if they do it is implied that they must be in line with the national ones; duplication of effort? if counties required to only implement national policies, what recourse is there for them if they have specific strategies and practices that they would like to include that are relevant for their county, and others that they might like to leave out if they don't work well for their county?
 - Specific examples if any of hardship caused to farmers by these barriers
9. Thinking about the AFFA Act, how if at all does it restrict market access for macadamia farmers? What provisions need to be made in it for it to enhance rather than restrict market access?

Probe:

- Specifics within the Act as identified by the review so far - It is not clear therefore what the role of AFFA is versus that of the counties on matters of market access. Do the counties have a say in the rules and regulations that AFFA comes up with? To what extent if at all do the AFFA rules and regulations take into account county-specific needs and unique scenarios? Could these rules and regulations end up stifling market access for the counties?
- Specific examples if any of hardship caused to farmers by these barriers



10. Thinking about the Crops Act, how if at all does it restrict market access for macadamia farmers? What provisions need to be made in it for it to enhance rather than restrict market access?

Probe:

- Specifics within the Act as identified by the review so far
- Specific examples if any of hardship caused to farmers by these barriers

11. Thinking about the Nut and Oil Crops Regulations, how if at all do they restrict market access for macadamia farmers? What provisions need to be made in it for it to enhance rather than restrict market access?

Probe:

- Specifics within the regulations as identified by the review so far
- Specific examples if any of hardship caused to farmers by these barriers

12. What is the level/limit of acceptability of regional or international collaboration for macadamia trade – what would a successful collaboration look like or focus on?

E. VALUE OF MACADAMIA TRADE

13. To the best of your knowledge, what are the current estimates of quantities of macadamia produced in the country? What of in Embu and Kirinyaga counties? **If not able to tell, share volumes derived from desk study and ask if they sound realistic.** Do you think these volumes are at their maximum or peak? Is there room to produce more? Why do you say so? How much more?

Probe:

- Organic versus non-organic.

14. To the best of your knowledge what is the current value of macadamia traded? Does it differ from county to county? **If not able to tell, share prices derived from desk study and ask if they sound realistic.** Do you think these prices are at their maximum or peak? Is there room to attract better prices? Why do you say so? How much higher?

Probe:

- Organic versus non-organic.

F. CONCLUSION



15. What suggestions or comments do you have on development of the market for organic macadamia in Embu and Kirinyaga counties? What opportunities exist to increase shoulder rubbing across the supply chain and whose responsibility is it to facilitate these opportunities?
16. What in particular would you suggest or recommend in terms of awareness, advocacy and policy towards this end?
17. How can a culture of continuous learning be instilled into the industry and how can greater numbers be encouraged to participate in benchmarking activities?

THANK RESPONDENT AND CLOSE DISCUSSION

6.2 Study Participants

2 Processors:

- Tensenses
- Macadamia Fans

1 Government Authority:

- AFFA – Oil and Nut Crops Directorate

1 University:

- University of Nairobi

1 Research Institute

- KALRO

1 Processors Association:

- NutPak





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