

**REPORT ON THE IDENTIFICATION OF INCOME DIVERSIFICATION
OPTIONS AND DEVELOPMENT OF SMALL TO MEDIUM ENTERPRISE
FOR HIGH QUALITY COFFEE AND MACADAMIA IN KENYA**



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Acronyms and Abbreviations

ADB	African Development Bank
AFC	Agricultural Finance Corporation
ASARECA	Association for Strengthening Research in Eastern and Central Africa
CABI	CAB International
CABI-ARC	CAB International – Africa Regional Centre
CFC	Common Fund for Commodities
CIRAD	Centre de co-opération Internationale en recherche agronomique pour le développement
COMESA	Common Market of Eastern and Southern Africa
CORNET	Coffee Research Network
CRF	Coffee Research Foundation
DFID	Department for International Development
EAFRINET	East African Network of Bio-net International, the Global Network for Taxonomy
EAFCA	Easter African Fine Coffees association
ECA	Eastern and Central Africa
FAO	Food and Agricultural Organisation
FFS	Farmer Field Schools
GDP	Gross Domestic Product
GMR	Graduated Minimum Return
ICO	International Coffee Organisation
ICRAF	World Agroforestry Centre
KARI	Kenya Agricultural Research Institute
KIOF	Kenya Institute of Organic Farming
NGO	Non Governmental Organisation
NYBOT	New York Board of Trade
SACDEP	Sustainable Agriculture for Community Development Program
TCM	Thika Coffee Mills
SIDA	Swedish International Development Agency
SME	Small to Medium Enterprise

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PART I

BACKGROUND INFORMATION AND PROCEEDINGS OF THE FIRST AND SECOND WORKSHOPS

Background

Coffee plays a central role in the economies of most countries in Eastern and Central Africa (ECA). It provides a major source of foreign exchange and supports the livelihoods of millions of rural families. It is estimated that over 22 million workers in Kenya, Rwanda, Ethiopia, Tanzania and Uganda alone are directly employed in the coffee industry.

Despite the pivotal role played by coffee in the economy of the sub-region, both production and export of coffee from East Africa has been on a downward trend. Returns from coffee have fallen in line with the overall fall in world prices, which itself is due to the imbalance between production and consumption of coffee at the global level. The resultant loss in household income associated with the depressed global coffee prices has discouraged the adoption of improved agronomic practices thereby leading to the observed decline in productivity and quality.

The impact of the prolonged low prices on the coffee sector of the high-cost producers such as Kenya has been far reaching. Exports from Kenya fell from around 1.6 million 60kg bags in 1984 to a low level of around 751,000 bags by the year 2004, a decline of over 50% in annual exports. Earnings from coffee to the country also fell during the period, declining from US\$ 285 million in 1984 to about US\$ 90 million by the year 2003, that is, over 60% loss in foreign currency earnings from coffee. The continued loss in income from coffee resulted in a massive neglect of agronomic practices among small-holder farmers leading to declining quality of coffee, low productivity and overall decline in production and exports. Poverty has subsequently increased in the coffee growing zones resulting in loss of livelihoods for the small-holder farming communities in the highlands of Kenya where coffee is the main cash crop.

In order to militate against the effects of coffee price volatility on the household income and the livelihoods of the small-holder coffee farmers in Kenya, the FAO's 'Mountain Products Project' identified the possibility of reversing the downward trends observed in the coffee industry by supporting the development of certified quality coffee (organic and/or "appellation of origin") that could fetch premium prices in the niche markets. The project also contributes to the stabilisation of household incomes of small-holder coffee farmers through the development of complementary high-quality, high-value commodities.

CAB International's Africa Regional Center (CABI-ARC) through the Coffee Research Network (CORNET) subsequently conducted a sub-sector analysis to identify possible diversification options for the development of Small to Medium Enterprises (SME) in the coffee-based small-holder farming systems. A constraints and opportunities analysis was also conducted to identify bottlenecks to the development of sustainable SME for the identified commodities.

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Two workshops were organised to engage the main stakeholders in refining the outcome of the studies, identify additional constraints, determine requisite interventions and propose possible providers who could partner the producers in providing sustainable solutions to the identified constraints. The outcomes of the two workshops were also used to complete the sub-sector analysis earlier initiated and to construct sub-sector maps for the three commodities. This report deals with the outcomes of the two stakeholder workshops and the sub-sector reports for Coffee, Honey and Macadamia.

Proceedings of the 1st stakeholders' workshop held on the 30th September 2005 at the Prime lodge, Embu, Kenya

Workshop objectives

The first workshop was organised to validate the outcome of a study conducted by CABI in respect to options for diversification in the small-scale coffee sector in the highlands of Kenya. More specifically, the workshop aimed at identifying the constraints and opportunities for the development of sustainable 'Small to Medium Enterprises' (SMEs) incorporating Coffee, Honey and Macadamia. The workshop objectives were:

1. To sensitise the stakeholders on the SMEs approach to poverty alleviation
2. To determine the main constraints/opportunities for SME development in the identified commodities
3. To analyse and validate the proposed SME project for Coffee, Honey & Macadamia

The workshop mainly targeted smallholder farmers and farmer-groups, and was aimed at realising three main outputs:

- Constraints/opportunities for SME development agreed upon
- Potential players in the SMEs for the selected commodities identified and potential partnerships initiated
- Draft proposal for the SMEs discussed and consensus reached on scope and implementation of the project

Workshop structure and Methodology

The workshop was attended by 40 participants comprising of farmers, representatives of farmers cooperative societies, processors, marketers, financing institutions, public research institutions, representatives of various government ministries, regulatory bodies and CAB International (Annex 1). Two activities were included to foster maximum contribution from all participants (Annex 2). The first activity involved the plenary presentation of background information on the coffee situation in the region, the proposed SMEs and the honey industry in Kenya. This was followed by group discussions during which the main constraints to sustainable SMEs in Coffee, Honey and Macadamia were identified and possible interventions agreed upon. The results of group discussions were presented in a plenary session for discussion and consensus building.

**Session I: Background information on the ECA coffee sub-sector
(Chair: Simeon Onchere)**

Two background presentations were given during the first session of the workshop to provide the basis for discussion. The first presentation was given by the regional Coordinator for CORNET who gave an overview of the coffee sub-sector in Eastern and Central Africa (ECA) with emphasis on the constraints to and opportunities for sustainable coffee production in Kenya. During the presentation, it was observed that both productivity and quality of coffee from the highlands of Kenya continued to decline despite the favourable edapho-climatic conditions characteristic of the areas. It was further observed that the household income of small-holder farmers in the coffee zones have likewise declined given that coffee was one of the main commercial activities among such farmers. Poverty levels have thus increased leading to deteriorating livelihoods in the coffee-growing highlands of Kenya. The presentation demonstrated the need to increase and stabilise income of the coffee-dependent households living in the coffee zones by identifying complimentary high-value commodities which could be used to diversify the income base of the small-holder farmers. The workshop was further briefed on the activities which had been undertaken by CORNET during which Honey and Macadamia were identified as possible complimentary commodities in which SMEs could be developed within the small-holder coffee systems in Kenya. The presentation identified viable seed systems, optimum farming system, processing, value addition through grading/differentiation, and access to markets as the main pillars upon which viable SMEs could be developed for the coffee-dependent small-holder farmers in Kenya.

The second presentation was given by Mr Ernest Simeoni, the Managing Director of the African Beekeepers Company Ltd. The presentation noted that beekeeping was a multi-million dollar Industry in the first world although the commodity was still underdeveloped in developing countries such as Kenya. Mr Simeoni also noted that the most important function of honey bees is pollination and that pollination was known to increase crop and fruit yield both in quantity and quality. Concerning compatibility of beekeeping with Coffee and Macadamia enterprises, Mr Simeoni emphasised that beekeeping is conducive as a complimentary enterprise to both Coffee and Macadamia since the basic management requirements for beekeeping are simple and easy to follow and that the enterprise has low demand on land and labour. He noted that Coffee produces a lot of honey whereas Macadamia benefits immensely from insect pollination. Thus by integrating beekeeping in Coffee-Macadamia intercrops, bees would provide pollination services for Macadamia while the farmer benefits from Honey produced from coffee. Three Longstroth hives per Acre would be required for the Macadamia to benefit fully from bee pollination and hence realise the desired impact on yield and nut quality. The presentation concluded by indicating the services offered by the African Beekeepers Company which included beekeeping, honey processing, fabrication of beekeeping equipment and training.

**Session II: Group of discussions and plenary presentations
(Chair: Fabrice Pinard)**

Following presentations and discussions of the background papers, the participants were sub-divided into four working groups as shown below. Each group was assigned the task of identifying the main constraints to sustainable production of high quality Coffee, Honey and Macadamia and to identify existing opportunities which could be targeted by the project on small to medium enterprises of the three commodities. The groups were further tasked to critically analyse the five pillars for sustainable SMEs proposed in the three commodities and suggest possible issues to be addressed during the pilot phase of the project.

<p style="text-align: center;">Group 1</p> <p>Bonano Bodia Jane Njoki Nancy M Muthoka Jones Muthiani Macadamia Margaret Nyaga, Honey Anne Muthoni Patrick Onchieku Benard Gichovi Joseph Mwaniki Namu David Karanja</p>	<p style="text-align: center;">Group 2</p> <p>Dominic Gacharia Maryann W Njogu - Rapporteur Mr. Francis Mwaniki Mutua Mr Francis N. Kiura Kinuthia Wanja Kennedy Gitonga Ngiwya James</p>
<p style="text-align: center;">Group 3</p> <p>Mr Richard Wahome Mr James Beecher Kiura Mr Patrick Maina Murangu Mr Njiru Simon Gichovi Mr John Muriuki Maruku Ms Rachael Wanjiru Mr Ernest Simeoni Mr Francis Nyaga Kamwea Mr Josephat Njoroge Githinji Mr Benard Mwaniki</p>	<p style="text-align: center;">Group 4</p> <p>Nelson M Karani Cyrus Danson Njiru Sheth Kamau Jason Kabichiru Gicovi Leonald Boniface Mbilu Mr A N Mutura</p>

The results of the group discussions were presented in the plenary by the respective rapporteurs. The Group presentations were followed by general discussion during which consensus was built where necessary. The key highlights of the constraints and opportunities identified by each group are summarised in Tables 1-3 below.

Table 1: Constraints to sustainable production of high quality Coffee from Kenya

Constraint	Group 1	Group 2	Group 3	Group 4
high cost of farm inputs	✓		✓	✓
Inadequate access to research services	✓			
Lack of affordable credit	✓	✓		✓
Poor access to information	✓		✓	
Inefficient marketing chain	✓	✓		
Inefficient processing equipment				
Poor governance of farmers' societies		✓		
High cost of production		✓		
Poor extension, research-farmer linkages		✓		
Coffee research not need oriented		✓		
Low domestic coffee consumption		✓		
Lack of high quality planting materials		✓	✓	
Low capital base				
Monopoly in coffee trade			✓	
Inadequate awareness			✓	
Delayed payments to farmers			✓	
Poor husbandry practices				✓
Poor coffee Prices				✓

Table 2: Constraints to sustainable production of high quality Honey from Kenya

Constraint	Group 1	Group 2	Group 3	Group 4
High cost of modern equipment	✓		✓	✓
Increased consumer sophistication	✓			
Inadequate promotion and awareness	✓			
Inadequate access to research services	✓			
Lack of affordable credit	✓			✓
Lack of production & market information	✓	✓	✓	
Inadequate quality assurance	✓			
Inefficient processing equipment			✓	
Low yield levels		✓		
Poor quality due to product adulteration		✓		
Phobia of bees		✓		
Entrenched cultural & social perceptions		✓		✓
Inadequate skills and knowledge				✓
Increasing deforestation				✓
Poor marketing strategy			✓	
Low capital base				✓
Resistance to change			✓	

Table 3: Constraints to sustainable production of high quality Macadamia from Kenya

Constraint	Group 1	Group 2	Group 3	Group 4
Poor nut quality	✓			
Low household income & high poverty	✓			✓
Lack of high quality seedlings	✓	✓		✓
High cost of seedlings	✓			
Low level of production	✓			
Export unprocessed/raw nuts	✓			
Inadequate value addition	✓			
Lack of modern equipment	✓			
Inadequate access to information	✓			
Unethical business practices by brokers		✓		
Insect pest which damage nuts		✓		
Lack of farmer awareness		✓		
Inadequate information & knowledge				✓
Lack of / high cost of farm inputs				✓
Poor access to information		✓		
Poor extension, research-farmer linkages		✓		
Lack of high quality planting materials		✓		
Poor husbandry practices				✓

The identified constraints were subsequently analysed based on the constraint tree approach to determine the underlying cause-effect relationships. Based on the identified constraints/opportunities, the potential intervention points which could be targeted during the pilot phase of the project were determined and current providers of the requisite solutions identified (Table 4).

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Table 4: Main constraints to sustainable SMEs in Coffee, Honey and Macadamia, potential solutions and providers of the requisite solutions

Constraints	Potential Commercially viable solutions	Current providers of solutions
High cost of purchased inputs	Access to inputs at whole sale prices	Farmer organisations Stockists Manufacturing firms
Inadequate agro-industries		The private sector
High cost of labour	efficient labour-saving technologies	Coffee Research foundation Manufacturing firms
High cost of credit	Access to low-cost credit	Micro-finance institutions Rural SACOS Mainstream banks
Lack of entrepreneurial skills by farmers	Training on small business development	Government ministries NGOs CRF
High cost of transport	Improved road infrastructure	Government ministries Local Authorities Constituency development funds
	Bulk transportation of farm produce	Private entrepreneurs Farmers societies
Low system productivity	Utilisation of productivity enhancing technologies and innovations	Coffee Research foundation Private sector
Inefficient management along the value chain	Improved leadership and management of farmer organisations Improved milling and handling Improved marketing efficiency	Ministry of Cooperative development Members of farmers societies
Poor linkages between producers and consumers	Producers to be organised and empowered to access markets directly	Exporters Marketing agents
Poor leadership in farmers' institutions	Training in small business management skills	NGOs Private consultancies
Inefficient farmer organisations		
Inadequate private sector participation in research and production activities	Private sector to be encouraged to participate in adaptive research	Government
Poor access to production, processing and marketing information	Research, marketing and regulatory bodies to provide depositories for production, processing and marketing information through websites	CRF Ministry of Agriculture Coffee Board of Kenya Millers and Marketing agents
Inefficient processing facilities	New processing technologies which conserve the natural resource base be adopted	Manufacturers agents
Lack of innovative farm based cherry grading system	Payments to reflect the quality of cherry delivered	Farmer organisations CRF
Weak forward and backward linkages in the value chain		

The workshop also reached an agreement on the areas to be targeted by the pilot project including the following:

1 *Viabile seed systems*

- Projections on seedling requirement covering a period of 5 years in the first instance
- Document existing seed systems in Manyatta and the constraints/opportunities for long-term economic viability
- Based on the constraint/opportunity analysis, design a viable coffee factory-based seed system for the pilot site (for example Farmer-Research partnerships in the supply of Macadamia rootstock and coffee pollen stock)
- Capacity building for farmers, for example, training and extension manuals

2 *Optimum farming system*

- Formulate optimum Coffee-Macadamia-Honey enterprise combination
- Evaluate existing agronomic and husbandry practices and design ways for optimising the practices based on participatory approaches
- Document the existing information pathways and design web-based targeted participatory/interactive information gathering, processing and delivery system for the pilot site
- Capacity building through Training (e.g. Farmer Field Schools)

3 *Harvesting and grading*

- Develop and avail quality control standards for the three mountain products based on participatory approaches
- Develop improved harvesting and drying procedures for coffee and macadamia harvested from the pilot site
- Formulate grading and differentiation options for the three mountain products (e.g. size, shape colour, taste, density, variety, geographic origin)
- Formulate incentive system for premium-grade mountain products from the pilot site in collaboration with producers, processors and marketers

4 *Processing*

- Identify value-addition options for coffee, honey and macadamia from the pilot site including blending, packaging and branding

5 *Access to markets*

- Develop systems for enhancing the traceability of products from the pilot site

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- In collaboration with certifying agencies, develop systems for farmer-group certification for the three mountain products from the pilot site
- Identify and/or develop Niche and Speciality market outlets for the mountain products from the pilot site
- Empower the less advantaged members of the farming community in the pilot site to effectively and efficiently access markets for the three mountain products.
- Develop web-based market information system for the three commodities from the pilot site

6 SME Development

- Capacity building on production, processing, marketing and SME management
- Group certification
- Partnership development

Members recommended that the identified entry points be used to develop a complete project proposal for SMEs in Coffee, Honey and Macadamia (See Annex 3 for detailed proposal).

**Session III: Conclusion and final wrap-up
(Chair: Charles Agwanda)**

Subsequent to the plenary discussions, representatives of various stakeholder categories were requested to give concluding remarks and suggestions with respect to the workshop deliberations. The Ministry of Agriculture was represented by Mr Onchieku who emphasized the need to have a clear implementation strategy and legal framework for the project. Responding to the suggestion that the Graduated Minimum Returns (GMR) should be re-introduced to act as a safety-net against income fluctuations from farming, Mr Onchieku informed the meeting that the scheme had been withdrawn since the beneficiaries were not normally compliant regarding the rules guiding the administration of the scheme. The workshop was further informed that alternative schemes such as crop and livestock insurances were being evaluated and would be rolled out once the Government had finalised evaluating the usefulness of the scheme.

Concerning the SME initiative for coffee-based small-holder farming, Mr Onchieku observed that an Agri-business approach to farming had not been exploited adequately and that the Ministry of Agriculture supports the idea fully since it provides a good opportunity for realising vertical integration of the economic activities in the rural areas. Institutional support to such an initiative will be through the Departments concerned with Agri-business and Policy within the Ministry of Agriculture.

Similar sentiments were echoed by the representative of the Ministry of Cooperatives Development and Marketing who noted that the SME initiative was worthwhile. He further observed that most of the financing packages from the mainstream banks were not tailored to suit the farmers' requirements and expectations thereby making the small-holder farmers disenfranchised.

Although access to affordable credit was identified as one of the main constraints to sustainable coffee, honey and macadamia production, the Regional Manager for the Agricultural Finance Corporation (AFC) observed that Coffee and Macadamia farmers were not requesting for loans availed through the corporation. He observed that the loans offered by the AFC were relatively cheaper than those offered by the mainstream banks and invited the farming community to take advantage of the facility.

In his concluding remarks, the Regional Coordinator of CORNET observed that the workshop had realised its objectives and that the key issue remaining concerned mobilisation of funds to support the proposed project. He gave an outline of the next steps to be undertaken in developing the project document and to identify the Development Partners who could be approached to provide the initial funds to operationalise the pilot project. He thanked the members for having taken their time to participate in the workshop and informed the meeting

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that the participants will be informed of any developments with respect to the project.

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Annex 2: Program for the workshop on development of small and medium enterprises for high quality coffee, honey and macadamia
Prime lodge Embu: 30th September 2005

Time	Activity
Workshop 1	
8.30 – 9.00	Registration of participants
9.00 – 9.15	Introductory remarks
9.16 – 10.15	Keynote presentations on the SME concept and proposed project
10.16 – 10.30	Coffee Break
10.31 – 11.00	Question and answer session
11.01 – 13.00	Group discussions
13.01 – 14.00	Group Lunch
14.01 – 15.30	Group presentations and Plenary discussions
15.30 – 16.00	Wrap-up and concluding remarks
16.01 –	Coffee Break

Proceedings of the 2nd stakeholders' workshop held on the 27th October 2005 at CAB International, Africa Regional Centre

Workshop objectives

The second workshop on SMEs in Coffee, Honey and Macadamia was held at the CABI Africa Regional Office on the 27th October 2005. This focus-group workshop was organised as a follow-up to the stakeholder workshop held on the 30th September 2005 at the Prime Lodge, Embu. The workshop was organised in order to critically analyse and validate the proposed SME project and identify ways for sustaining the project beyond the initial three year phase. The specific objectives of the meeting were as follows:

- Analyse and validate the project on Small to Medium Enterprise for Coffee, Honey and Macadamia
- Identify areas requiring private-public partnerships, and the roles the private sector could play in developing sustainable SMEs for Coffee, Honey and Macadamia.
- Identify possible donors

Workshop Structure and Methodology

The workshop was attended by 12 participants representing processors marketers, financing institutions, NGOs, public research institutions, regional networks, and CAB International (Annex 4). The workshop was conducted in two parts. The first activity involved the presentation of background papers on the regional coffee situation, including highlights on the key outcomes of the first stakeholders' workshop on Small to Medium Enterprises for Coffee, Honey and Macadamia. This was followed by a video presentation on coffee certification. Participants were then invited to give their views on the proposed project interventions and to identify the types of public-private partnerships required. The possible roles of the private sector in the project were also discussed in a plenary session.

Session I: Background information on the ECA coffee sub-sector (Chair: Charles Agwanda)

As an introduction to the day's deliberations, an overview of the coffee sub-sector in Eastern and Central Africa (ECA) was given by Dr Agwanda. The presentation focused on the trends in coffee production, export and quality during the past 20 years in relation to the world coffee trade during the same period. The main highlights of the presentation were as follows:

- Coffee continues to play a key role in the economies of the eight coffee-producing countries within the ECA sub-region, in terms of employment to the rural communities, contribution to the Agricultural Gross Domestic Product (GDP) and foreign currency earnings
- Production, quality and export of coffee from the sub-region has declined sharply during the last decade due to poor returns from the commodity, which in turn is the result of low world coffee prices
- The impact of the low world coffee prices on production and quality was more severe for the high-cost coffee producers such Kenya since the prices realised fell below breakeven prices
- The decline in coffee exports from the sub-region coupled with the low world coffee prices has led to significant loss of household income and livelihoods of the small-holder coffee growers in the highlands of ECA.
- Given the recurrent nature of coffee price volatility, there is need to identify feasible income diversification options for small-holder coffee farmers as a means to reduce food and income insecurity and to make small-holder coffee farming in the ECA highlands more sustainable

This was followed by a presentation of the components of the project designed to improve the resilience of the small-scale coffee farmers in the ECA sub-region and to reduce food and income insecurity of the target category of farmers. The proposal was developed based on the outcome of the stakeholders' workshop on SMEs for high-value Coffee, Honey and Macadamia held at the Prime Lodge, Embu on the 30th September 2005. The project's goal is "Enhance the livelihoods of small-to-medium scale coffee farmers in Eastern and Central Africa" whereas the purpose of the project is "enhance household income and income security of coffee-based small-holders in Kenya". The project purpose will be realised by undertaking a series of activities aimed at achieving six main results:

1. Baseline information on Coffee, Honey and Macadamia in Manyatta area documented
2. Viable seed systems for Coffee and Macadamia nuts formulated and piloted by end of project
3. Optimum Coffee-Macadamia-Honey enterprise combination for small-to-medium scale farmers formulated and piloted
4. Grading and classification system for Macadamia and Honey formulated
5. Access to information for SME in Coffee, Honey and Macadamia enhanced
6. Capacity for SME development in Coffee, Honey and Macadamia strengthened

As a concluding remark, it was noted that the successful implementation of the project will require the establishment of strategic partnerships between the service providers in the three commodities, the producers and the marketers.

The role of coffee certification

A presentation on the role of coffee certification was given by Mr Kamau Kuria, the field representative for UTZ KAPEH in Africa. The presentation was in the form of a video show, demonstrating the link between certification and quality, traceability, and market access. Based on the UTZ KAPEH model, the presentation elaborated the role of certification in ensuring sustainable coffee production by small-holder farmers in the ECA sub-region. The main benefits of certification were summarised as:

- Increased access to niche markets
- Better premium prices
- Improved traceability

Two possible limitations were however noted in respect to commodity certification. One of the main limitations identified was the high cost associated with the development of structures and facilities necessary to ensure compliance. It was also noted that commodity certification was constrained by its specific nature whereby the certification is normally limited to the target commodity and may not extend to other commercial products grown in association with the certified commodity. Some concerns were also raised on the high cost of professional fees charged for certification.

Session II: Plenary discussions (Chair: Charles Agwanda)

During the group discussions, there was consensus that enterprise diversification was the best option to cushion small-holder coffee farmers from the undesirable effects coffee price volatility. The workshop participants were therefore unanimous that the proposed project provides a good opportunity for improving the household income of the small-holder coffee farmers in Kenya. It was however recommended that the current proposal be expanded to cover more than one country in the ECA sub-region. The participants further identified the entry points through which their institutions could link with the proposed initiative (Table 5).

A number of proposals were given concerning the potential donors for the project. The main ones included the Common fund for Commodities (regional projects only), The World Bank (mating grant), CIDA (capacity building component), ASARECA Competitive Grant Scheme, the Africa Development Bank (ADB) and DFID. The potential donors were identified based on past relationships with the participants. It was noted that some of the donors may be interested only in certain aspects of the project. It was further observed that some of the donors may not be interested in small projects and will fund only regional projects.

Table 5: Potential entry points for public and private institutions in developing SME for coffee, honey and macadamia in Kenya

Entry point							
	Development of seed systems	Improved access to information	Extension services	Incentive systems	Linking farmers to markets	Access to affordable credit	Capacity building
Institutions							
African Beekeepers Ltd.							
TCM							
AFC							
UTZ KAPEH							
SACDEP							
KIOF							
EAFRINET							
CRF							
KARI							

Annex 4: List of participants for the 2nd workshop held on the 27th October 2005
at the CABI Africa Regional Centre, Nairobi

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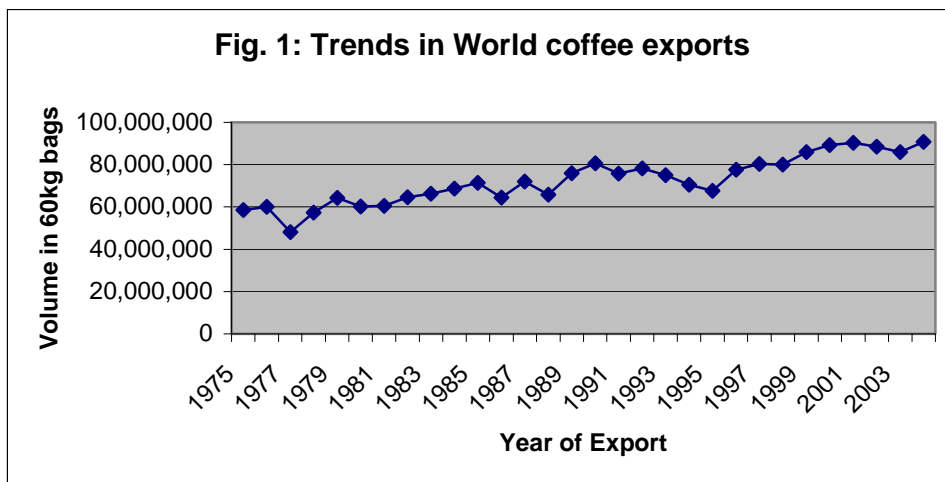
PART II

SUB-SECTOR MAPS AND ANALYSIS OF THE RELATIONSHIPS BETWEEN PRIMARY PLAYERS ALONG THE COFFEE, HONEY AND MACADAMIA VALUE-CHAINS

Analysis commodity sub-sectors

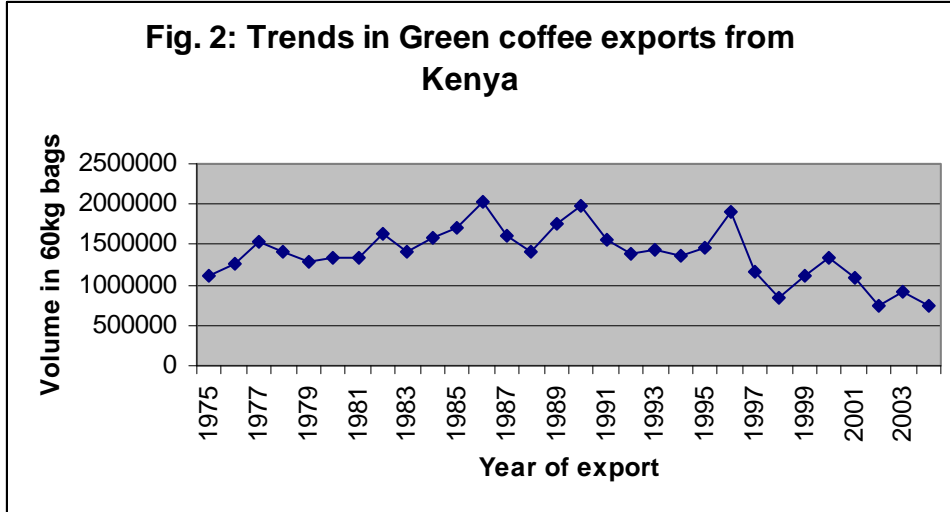
1. Coffee

Coffee is one of the most important commodities in the world trade. The crop has, until the early 1990s, been the world's second most traded commodity, in terms of value, after oil (Rice and Ward, 1996). The commodity has since been relegated to fifth place in the international commodity trade coming after oil, aluminium, wheat and coal. Based on the statistic from The International Coffee Organisation, (ICO, 2005), global export of coffee from the producer countries has increased steadily from the early seventies, moving from approximately 58 million bags in 1975 to about 90 million 60kg bags in 2004 (Fig. 1).



Source: International Coffee Organisation (2006)

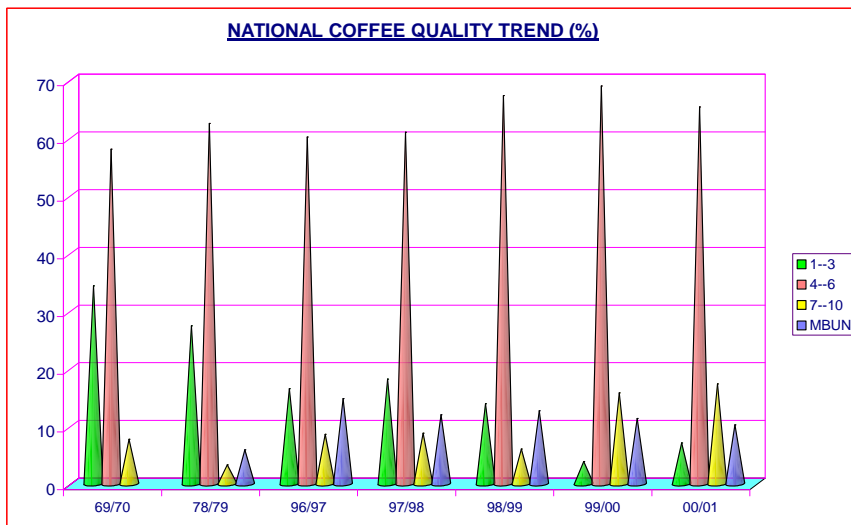
Exports from most African countries, on the other hand, have either stagnated or recorded negative growth during the same period. In Kenya, for example, coffee exports increased from about 1.1 million 60kg bags in 1975 to a peak of around 2 million 60kg bags in 1986 before declining to 75,3598 bags by 2004 (Fig. 2).



Source: International Coffee Organisation (2006)

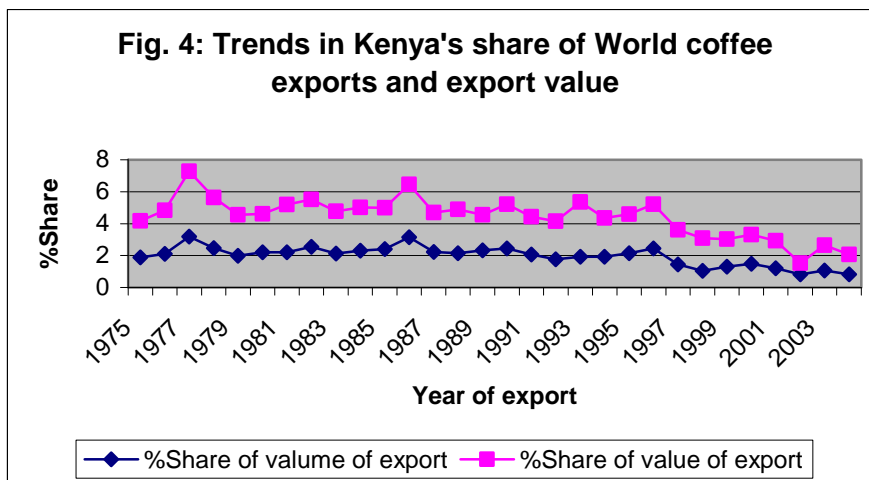
A major factor in this decline was the abolition of the economic clauses of the International Coffee Agreement (ICA) in July 1989 and the subsequent collapse in prices due to the ensuing imbalance between the demand and supply of coffee in the world market. The prices received by growers fell below breakeven points making it uneconomical to maintain recommended agronomic practices such as pest and disease control, and the application of fertilizers. Stringent coffee processing procedures previously associated with the production of high quality mild Arabica coffees were likewise minimised or completely abandoned with negative impact on coffee quality. For example, the proportion of Kenyan coffee that fell within the premium category (class 1 - 3 based on the Kenyan classification system) progressively declined from over 25% in the mid seventies to below 10% by 2001 (Fig 3).

Fig. 3: Trends in liquor quality profiles for Kenya coffee



Source: Coffee Board of Kenya Annual reports (1970 - 2001)

Low prices also meant increased poverty in the coffee farming communities. Consequently, investment in farm inputs such as fertilisers and crop protection chemicals could no longer be affordable, leading to increased crop loss due to pest and diseases and reduced crop productivity. The resulting decline in coffee productivity and subsequently coffee exports led to significant loss of the country's share of the world coffee trade both in terms of export volumes and value of exports (Fig. 4).



Source: International Coffee Organisation (2006)
FAOSTAT (2006)

This translated into loss of livelihoods for smallholder coffee farmers who relies on coffee as their main source of income and who produce over sixty percent of Kenyan coffee.

Despite the prevailing constraints, the Kenyan coffee industry possesses great potential for growth and development. The favourable edapho-climatic conditions provide unique opportunity for the production of high-quality coffee of rare character which could be used to target market segments which reward superior quality with good price premiums. Such segments include the speciality coffee markets, top quality mainstream and other niche markets. A brief description of these market segments as relates to the Kenyan coffee industry is given below.

Speciality coffee market

The speciality coffee market has been in existence for approximately three decades. It was motivated by the poor quality coffee that was served in public and private establishments in major coffee consuming countries such as the USA. It may be recalled that consumption in the USA fell badly in the 1970's mainly on account of poor coffee prepared and served in the offices and at home.

There is no universal definition of the term “speciality coffee”. The simplest definition of such coffee is one that has been given more care, attention and preparation, in the selection of best looking and tasting beans, grounded, brewed and served fresh. The speciality coffee segment has progressed steadily albeit slowly. The segment has been growing at the rate of about 3% per annum. It is estimated that between 5 to 10 % of world consumption is speciality (Onchere, 2004).

According to the International Trade Centre Geneva (2002), 5% of coffees grown in the ECA sub-region are “Exemplary”. These are from top Estates and from classic Co-operatives with superb growing conditions. It also estimates that about 30% of the Arabica within the ECA sub-region are “Speciality”. These come from Ethiopia, Kenya and Tanzania in that order and are referred to as “Good dependable origins, single coffee origin and blends”.

Despite the existing potential for production of speciality coffee, Kenya has not fully exploited the speciality coffee market. This is mainly because of existing legislation (The Coffee Act 2001) which stipulates that all Kenyan coffee must be traded through a central coffee auction, namely, the Nairobi Coffee Exchange. Although the auction system has the advantage of concentrating supply (Growers compete on quality) and demand (Exporters compete on prices) and ensuring transparent operations, the central auction system limits direct access to markets by producers. It may also limit traceability of coffee, particularly where a given coffee lot does not attain the critical volume to enable the lot be offered at the trading floor. The auction system is also constrained, especially since there is skewed market information in favour of the buyers and the existence of government controls. Smallholder farmers should nevertheless be able to exploit the benefits associated with sale of coffee through the niche markets. This will require that the high quality coffees produced by the farmers are in adequate quantities to be offered in the trading floor without having to be mixed with produce from other sources. The farmers should also put in place production plans that guarantee consistent supply of same quality coffee over the year. The farmers should also organised themselves into commercially viable groups and put in place structures which facilitate group certification.

Other niche markets

Coffee Certification and Verification:

Unlike the speciality coffee markets, the other major niche markets requires prior certification or/and verification. This concept appears also to be slowly headed to the mainstream coffee markets where issues traceability and food safety are currently gaining ground. Despite the very many standards, codes of conduct, sustainability and other criteria that have proliferated in the coffee producing world during the past decade, experiences and application of the standards and codes to East African coffees has not gathered enough momentum. In Kenya for instance, it is only Utz Kapeh certification which has made meaningful inroads, but only among the large

scale farmers. It is therefore necessary to develop certification systems with demonstrable benefits to the producers, particularly the smallholder farmers, to make such systems more attractive to smallholder farmers. More importantly, the certification system should not only provides assurance to the buyers and consumers of the authenticity and traceability of any parcel of coffee, but also to demonstrate to the market the desirable production attributes such as better land use, fair labour prices, and responsible use of available natural resource base associated with the production of such coffees. This would stimulate buyer interest and hence make certification system a useful marketing tool with more direct and demonstrable benefits to smallholder farmers.

Starbucks CAFÉ practices programme

In North America, some coffees roaster/retailers are increasingly purchasing coffees through Fair-trade and Organic labels. These coffee companies include Starbucks, Green Mountain, and Procter & Gamble. Unlike the certification programs described above, this niche market is reported to buy coffees above certain origin prices from all over the coffee producing world. They state that their purchase price is always above \$ 1.26/lb which was some \$ 0.75 above NYBOT prices in November 2003. Access by Kenyan coffee to such market segments would definitely increase net earnings to growers since this would entail additional premiums over and above the price differentials enjoyed by the Kenyan coffee at NYBOT.

In the specific case of Starbucks, the company's programmes is geared towards ensuring that fair and sustainable prices are paid to growers who in turn would ensure steady supply of high quality coffee to meet the companies ever growing demand. Over the past two year or so, more than 160 coffee shippers have qualified for Starbucks preferred supplier programme. Starbucks programme is being implemented around the world with the help of independent NGOs. In addition, independent auditors conduct spot checks for compliance. Starbucks aims to assist complying coffee growers improve their coffee crops and attract premium prices. It is estimated that the Starbuck alone buys about 2% of the world coffee exports, which is then sold through thousand of their stores located world-world. It is worth noting that the Starbucks program is already under pilot in certain parts of Kenya.

A sticking point often sited with this well meaning movement is the cost of certification. For example, Fair-trade Labelling Organization (FLO), charges coffee growers some \$2,431 to certify, in addition to an annual base of \$607 for re-certification and \$0.02 per 2.2 pounds for any parcel of coffee sold under the FLO label. Thus, although the certification programs provide long-term benefits to the producers, their short-term costs are high and are therefore a disincentive to smallholder farmers who may not marshal the required resources for certification.

Organic coffee

Much has been studied and written about organic coffee in view of some discriminating consumers seeking out certified organic produce, coffee included. Organic coffees have however, so far failed to secure adequate premium prices necessary to justify increased costs of production coupled with reduced crop productivity often associated with organic coffee production. Certification of organic coffee is also expensive, time consuming, easy to falsify and most important of all organic coffee has a high price volatility and variable market.

In Kenya, coffee yields may not be economical if all standards of Organic coffee are adhered to. With killer diseases such as the Coffee Berry Disease (CBD) it is also risky to avoid agrochemicals to control the menace. It is therefore challenging for a smallholders to adhere to a strict organic code of no pesticides, no chemical fertilisers, and no non-organic intervention. Care should therefore be taken to ensure that protocols for the production of organic coffee are put in place and cost-benefit and risk assessment conducted before embracing the organic coffee concept on a large scale. The project being proposed could be used to map out a strategy for organic coffee production and marketing in Kenya.

There is no doubt however, that there exists a market for organic coffees that can command reasonable premiums. In general organic coffee in the ECA sub-region is a valuable option where natural conditions lend themselves to organic production such as the “forest coffees” of Ethiopia and the “wild coffee” of Uganda, and where significant drop of yield per hectare do not occur.

While organic coffee may command higher prices on the market, it must also be borne in mind that this is a niche market. It is believed within the coffee industry that this niche market is reaching the point of saturation. In which case, coffee producers must weight the pros and cons of organic production systems before undertaking such a resource consuming and, initially, expensive venture. More information on Organic coffee can be obtained through the following websites: Krav Kontrol www.krav.se; OCIA www.ocia.org; IFOAM www.ifoam.org

Bird-friendly coffees

There are millions of coffee consumers in more developed countries that demand to consume coffees that are produced in tropical environments where migratory birds have a natural permanent or seasonal habitat. This niche market is rather demanding on its own since migratory birds do have shelters in more habitats than coffee growing countries. What is clear is that in countries where indigenous and other trees and ecologies are preserved migratory birds excite the pleasure of would be coffee consumers. Roaster retailers that are targeting this niche market do label their roast and or ground coffees appropriately. Currently, there is little or no direct effort by the Kenyan coffee producers to access this niche market since it lacks appropriate incentives to the producers.

Common Code of the Coffee Community (4Cs)

An example of mainstream initiative is the Common Code of the Coffee Community (4Cs) programme. Some of the world's coffee companies recently announced a voluntary Code of Conduct to improve conditions and environmental standard for coffee workers and growers in producer countries, amongst other things. The Code follows complaints by consumer and environmental groups that the said companies do exploit low prices and poor working conditions prevalent in the world market that is already glutted with excess coffee. Called the Common Code for the Coffee Community (4Cs or CCCC), it aims to help producers by creating a market for coffee that has been produced without banned pesticides or any slave, forced or child labour in places where trade unions are permitted, working conditions that are fair and where producers are allowed to sell their coffee freely. The parties to the agreement include Nestlé, Tchibo, Sara Lee, Kraft, and the German coffee industry association (DKV). The signatory companies are not committing to buy certified coffee or pay premium prices. Instead, the industry promises to intensify business relationship with producers of good quality and provide a prices differential for high quality coffee, according to the Code, and where appropriate.

The Code, if and when it comes to be, will be enforced by independent auditors and be evaluated regularly. The adoption of the Codes will bring something of a moral force of the Fair trade movement into the Mainstream. A major shortcoming of the initiative is that while it will help farm workers' earn decent incomes, it does not address the long term fall in coffee prices and the glut in production that have depressed their sale values.

Utz kapeh

Utz Kapeh champions responsibly produced coffees. It borrows from Eurepgap codes. It involves a Dutch retail company known as Ahold. The term originates from the Guatemalan Mayan language meaning good coffee. A farm/cooperative that is certified organic and/or fair trade easily qualifies to be Utz Kapeh certified by adding social dimensions. Utz Kapeh premiums are privately negotiated between buyers and sellers. Currently a number of large scale coffee producers in Kenya are Utz Kapeh certified.

Mainstream coffees

About 90 to 95 percent, of coffees produced, processed and consumed in the world is referred to as Mainstream. It is the core sector for the global coffee trade and industry business. As described under the section of coffee certification, new and emerging concepts are being developed to address this sector in the medium to the long term. Although the speciality coffee movement targets the top 3 to 5% of the coffee market, it does not mean that the mainstream market is ignored by speciality coffee movers. A trickle down effect is anticipated from the speciality coffee

movement to the main stream sector. The concept rotates around the philosophy that “any rising tide raises all boats”. The mainstream channel forms the main outlet of Kenya coffee. Any initiative aimed at improving household income of smallholder coffee farmers in Kenya should therefore take due consideration of the segment.

Constraints and opportunities in the Coffee sub-sector

As discussed above, the Kenyan coffee sub-sector registered declining performance in production, productivity, quality and coffee revenue over the last two decades. The declining trends are attributable to a number of factors. Low farm-gate earning is perhaps the single most important factor affecting production, productivity and quality of coffee from Kenya. This in turn is the result of inefficient marketing chain emanating from poor governance of farmers’ institutions along the value-chain (Agriconsortium 2004). Inefficient marketing affects the proportion of the coffee realisation which trickles from the consumer back to the farmer and is manifested as low farm-gate earnings. The high cost of production characteristic of the Kenyan coffee production system, coupled with the low farm-gate earnings (Agriconsortium 2004), impacts directly on the levels of husbandry and processing practices by the small-holder farmers, hence reducing both productivity and quality. This is particularly so during the periods of low world prices when prices realised at farm-gate do not adequately cover the cost of production.

Other constraints experienced within the Kenyan coffee sub-sector include inadequate access to critical services such as the soil and leaf analysis services to guide husbandry practices, inadequate access to affordable credit both as individual farmers and as societies thereby limiting reinvestment in coffee farming, inadequate access to superior quality planting material thereby limiting the impact of improved varieties on the livelihoods of the rural poor, inadequate access to information at various levels of the value-chain, high cost of farm inputs, inefficient processing equipment, poor extension and research-farmer linkages, low domestic coffee consumption, coffee research not in tandem with current needs and delayed payments to farmers. The relationship between these constraints and the secondary causes are shown in Figure 5.

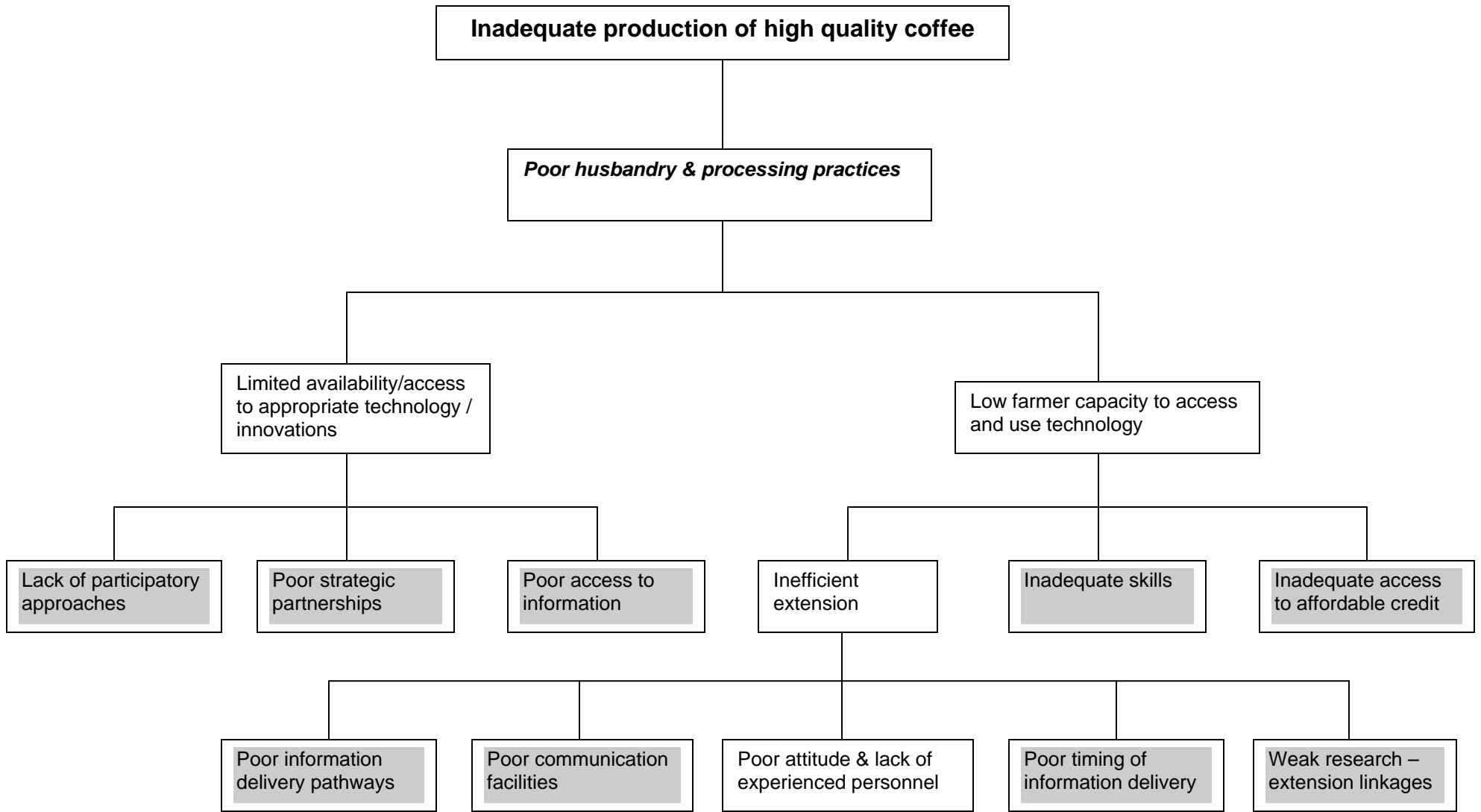


Figure 5: Perceived cause-effect relationships amongst the constraints to sustainable coffee production in Kenya (Shaded areas show potential intervention points are)

Despite the prevailing constraints, the Kenyan coffee industry possesses great potential for growth and development. The favourable edapho-climatic conditions are well suited to provide a unique opportunity for the production of high-quality coffee of rare character. The unique character of Kenyan coffee has enabled the country to attract premium prices, earning between +10 and +15 above the New York Board of Trade (NYBOT) currently. This was further demonstrated by the comparative analysis of the NCE and NYBOT prices for the period 1999 – 2002 conducted by Vrije University Amsterdam (2002) where Kenyan AA and AB coffee grades always attracted prices above NYBOT. This is further evidence that increased quantity of high quality coffee provides a viable option through which the household incomes of small-holder farmers in the coffee producing highlands of Kenya could be improved. Caution will however be necessary to ensure that the efficiency of the marketing chain is concomitantly enhanced to ensure that a higher percentage of the auction price actually reaches the farmer. Another dimension for increasing farm-gate returns for high quality coffee is through differentiation, branding and access to niche markets. This requires reorganisation of the farming practices to focus on on-farm value-addition during production and processing, differentiation of coffee according to grades, quality and geographic origins as well as certification. Niche markets have not been effectively exploited by Kenyan coffee farmers, particularly the smallholders whose production systems are not well adapted to certification.

Main players in the Coffee commodity chain

Coffee has an elaborate value-chain, with each player having well defined roles. The key players include the growers whose role include production and primary processing of coffee, the farmer cooperative societies which provide communal processing and storage facilities, the millers whose role is to provide milling and quality classification services, the marketing agents whose main roles are to provide bonded warehousing and are also responsible for selling the coffee on the trading floor, the regulatory bodies who are the government arms responsible for policy regulation of the sector and promotion of Kenya coffee and the research organisations responsible for research and advisory. Entrepreneurs of local coffee houses are also becoming important players in the coffee sector, driven mainly by two roasters targeting the high quality segment of the domestic market. The interrelationships among the various players are summarised in Figure 6.

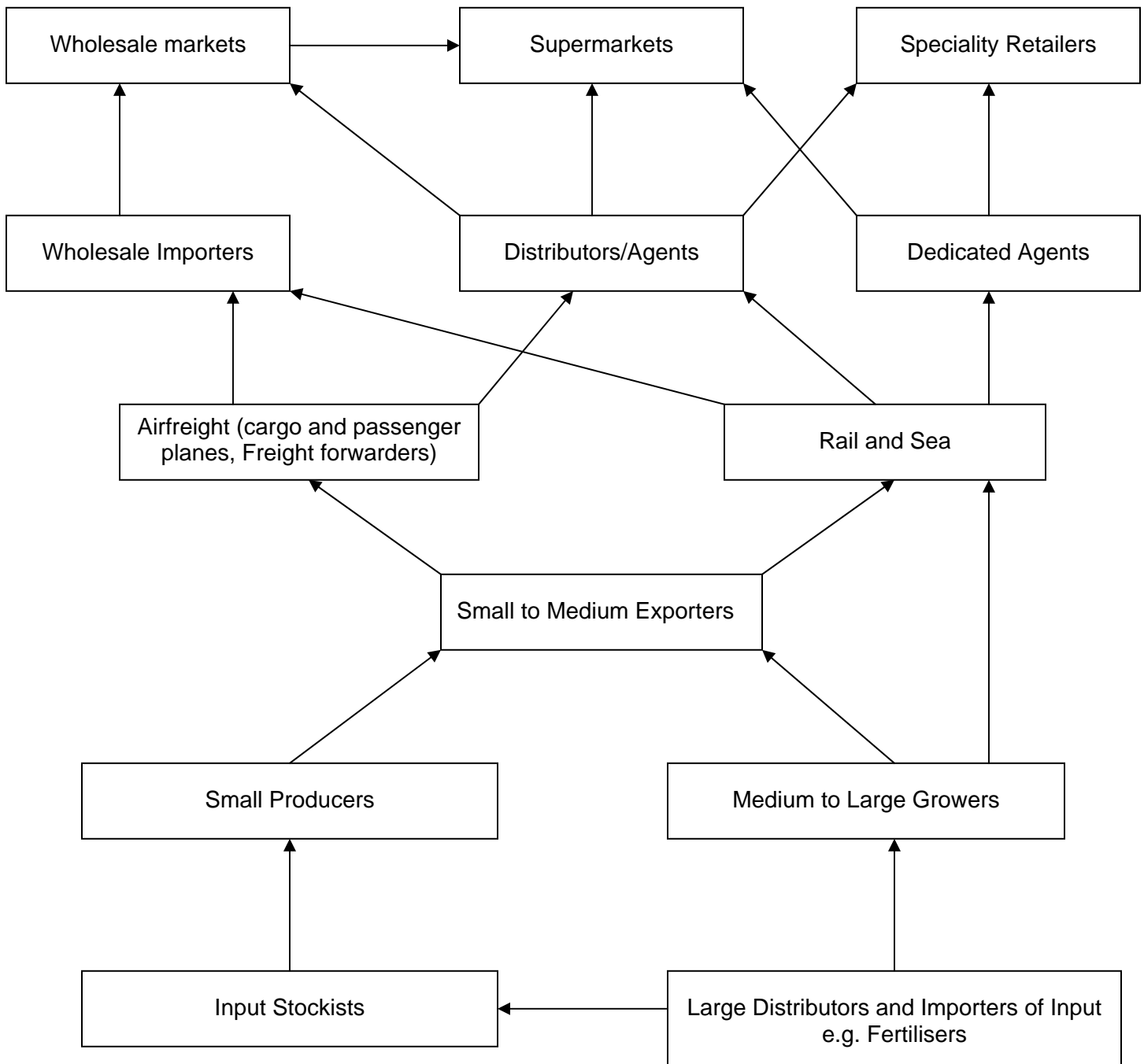
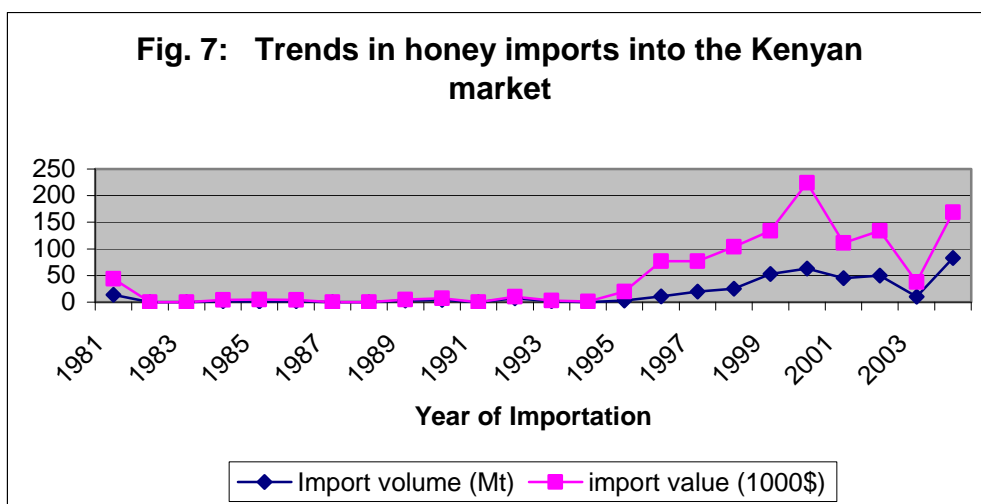


Figure 6: Sub-Sector map for high quality mountain coffee originating from Kenya

2. Honey

Unlike coffee and macadamia, the honey sub-sector is still highly underdeveloped in Kenya. Production of honey is mainly by small-scale producers, usually living in marginal areas of Kenya, and where it is seen as an 'old mans' activity. The commodity has the potential to be produced in all parts of the country and is viewed by the Kenyan Government as an important avenue for income generation and improved livelihoods (Asiko, personal communication). In this regard, the government's policy is to develop a modern beekeeping industry in the country in order to increase honey production for domestic consumption and surplus for external market. Honey production follows the rainy seasons and is harvested twice in a year. Production of honey in Kenya has been expanding over the years. However, little statistics on production and processing is available to support this observation. The National Beekeeping Station of Kenya estimates that only one fifth of the country's potential is currently being exploited. This is despite the fact that the demand for honey in Kenya outweighs production by a substantial margin, with the gap being covered through importation (National Beekeeping Station, 2004). This observation is demonstrated by the statistics provided by the National Beekeeping station and the FAO statistical Database (Fig. 7).



Source: FAOSTAT (2006)

Ministry of Livestock and Fisheries Development (2004)

Beekeeping is considered a high paying enterprise. Establishing a beekeeping activity in Kenya requires minimal investment in hives and primary processing facilities. For example, to establish a beekeeping facility with 200 Lonstroth type hives and one semi-processor, a farmers' cooperative society would require US\$ 1000 to purchase a semi-processor, US\$ 11,000 towards the purchase of 200 Lonstroth hives, US\$ 350 for 25 exchange supers, US\$ 500 for 6 beekeeping kits and an approximate US\$ 1000 for handling and storage facilities. Most of the facilities are durable with a lifespan of between three to seven years.

Assuming an average yield of 40kg raw honey per year per hive, the set-up describe above would have an estimated yield of 8000kg honey per year. At current retail price of US\$ 1.7 per kilogram of raw honey or US\$ 3.9 per kilogram of refined honey, an annual return of about US\$ 13,600 per year (in the case of raw honey) or US\$ 31,200 (for refined honey) would be expected (African Beekeepers Limited, Personal communication). This means that farmers would be able to recoup their investment within the first year of production. Paradoxically, however, bee farming has not taken a centre stage in the Kenyan farming community despite the largely unmet local demand, the high pay-offs expected from bee enterprise and the benefits of integrating bees in coffee farming (Ricketts et al. 2004). Part of the explanation resides on lack of information and awareness. This is in addition to a number of other constraints including limited farmer capacity and limited access to capital for initial investment as discussed below.

Constraints and opportunities in the Honey sub-sector

The main factors which limit the growth of the honey industry in Kenya include environmental degradation such as deforestation and increased use of agrochemicals. Lack of affordable credit limits the ability of small-holders to acquire modern beekeeping and honey processing facilities. The inadequate use of modern equipment coupled with inadequate knowledge and skills in modern beekeeping techniques leads to low honey productivity on small-holder farms. Other factors include inadequate access to information on modern beekeeping technologies, the high cost of modern equipment, increasing consumer sophistication, lack of market information, poor quality due to inappropriate production techniques and adulteration of products, inadequate quality assurance, phobia of bees and entrenched attitudes and perceptions that beekeeping is a job of old men living in arid areas, are some of the major constraints in the sub-sector. The cost of modern equipment for beekeeping is still beyond the financial means of most small-holder producers who do not have access to initial capital required to initiate honey business. Figure 8 gives a summary of the main constraints to sustainable honey production in Kenya and their perceived cause-effect relationships.

In spite of the constraints observed in the honey value-chain, a number of opportunities which could be exploited to the benefit of the players in the honey business also exist. The commodity is highly amenable to integration with other commercial farming activities such as coffee farming. Local demand for high quality honey is high and is expected to increase as more consumers appreciate health benefits associated with honey. This is demonstrated by the fact that Kenya is currently a net importer of processed honey, with the annual average import during the past ten years estimated at 36 Metric tones of refined honey. Good prices prevail, particularly for high quality honey. The country is naturally endowed with wide variety of reputable nectar sources due to the diversity of the indigenous flora, making it possible to produce differentiated honey for niche markets. Access to modern technologies is improving due to private sector and government initiatives. A number of by-products with potential for use in other industries e.g. the beauty

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industry can be used to diversify the income sources and to cushion honey producers in the event that honey prices fall. To enable the smallholder coffee farmers more effectively take advantage of the benefits of integrating honey production with Coffee/Macadamia enterprises, it will be necessary for the farmers to operate in viable groups with joint ownership of processing and packaging facilities, seta and adhere to high quality standards and guarantee consistent supply of high quality coffee to their markets.

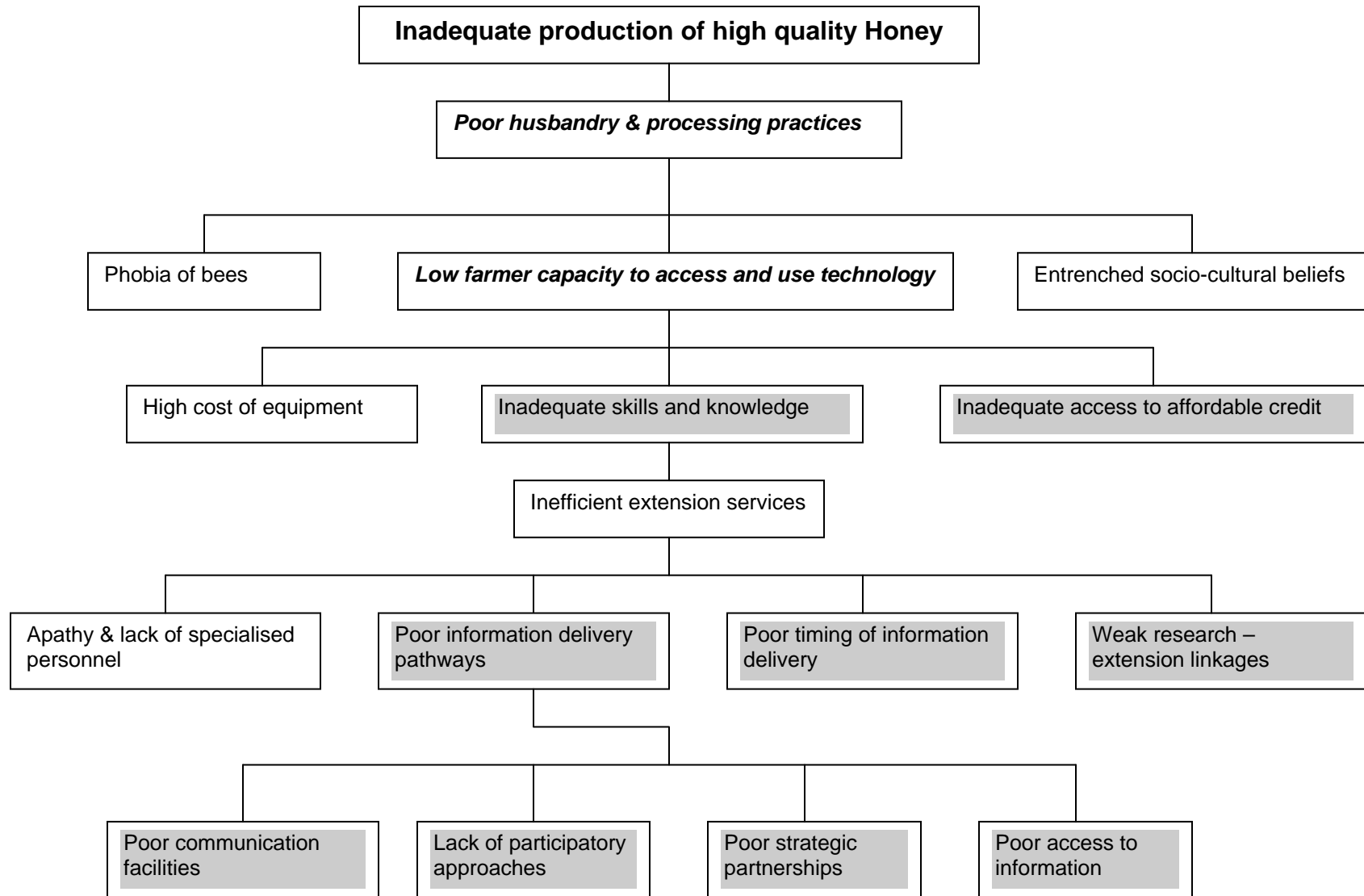


Figure 8: Perceived cause-effect relationships amongst the constraints to sustainable production of honey in Kenya (Shaded areas show potential intervention points)

3. Macadamia

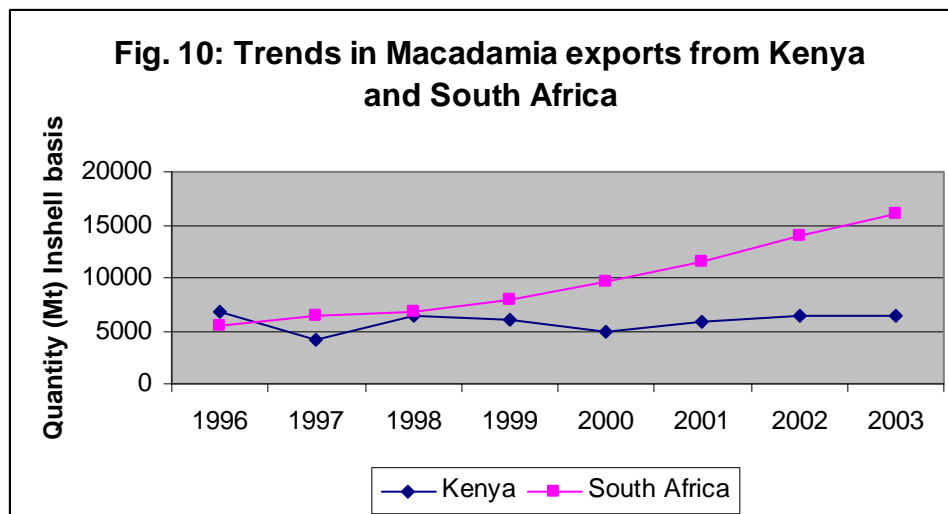
Macadamia has a long history in the Kenyan Agricultural sub-sector, first introduced in Kenya in 1944 from Australia via Hawaii (Sato & Waithaka). Wide-spread production started in the late sixties and is mainly by small-scale farmers with individual farmers owning from 5 – 100 trees of various ages and under a wide-range of husbandry practices. The commodity is grown mainly as an intercrop with other cash crops e.g. coffee and food crops. Steady growth in export has been realised since the early 1990s, increasing from an export level of 4,000 tonnes in 1993 to 7,300 tonnes in the year 2004 (Table 6). Currently, Kenya is ranked 5th in the world after being dislodged from the 4th position by South Africa.

Table 6. Production, consumption and export of Macadamia in Kenya
(Metric tones Inshell basis)

	Year											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Production	4070	4100	4900	6800	4100	6500	6000	4900	5800	6400	6500	7300
Exports	3436	3714	4550	6819	3714	5422	6429	3924	6052	6155	6030	6814
Domestic consumption	134	286	350	181	286	978	61	156	80	243	333	377

Source: Index Mundi (2006)

Despite the impressive increase in production registered during the past ten years, the growth rate of the sub-sector is nevertheless below the country's potential and is relatively slow when compared to global growth or the growth rate of competing countries such as South Africa to which Kenya has lost some of her market share (Fig. 10). This is mainly because the productivity of Macadamia in Kenya is still relatively low due to sub-optimal agronomic practices, the use of inferior varieties and old and moribund trees. Improved agronomic practices, rejuvenation of old orchards and the use of improved varieties are therefore some of the areas which could be targeted by programs aimed at making Macadamia production more economical and sustainable.



Except for the removal of the pericap, little or no processing occurs on-farm. Smallholder farmers sell whole nuts to commercial processors who subsequently dry the nuts gradually to 2% moisture content at 50° C. Flat nuts occur at the rate of 3%. The kernel yield is estimated at 28% while exportable kernel is approximately 16% of the in-shell weight (Kenya Nut Company, personal communication) as compared to 23% for Hawaii (CABI, 2004). Processed nuts are vacuum sealed in 20kg units. Kernels are either exported as whole nuts or chipped as required by the importer. On-farm value-addition is therefore one of the areas where smallholder farmers in Kenya could target as a means to improve competitiveness and subsequently household incomes. One aspect of on-farm value addition could be to improve the yield of exportable kernel from the current low level of 16% (in-shell basis) to levels attained in the competing countries such as Hawaii. This could be attained through improved agronomic practices and the use of superior varieties. On-farm grading and differentiation could also be useful in increase the value of Macadamia.

Global Trade

Macadamia is still a high value, high priced 'luxury' product generally eaten in wealthy countries or restricted to the higher echelons of society and the tourism industry in the developing countries. Australia is the main producer and exporter of the commodity, accounting for about 40% of the world exports (Table 7). South Africa, Guatemala and Kenya are the next most important exporters in that order.

The three main markets for macadamia are US, East Asia and Europe (CAB International, 2003). While Australia supplies all these markets, Kenya's export destination is still primarily Japan, which over the last 6 years has taken between 50 and 75% of all export volume. The USA market absorbs around 20-30% of exports whereas export to Germany is in the range of 10-26%. As the market share of Kenya's Macadamia become eroded in these more traditional markets due to

competition, It may be worthwhile for the country to investing in new markets such as China. Currently the Chinese market is supplied mainly by Australia.

Table 7. Export statistics (Mt) for some of the leading Macadamia producers

	Year											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Australia	-	-	13429	15141	16959	18000	18100	26000	27625	23166	28000	29500
South												
Africa	-	-	-	3916	5400	6700	7710	9200	10700	13500	15300	-
Guatemala	-	-	2327	2327	2507	2775	3800	7000	9000	9500	9900	10450
Kenya	3436	3714	4550	6819	3714	5422	6429	3924	6052	6155	6030	6814
Costa Rica	-	-	0	0	3351	1244	1681	1900	1900	-	-	-
Brazil	-	-	122	250	270	1170	1200	1320	-	-	-	-

Source: Index Mundi (2006)

Prices

Macadamia is one of the agricultural products where demand by processors still outweighs supply. External demand for Kenyan Macadamia is high and growing and is largely unmet due to the low level of production. The local macadamia prices have consequently risen dramatically from US\$ 0.3 per kilogram in the years preceding 2003 to the current prices of US\$ 1 per kilogram of in-shell nuts. It is expected that the prices will remain stable around this figure due to competition amongst processors for the product and increasing market demand. An important aspect of Macadamia farming in Kenya is that farmers receive cash at the point of sale, in contrast to the situation with other commodities such as coffee where farmers deliver their produce to marketing agents in trust and receive payments afterwards.

Constraints and opportunities in the Macadamia commodity chain

Although Kenya is already established as a major producer, a number of factors still limit the competitiveness of the country when compared to her competitors. The importance of the country as an exporter of Macadamia is therefore declining and may continue to do so unless the production system in Kenya is reorganised to become commercially focussed. For example, productivity from the small-scale sector who produce over 90% of Kenya Macadamia is low and the quality of the nuts inferior to those of their estate counterparts. The low productivity and poor quality are a reflection of the poor prices which the commodity attracted during the period when only one market outlet prevailed. With good prices currently being realised however, 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. Other factors constraining macadamia development in Kenya include

inadequate value-addition, lack of modern equipment for on-farm production and processing, the tendency to export 'in-shell' nuts thereby killing the local industries, inadequate access to information, inadequate information on the right varieties for the various Agro-ecological zones, inadequate extension services for macadamia, unethical business practices due to a large number of brokers, lack of farmer awareness on the final products, insect pest damage to nuts thereby lowering quality, high cost of farm inputs, inadequate information and knowledge, low household incomes leading to poor living standards, and poor agronomic and husbandry methods leading to poor quality of nuts. The interrelationships among the constraints are shown in Figure 11.

The country nevertheless has great potential for further improvement in both production and value of Macadamia from Kenya. The country is endowed with favourable edapho-climatic conditions for the production of high quality Macadamia and with minimum disruption from both biotic and a-biotic stress factors. The existence of unexploited scope for using Macadamia by-products in other industries e.g. as animal feed, increasing global demand for Macadamia due to the low cholesterol level of the product, increased competition from buyers leading to higher farm-gate prices are among some of the opportunities which are yet to be tapped fully by Kenyan Macadamia producers. Scope also exists for alternative uses of Macadamia and Macadamia by-products in the food and beauty, building, tea and feed industries.

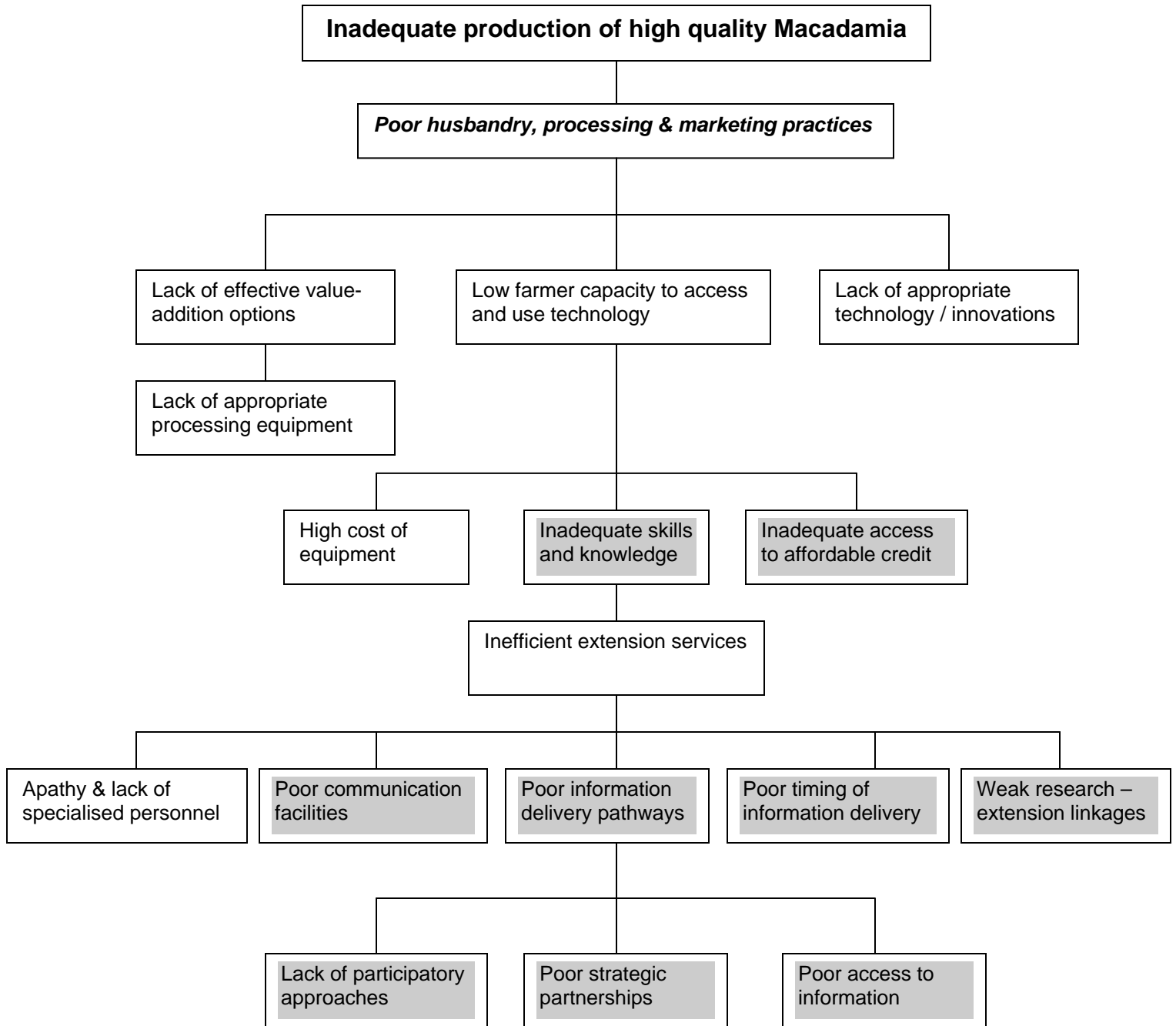


Figure 11: Perceived cause-effect relationships amongst the constraints to sustainable production of high-quality Macadamia in Kenya (Shaded areas show potential intervention points are)

Main players in the Macadamia value-chain

The macadamia value-chain is relatively short (Figure 12). At the primary end of the Macadamia value-chain are the farmers, the majority of whom are small-holders. Farmers are responsible for the production and initial nut processing including harvesting, drying and storage. The farm-dried nuts are sold mainly at the farm-gate, although some collective marketing through cooperative societies may occur. Farm-gate purchase of nuts is either done directly by the main processing companies or through brokers who purchase the nuts on behalf of the processors. Most of the services to nut growers are provided by the processors. This includes advisory services, training of nursery men and provision of planting materials. Similar services are provided by the research services. In addition, the research system selects varieties with specific adaptation to various agro-ecological conditions. Credit is provided through agricultural-based banks and other micro-finance institutions.

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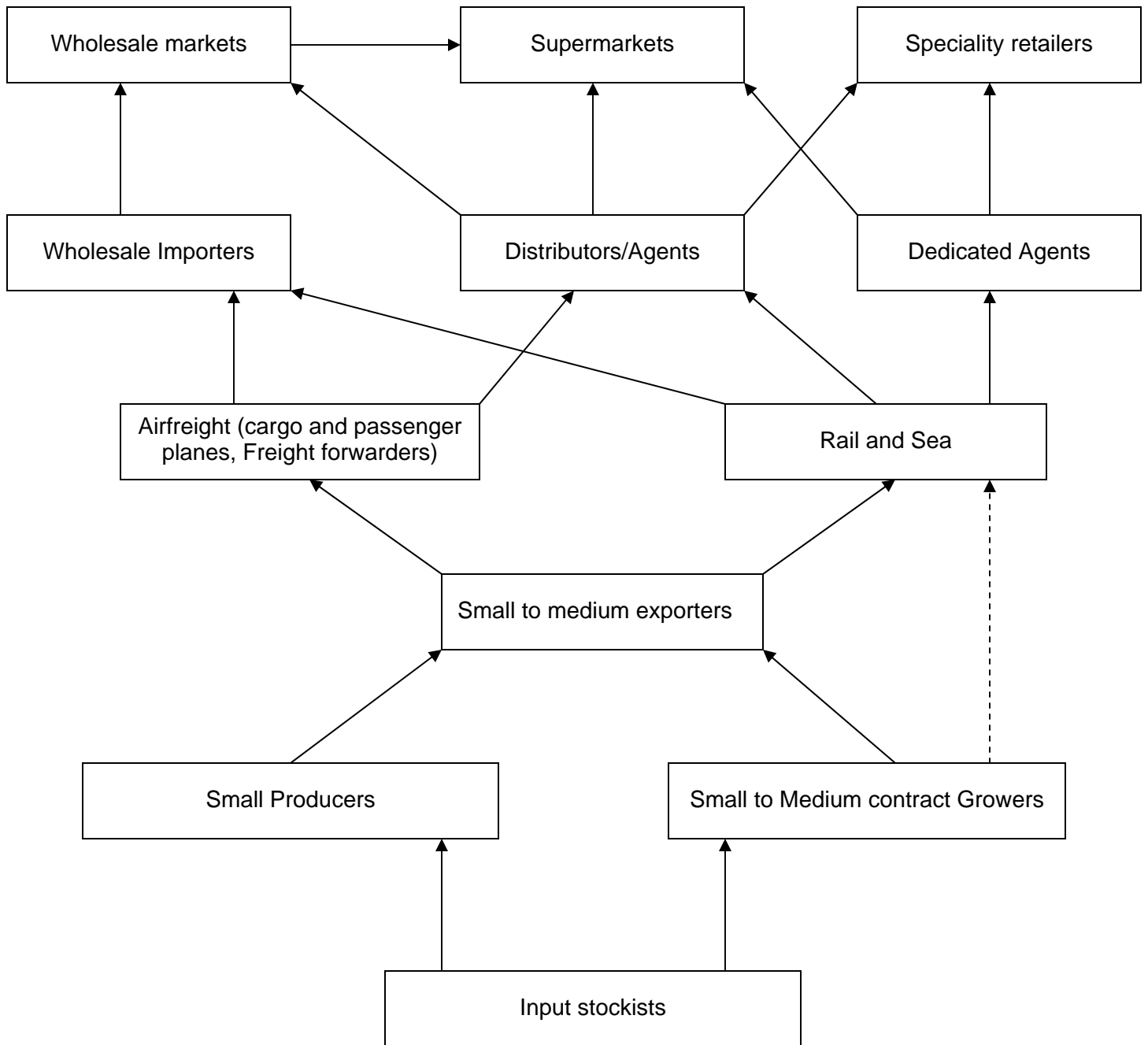


Figure 12: Sub-Sector map for high quality mountain Macadamia originating from Kenya

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