



Kenya BDS

Kenya Business Development Services Program

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Deloitte Touche Tohmatsu Emerging Markets, Ltd.

**PILLAR #2 STRATEGY PAPER: DEVELOPING LINKAGES
WITH LEAD FIRMS IN THE TREE FRUIT SUBSECTOR**

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INTRODUCTION

Kenya BDS will implement a three pillar strategy for increasing both competitiveness and growth within targeted subsectors: 1) At the production level, the program will facilitate access to business development services among rural MSEs through interventions competed under the Market Intervention Fund; 2) At the end market level, the program will develop business partnerships with lead firms within the industry, to assist them with strategies for reaching downmarket, while also expanding the consumer retail market; 3) At the industry-wide level, Kenya BDS will facilitate a variety of activities to support overall growth of the industry cluster as a whole.

The tree fruit subsector has been identified as the initial area of assistance, with a focus on avocado, passion, and mango fruits. Within this subsector, Pillar 1 activities have already commenced, with the launch of the Market Intervention Fund and release of initial tenders. Kenya BDS has also initiated activities at the end market level, and has approached several “lead firms” (processors, exporters, domestic retail) in the treefruit subsector. Several of these industry leaders have already revealed an immediate and serious interest in collaborating with the Kenya BDS Program in expanding their outgrower arrangements and reaching downmarket.

Discussions between Kenya BDS and select industry leaders are at a preliminary stage. Some draft memorandums of understanding have been shared which detail the levels of potential collaboration in general terms, however more steps are needed to formalize the relationship and launch a strategic action plan. It is important that Kenya BDS takes advantage of the expressed interest to date of these firms, and seizes the opportunity to expand the market for rural smallholder farmers in the treefruit subsector.

The purpose of this assignment was to develop a strategy for lead firm participation under Pillar 2 activities. In support of this initiative, horticulture expert Paul Guenette was contracted for a period of 3 days. Based upon his knowledge of Kenya and the horticultural sector, Mr. Guenette was to cite any in-country players and issues that may affect the commercial dynamics within the tree fruit subsector (HCDA outgrower Code of Conduct, existing outgrower schemes, specific policy and regulatory considerations, etc.) that must be considered when forging such relationships. This would be followed by a series of specific actions steps and strategy outlining the future direction of Pillar 2 activities.

CHAPTER 1 – MARKET DYNAMICS THAT MAY IMPACT BDS OUTGROWER ASSISTANCE

I. MARKET CHANNELS

EXPORTS

Kenya's horticulture exports have grown steadily over the past 20 years from about \$110 million in 1980 to over \$300 million in recent years. During this period, the floriculture subsector has flourished (largest non-EU supplier to the EU), and is considered very innovative implementing a strict environmental and social code of practice. Fresh vegetable exports reportedly reached record levels in 2002 (\$100 million), led by accelerated growth in semi-processed "high care" products.

The fruit subsector, led by recent sea shipments of avocado to EU, with lesser volumes of mango, and passion fruit, has maintained its historic export levels. The Kenyan fruit sector has opportunities to learn lessons from other more successful subsectors, namely to capitalize on the technical expertise available, the local support infrastructure and industries (packaging, cold storage, transport), sources of capital investment, and product innovation.

Avocado

Kenya's varieties include *Fuerte* and *Hass*. Avocado exports are principally by sea freight from Mombassa to Marseille for France & Germany markets; some airfreighting happens on an exceptional basis. The main competition in these avocado markets comes from Israel and South Africa. Sea freighted 40-foot refrigerated containers can fill entire Europe-bound ships during peak avocado season, contributing 60% share of fruit exports.¹

Refrigerated containers with ethylene-scrubbers, called Controlled-Atmosphere (or "CA") Containers offer longer shelf life at destination by stalling the ripening process while product is *enroute*, but there is usually a shortage of CA Containers in Mombassa.

Mango

Varieties include *Kent*, *Sensations* (new), *Apple*, *Hadyn*, *Sabine*, *Ngowe* and *Van Dyke*. Kenya's mango exports are mainly sea freighted from Mombassa by refrigerated container to Dubai for onward distribution to the Middle East & Persian Gulf states, where much of the mango is then processed into juices. Main competition in these markets is from India. Limited mango exports go by air to EU markets in peak mango season, depending on variety and price.

Refrigerated CA Containers in principle offer improved access to EU markets by lower-cost sea freight, but this market access channel has not yet been proven and mainstreamed.

Passion Fruit

In Kenya, passion fruit are usually the purple-skinned variety, versus the Caribbean yellow variety.² Passion fruit exports are usually air freighted to Europe, in locally printed boxes suitable for retail display, in cushioned layers to preserve quality during shipment. Passion fruit juice is highly valued on

¹ *Sector Study of the Horticulture Export Sector in Kenya*; FKAB Feldt Consulting; September 2001.

² NB: Passion fruit grows on a trellis-supported vine more than a real "tree" and produces fruit within 6-8 months of planting seedlings from nurseries.

the international juice concentrate markets because it is so strongly aromatic and easily contributes in small quantities to blended juice drinks. Informal BDS reports are that the EU market has unmet passion fruit demand awaiting additional supply.

SUPERMARKETS

The supermarket “phenomena” is one treated in depth in other reports (Reardon, Timmer *et al*) – Suffice it to say that the phenomena of “supermarketization” is happening in Kenya, offering an increasing range of fresh horticultural products to urban consumers under comfortable conditions, at fixed and reasonable prices.

Uchumi

Uchumi is the largest supermarket chain in Kenya and publicly listed on the Nairobi Stock Exchange. There are currently 28 Uchumi stores in Kenya, including five hyper markets (4 in Nairobi, one in Mombassa). They have stores in six cities in the interior of the country. 70% of their fresh produce sales are from the hypermarkets.

The stores carry 250 lines of fresh produce, including mango, passion fruit and avocado. Produce is a key traffic driver in some of the stores, especially the Hyper markets, and Uchumi tries to provide the best in service in terms of range of products, prices, quality, and service. According to BDS notes, Uchumi is introducing a centralized purchasing system, and seeking to increase the proportion of products purchased from local farmers from 40% (currently) to perhaps as high as 80%, in an attempt to increase quality control and volume reliability. Mango and passion fruit are the most important targeted products, followed by avocado.

Nakumatt

These department stores offer a very large range of products, including food and beverages in internal supermarket formats. Nakumatt reportedly has 12 stores nationally; their stores typically have significant infrastructure and floor space on a large scale, similar to international hypermarkets Wal-Mart (US), or Carrefour (France).

Of note is that Nakumatt reportedly operates its fresh produce departments on a concession basis, whereby the produce supplier owns and tends the fresh produce through point of sale (or perish and removal). Nakumatt’s concessionaire reportedly is Mugoya Vegetables Ltd., a large fresh produce trader based in Nairobi. Mugoya Vegetables Ltd. has over 100 staff and serves a wide range of institutional produce markets besides Nakumatt.

Pick ‘n Pay

This South African hypermarket chain operates centralized procurement systems to deliver a broad grocery product line to urban consumers at low prices. Following on their success in South Africa, Pick n’ Pay is reportedly coming to Kenya via foreign direct investment, where it will compete with Uchumi and Nakumatt.

Shoprite

South Africa’s largest food retailer has invested in 13 other African countries and according to rumors in the trade press (also) has its eye on Kenya.³

³ *The Rise of Supermarkets in Africa: Implications for AgriFood Systems and the Rural Poor*; Weatherspoon and Reardon; Overseas Development Institute; Development Policy Review, 2003, 21 (3): 333-355.

BROKERS

The third-party broker system is one whose days are numbered in Kenya, as market forces reduce the producer-retailer chain to its minimum in order to reduce end-customer costs while increasing consumer-dictated quality attributes and enforcing food safety due diligence and traceability.

WHOLESALE MARKETS

The traditional open-air markets for fresh produce still exist in Kenya's villages and urban areas, though hampered by infrastructure and support systems such as sanitation and waste disposal, fresh water supply, licensing and disputes over fee structures. Kenya's two largest wholesale markets are in Nairobi (*Wakulema Market*) and in Mombassa (*Kongowea Market*).

PROCESSORS

Kenya boasts a reasonably developed processing sector to can, dehydrate, freeze, juice, puree or concentrate horticultural products. The industrial zones in Nairobi and Mombassa also offer bottling and packaging products, refrigeration and transportation services to add value to processed horticulture products.

Fresh Fruit as Raw Material

Fruit processing facilities currently produce juice concentrates from both mango and passion fruit for export and produce juices and jams for domestic consumption. Generally, processors are running well below capacity and need more raw material to produce fruit juice, concentrates, puree, pulp and jam. These processors typically require lower grade fresh produce (Grades #3 & #4) for which they typically pay growers a lower price than growers receive for higher-quality product.⁴

Higher grade fruit, Grades #1 & #2, are bound for the export market or for the domestic retail market and garner a premium price for growers. The supply of raw material product to processors is in many instances, dependent on fresh sales (Grades #1 & #2), either export or domestic, which "pull" the fruit supply for processors.

II. STANDARDS

PRODUCT STANDARDS

Introduction

The great majority of "standards" systems are related to consumer safety, with product quality (Grade 1) almost a given. The lucrative export market for Kenya's horticulture is the EU, particularly the UK. Within the UK the leading market driver is the supermarket segment, where market multiples such as Tesco, Sainsbury, Marks & Spenser, Safeway, etc. are supplying a large (70%) and increasing share of fresh horticulture products. This target market segment is increasing its focus on consumer health and safety, requiring increasingly stringent standards from suppliers and systems documenting traceability.

⁴ See BDS notes on *Discussions with Lead Firms, Kenya Orchards, Ltd.*

Public vs. Private

Writ largely, food standards fall into either public domain (CODEX, ISO, HACCP, EUREPGAP, HCDA) or private (EU's Market Multiples, FPEAK, KFC, COLEACP harmonized). The standards that count commercially are the standards required by the customer. In consistently demanding steps, Kenya's horticultural exporters have responded to buyer (store-level) requirements for horticultural safety standards. The Kenyan export industry is making great strides in adopting necessary private sector codes of practice based on the needs of UK commercial clients.

Public standards have a place – they offer universal appeal that cross boundaries, they protect domestic consumers and provide a publicly available “map” to food producers. But private grades and standards systems have repeatedly exceeded and outperformed public systems, at the level of conception and design, in implementation, and in enforcement. Bottom line: what grades and standards solve the problems of your targeted buyer, i.e. meet the needs of the end consumer? As value-chains continue to shrink, and reduce the distance between producer and consumer, the end needs of the consumer must drive production standards.

Food Standards Systems

Food safety standard systems apply down the value chain to include production (cultivation and harvesting practices), field sorting and grading, collection and storage, cleaning and packaging, transporting to markets, and handling through point of sale. Food safety standards systems are led by Hazard Analysis Critical Control Point (HACCP). ISO is more applicable to manufactured processes, i.e. to processed foods rather than fresh.⁵

The British Retail Consortium (BRC) devised a food safety control system called the BRC Food Technical Standard in 1998, incorporating HACCP into its certification system. A broad EU-level system is in development to ensure “farm to table” coverage. EU-levels for maximum residue levels (MRLs) are established to dictate the use of agrochemicals in food production. Kenya food companies are advised to begin HACCP awareness programs and to carefully observe pesticide restrictions so as to be market-compliant.

Good Agricultural Practices (GAP) is a good starting point for SO production to oversee production so as to respect the environment. EUREPGAP (European Union Retailers Good Agricultural Practices) offers probably the best and most relevant template to guide SO agricultural practices for commercial purposes. These entail integrated pest management (IPM), proper use of legal agro-chemicals, including gear to administer, record-keeping, run-off prevention and storage rules, container disposal, etc. EUREPGAP certification of suppliers of fresh produce to EU markets is being pushed. Compliance (and enforcement) is anticipated by EU markets within the next several years, sources vary as to the year expected.

Amidst a flurry of producer-country private Codes of Practice being devised in the 1990's, COLEACP in Paris campaigned to harmonize various draft codes (Kenya, Zimbabwe, Uganda, Tanzania) into a harmonized format. It forms the basis for FPEAK's and KFC's codes, and for the HCDA draft National Code as well. COLEACP continues to offer assistance to private associations in strengthening their codes.

⁵ The ISO 9000 program, developed by the International Standards Organization, provides a generic set of international standards aimed at ensuring the quality management process of an organization. It provides a framework and disciplines to develop and implement a quality management system.

III. SMALLHOLDER PERFORMANCE

Perhaps the key challenge for Kenya's horticulture is to *enable* outgrower schemes, to support rural smallholder farmers to form producer groups which can perform in commercial horticulture to increasingly exacting market standards.

Reliability

Reliably and with consistency so as to become dependable suppliers to commercial market outlets in the private sector. Success keys include group homogeneity, peer pressure, strong communication, mutual trust based on mutual benefit.

Efficiency

Smallholders must achieve costs & prices that are appropriate to output quality. Success keys include familiarity with crop and cultivation techniques, convenience to collection points, transport availability.

Effectiveness

Outgrowers must meet MRL and product safety standards as well as traceability requirements. Success keys include strong downstream linkage from exporter/retailer as "buyer" to translate market requirements and standards to outgrower schemes, buyer managing traceability systems numbering boxes and tracking through production, agrochemical applications (doses and pre-harvest intervals), IPM, reusable plastic collection cartons, etc.

CHAPTER 2 – PILLAR 2 ACTION STEPS: FUTURE DIRECTION FOR BDS LEAD FIRM PARTNERSHIPS

I. LEAD FIRM CATEGORIES

EXPORT MARKET CHANNEL

East African Growers Limited (EAGL) is one of the leading horticultural exporters and an industry leader in terms of use of outgrower schemes. EAGL reportedly has 5,000 employees, 80% of which work on the company's farms, yet supports a strong outgrower program than currently provides 50% of the firm's fresh produce supply.

The EAGL Director is a long-time member of the Board of Directors of the Fresh Produce Exporters Association of Kenya (FPEAK). Products sought by EAGL that can be furnished by organized SOs include mango, passion fruit and avocado, with a geographic focus on production from the Central and Eastern Provinces. According to EAGL discussions, the EU market has unmet demand for fresh passion fruit.

BDS needs to identify and agree with EAGL on such matters as: Imbedded services for extension, integrated pest management, harvesting and post-harvest handling, sorting and grading, initial field-chilling, input supply, production and delivery schedules.

EAGL provides an excellent starting point for BDS to work in the export channel. A Memorandum of Understanding between BDS and EAGL is under examination. As BDS seeks to broaden its involvement with export firms, it should seek similar exporters of fruits, such as VegPro (K), Sunripe, Ltd. or Kenya Horticulture Exporters, Ltd.

DOMESTIC MARKET CHANNEL

Uchumi Supermarkets Limited (Uchumi) For reasons of increased quality control and reliability, Uchumi is seeking to increase contract sourcing from farmers and Smallholder Organizations (SOs). Uchumi currently has 250 fresh produce items in their stores including mango, passion fruit and avocado. The centralized direct purchasing system targets 40% supply from producers.

Any BDS expansion in this category would likely include Nakumatt Limited, the country's second-largest grocery chain in department store format.

PROCESSOR MARKET CHANNEL

Kenya Orchards Ltd. (KOL) is among the four largest Kenyan horticultural processors. They purchase and process a range of fruits, including mango and passion fruit, into juices, jams and marmalade for domestic and export markets.

BDS would do best to initially concentrate its attention on facilitating smallholder organization (SO) supply to the exporters and domestic supermarket channels, imbedding support services from buyers into buyer-seller contracts.

As BDS resources allow, and presumably in a second wave, BDS could investigate SO supply facilitation to processor sector. The buoyant Kenyan fresh vegetable export sector offers examples of

“high care” cut and prepared products such as mixed salads or stir-fry vegetable combinations, produced under severe hygienic conditions. Fresh fruit can extend this prepared product line.

WHOLESALE MARKET CHANNEL

The supply of fruit by SOs directly to wholesale markets in Nairobi and Mombassa depends on SO structure (cooperative sales), requiring more in-depth investigation.

MEMORANDA OF UNDERSTANDING

Discussions with lead firms should culminate in a Memorandum of Understanding between the project and the particular lead firm, outlining program objectives, detailing the categories of relative contributions and the terms of execution.

Before entering into detailed MOU discussions, BDS should determine what resources it has at its disposal, i.e. what it can give, such as training of SO leaders, workshops via technical assistance to promote good agricultural practices or modern business skills, budget/grant support to strengthen SOs’ internal management, formal registration and skill sets, training materials, manage relations/press releases depicting buyer as good corporate citizen, etc.

The firm will usually provide the “heavy-hauling” (inputs on credit: primarily seeds & agrochemicals; ag extension re: production, harvesting & post-harvest handling; integrated pest management (IPM) guidance; packaging for collection. Some regular oversight by BDS is reasonable.

BDS should structure its MOUs with Lead Firms in general terms, to keep the MOU flexible, yet clearly identify relative responsibilities, leaving BDS the authority to follow the subsequent contract conditions and ensure mutual compliance.

The SO contributes its production capability and land/labor resources according to the Buyer-SO contract. The SO and the lead firm will gradually build good faith and gain trust of each other through a contract system set up to manage their commercial relationship.

II. SMALLHOLDER ORGANIZATIONS (SOs)

SO PREPARATION

The organization of SOs has to be solid and in place well before production season, in order for the buyer to have production planning input as to locations and quantities, estimated delivery/pick-up dates, acceptable grades and standards tied to price ranges, and other terms of the SO contract.





SO preparation for contract discussions requires:

- Identification – This is best done in cooperation with the lead firm, who is familiar with areas of production, and rural communities, that are complementary to current SOs which are supply contracted to the lead firm.
- Registration – By law, SOs must register with the Ministry of Culture & Social Services or other authority.
- Membership List – In order to reflect the resources available, an SO membership list should show names, locations, land area, and contact information.

- Leadership – SO spokesperson must be identified, with clear parameters of authority to speak or act on behalf of members.

Sustainable SO development would address inherent self-management issues that go beyond the strictly commercial and emphasize organizational strength. In the Deloitte “Toolkit for Organizational Strengthening,” the relationship between vision, mission, strategy and goals is described in the following table.

Table 1: Smallholder Organization Development Diagram

VISION		
guiding principles		code of conduct
COLLECTIVE DREAM - What is important to SO members (income, employment, community prosperity)? What impact would they like the SO to make in the community in the future?		
MISSION		
RECOGNIZED SENSE OF PURPOSE - Who do members perceive they are? What do they “do”? How do they do it? Why do they do it? Where do they do it?		
STRATEGY		
objectives		plan
PLAN FOR DEPLOYING RESOURCES - What are the larger key steps needed to fulfill the mission successfully and sustainably? What major activities will the SO undertake in the next 3-5 years?		
GOALS		
benchmarks		indicators
INDIVIDUAL TASKS - What achievements must a person/group make (sales, standards), and when should they be achieved? How will we know whether they have been achieved?		

Best practice SO support suggests that it is always easier working with an existing group than trying to create a new one. An existing group (usually) has a track record to vouch for their performance – proxy proof for their viability. An existing group also boasts some membership cohesion, an understanding of the group guarantee concept, and perhaps a post office box and bank account to facilitate doing business. That said, creating a new group if it must be done, is most often successful (CLUSA and others) if organized around an initial commercial action such as organizing to sell produce to a buyer.

A prospective SO should exist in a relatively strong geographic concentration and have access to a paved road to enhance coordination and communication, and to facilitate the delivery of imbedded services (delivery of inputs, pest management, collection, etc.), thereby facilitating the firm-like behavior of the target SO.

INVOLVED PARTIES

In addition to the obvious parties involved in a contract, i.e. the buyer and the seller, there may be a legal requirement to involve a government authority, either the Ministry of Agriculture or the HCDA, to “bless” the union and confirm that the interests of the small holders and the environment are not jeopardized by the commercial relationship.

III. CONTRACTING

The Code of Conduct⁶ as summarized below is a set of guidelines for agreements between the "Buyer" of fresh horticultural produce and the "Seller" or grower of the produce. Buyers are typically exporters and/or processors of fresh horticultural produce; sellers are individual growers or Smallholder Organizations (SOs) developed to benefit groups of small landholders.⁷

SELLER'S OBLIGATIONS

- Farmers should be organized into well managed groups and be registered with the Ministry of Culture and Social Services or any other authority;
- Specific outgrower groups should relate to specific buyers under a contract; and
- Farmers request training on quality control as need arises.

BUYER'S OBLIGATIONS

- Specific exporters/processors relate to specific outgrower groups under a contract;
- Provide reasonable extension services;
- Exporters/processors should try and relate directly to their outgrowers to build a professional relationship;
- Exporters/processors should respect each other and not try to poach from areas that other exporters/processors have developed schemes;
- Exporters/processors should seek to facilitate financing their groups e.g. through existing MFI programs, and try and encourage self financing.

DUAL OBLIGATIONS

- Both parties should be loyal to each other in the spirit and terms of the contract;
- Both parties should respect mutual co-existence;
- Both parties should be involved in drawing up contracts; and
- Both parties should have knowledge of effective use of pesticides.

MOALD&M, HCDA & OTHER NGO'S OBLIGATIONS

- MOALD&M as a witness will ensure that all parties abide by the contract regulations and support both parties;
- HCDA as a witness will monitor activities of both parties under Legal Notice Number 231 cited as the HCDA (Export) Order 1995; and
- Other NGOs working with horticultural farmers (CARE, for example) will collaborate with MOALD&M, HCDA, and the local administration in guiding both sellers and buyers.

BUYER-SELLER CONTRACT TEMPLATE

Exporters and Outgrower groups should execute a contract before conducting business. A contract must include specific terms and conditions of payment, responsibilities for production, handling and collection

⁶ As excerpted from HCDA website, at: <http://www.hcda.or.ke/html/coc.html>

⁷ See *Annex 5: Banned Pesticides*, *Annex 6: Pest Control Guidelines* and *Annex 7: HCDA Legal Act*

of produce, and other essential elements which create a clear understanding of obligations of both the buyer and the seller, including:

Quantity and quality of produce to be supplied.

The contract should specify the quantity in either boxes/cartons /crates or kilos over a period of time, supplied from a certain production area. A schedule of prices shall be identified for differentials in quality. Contract shall specify a minimum quantity of produce to be provided by seller (i.e. quantity below which no collection will be effected). Seller and buyer agree to produce and market high quality levels of produce and further specify levels of quality for produce that must be delivered by groups. The KBS standards, NRI manual for horticultural export quality assurance, and any other requirement by specific importers should be used as referral guidelines for acceptable quality levels.

Seed and Other Inputs.

Buyer and seller agree who is responsible for supplying high quality certified seeds/planting materials to the grower. Contract must address which party will be responsible for supplying and applying other inputs such as fertilizer and pesticides, including terms and conditions for purchase and sale of inputs.

Generally Accepted Production Practices.

Sellers agree to undertake production practices and procedures necessary and conducive to producing highest quality produce whether for fresh export markets, processed markets (canned, frozen, etc.) or local markets. Such practices include use of approved pesticides, proper application of pesticides according to the labels of the manufacturers, and use and proper application of fertilizers recommended for the produce grown. Where applicable, buyers and sellers agree to co-operate in random testing of produce for the purpose of detection of pesticide residues.

Record Keeping.

To ensure product safety, highest quality levels, full traceability and accountability, buyer and seller agree on a record keeping system for production and handling of produce. Minimum requirements include:

- a. identification of previous crop
- b. type of seed used, treatment of seed
- c. date of planting
- d. herbicide applications: date and rate
- e. pesticide applications: product, date, rate, weather conditions.
- f. irrigation dates and quantities
- g. harvesting: dates and weather conditions

Field Support and Training.

Sellers should be provided with training on group administration, proper production, handling and grading techniques on a periodic basis. Where appropriate, the buyer shall work in conjunction with MOALD&M, KARI, HCDA, and other relevant agencies to ensure achievement of highest quality levels.

Harvesting and post-Harvest Practices.

Seller should agree to undertake acceptable management practices for harvesting and handling of produce to ensure high quality levels, including use of clean (plastic) containers, protection of produce from heat and direct sunlight, maintenance of hygienic conditions, and use of clean water for washing produce.

Inspection and Grading.

Buyer and seller shall agree and specify responsibilities for inspection and grading of produce; when and where these activities will occur (e.g. upon collection); type of documents to be executed upon collection/ delivery; determination of when title and responsibility of goods pass from the seller to the buyer.

Packaging Supply and Procedures.

Contract should specify which party is obligated to supply packaging materials and the acceptable conditions of the package on collection. Packing procedures such as condition and quantity of produce, grade and type of produce, placement and orientation within a container, should also be made clear.

Conditions of collection and/or delivery.

The contract should indicate collection periods for produce (time and year) and conditions for events of non-collection. If buyer fails to collect at specified time, he will be obligated to purchase produce. However, seller may hold produce for maximum period (i.e. 24 hours) beyond the collection deadline at the expense of the buyer. This will enable the buyer to salvage marketable produce and prevent "poaching". In case of shortages and excesses in production under a quantity contract buyer and seller should agree upon a tolerance level (+/-10%) acceptable to both parties.

Middlemen and Other Intermediaries.

Both parties agree not to engage in transactions with any other individuals or intermediaries which involve the produce under contract.

Multiple Contracts.

Multiple contracts are discouraged with more than one processor/exporter. However, in the event a grower or group is contracted with more than one processor/exporter, growers and processor/exporter agree to refrain from unscrupulous business practices which could disadvantage any of the parties.

Rejected Produce.

The contract should specify the point of rejection of produce. If produce is rejected by the buyer, conditions for the return of the produce to the seller should be specified. Agreeable means of disposal should be specified. However produce for which a delivery has been accepted by buyer cannot be returned to grower.

Payment Terms and Mechanism.

Contracting parties agree to establish payment terms which are acceptable to buyer and seller, ,and to establish a mechanism of payment to sellers which' will allow for safe and timely transfer of funds.

Penalties.

The contract should specify what compensation should be applied to either party as a result of failure to abide with the laid down regulations of the contract.

Duration of Contract.

Duration and maturity of contract should be specified by indicating number of months from contract execution or a specific time interval.

Termination Clause.

Conditions for termination must be indicated i.e., a written notice of termination within a reasonable period which should be equivalent to a full production and marketing cycle of the produce.

Natural Calamities and Non-Commercial Risks.

In the event of natural calamities (floods, hail, earthquakes etc.) and non-commercial risks (war, insurrection, national labor strikes) the affected party(s) should be held harmless for non-performance.

REPORT ANNEXES

Annex 1: BDS Supply Chain for Kenyan Tree Fruit

Annex 2: The Food Security Justification for Agricultural Commercialization

Annex 3: Kenyan Horticulture Institutions

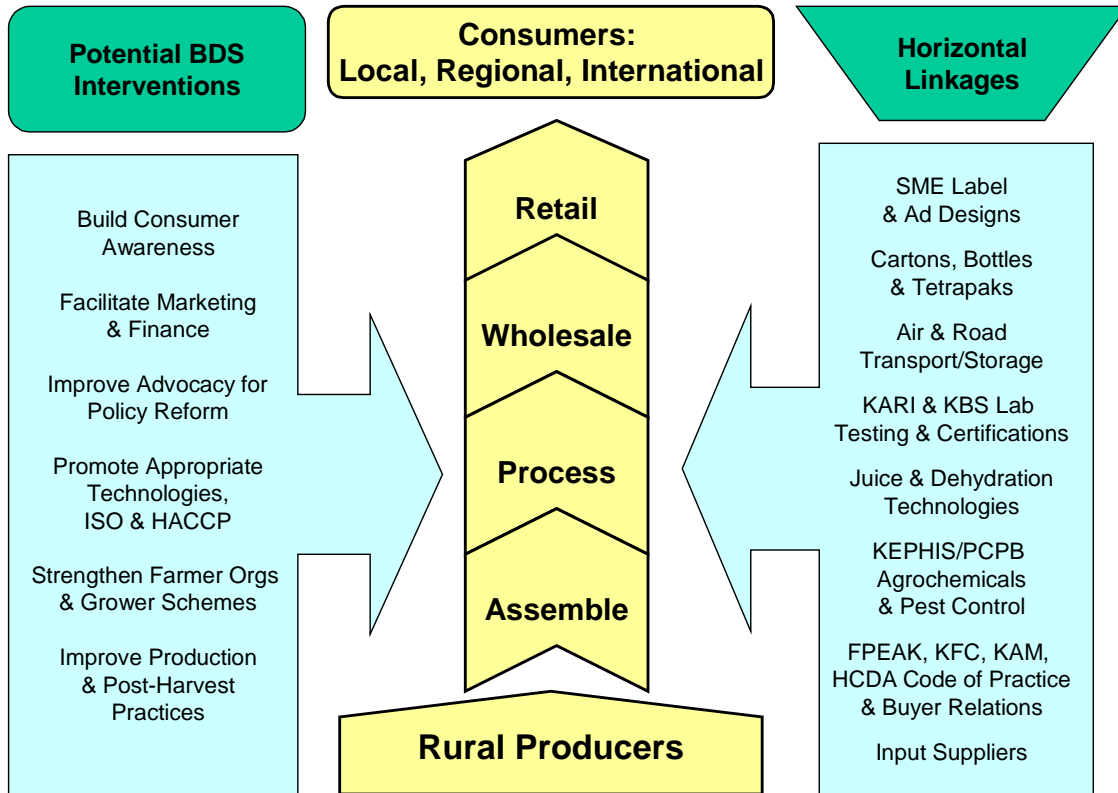
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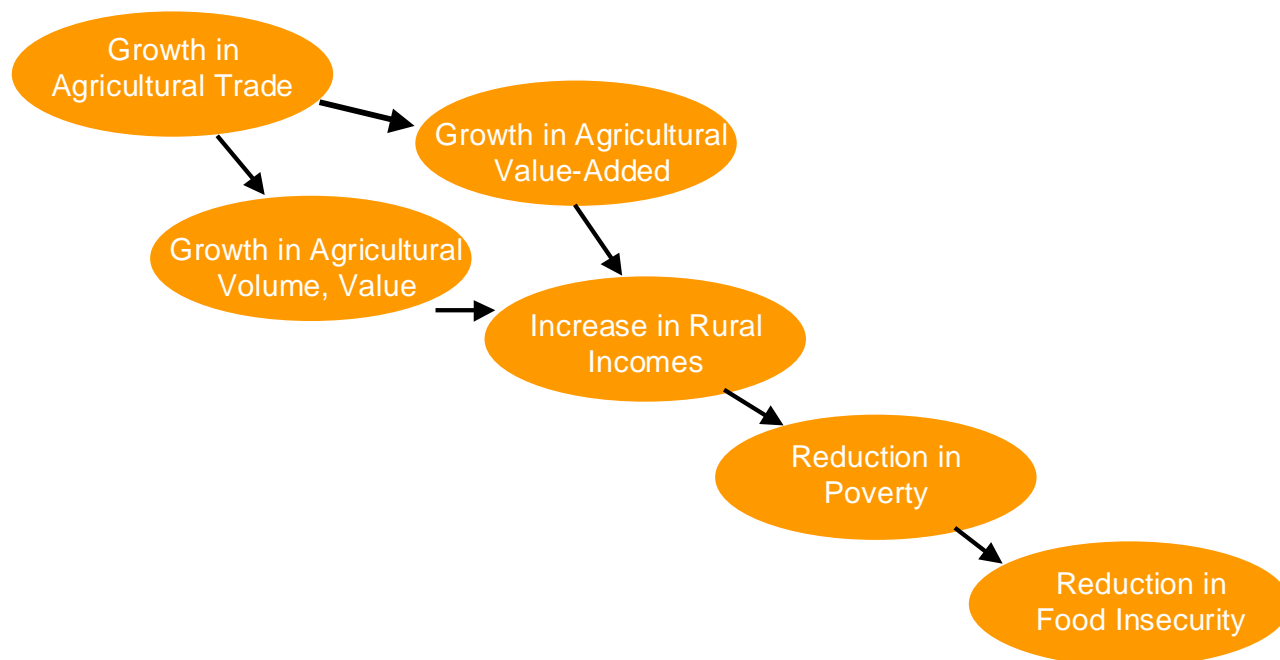
Annex 1: BDS Supply Chain for Kenya Tree Fruit

Supply Chain for Sustainable Horticulture



Annex 2: Food Security Justification for Agricultural Commercialization⁸

The implicit chain of logic that enhanced agricultural trade will reduce food insecurity can be depicted in this manner:



The Importance of Agricultural Exports to Trade

Africa's share by value of world exports in agricultural products was less than 3.3% in 2000, as compared with 3.9% in 1990. That means that in the Nineties Africa lost 0.6% in world market share in agricultural exports. (While the percentage may seem small, the value and impact have both been substantial).

For its main market, which is Western Europe, Africa's participation fell from 2.4% to 1.9%, a reduction in market share of almost one-fifth in a single decade. For a region that has historical and cultural ties to Western Europe, as well as some advantage against the rest of the developing world in terms of proximity, such a rapid decline is alarming indeed.

For Africa as a whole, the share of agricultural products in its total merchandise exports for the year 2000 was 12.9%, while for primary products it was 17.7%. Both were significantly lower than in 1990. While some of the decrease reflects the positive effects of diversification into manufactured or higher value-products, much of it was also due to declining volume and terms of trade in agricultural exports. Again the status of agriculture was diminished.

On the other hand, for some Sub-Saharan countries the agricultural products share has always been much higher, and actually increased in recent years. *In the case of Kenya, for example, agriculture's share of export value actually rose from 54.2% to 61.2% between 1990 and 2000* (My highlighting – PG). For Zimbabwe, it also rose, from 43.7% to 60.5%. For Sudan it reached 74.8% in the year 2000.

⁸ Excerpts from RATES Subsector Design Report; Carana Corp. & Abt Associates; Byron Battle, John Lamb and Stanley Heri; 2002.

In conclusion, while the relative importance of agricultural exports may be falling for many of the world's economies, it remains crucial for many Sub-Saharan countries, especially those that have no oil or gas resources.

The Contribution of Agricultural Trade to Food Security

The literature of development stands food security on three pillars: availability, access, and utilization.

"Availability" implies: Availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports or via government policies

"Access" means: Access by households and individuals to appropriate foods for a nutritious diet (U.S. Government, Discussion Draft for World Food Summit, 1996), and Social, educational, and economic conditions that enable individuals to gain access to food by earning income to buy food and through community food security activities (Source: IWG, 1999).

"Utilization" means: Optimal uptake of nourishment thanks to a sustaining diet, clean water and adequate sanitation, together with health care (U.S. Government, Discussion Draft for World Food Summit, 1996).

Agricultural trade can make a significant contribution to all three pillars of food security.

As far as **availability** is concerned:

Agricultural trade can lead to greater production through—

- Intensification of land use,
- Use of higher-yielding cultivars,
- Better management practices,
- Increased irrigation usage, and when appropriate,
- Expansion of the agricultural frontier, and

Agricultural trade can improve distribution, allowing product to move from surplus to deficit areas that arise due to—

- Weather conditions (in Africa, especially drought)
- Seasonality of production cycles
- New trade barriers
- Political, civil, ethnic, military conflict

⇒ As far as **access** is concerned: Agricultural trade can generate higher returns and capacity to purchase through-

- Crop substitution
- Increased value-added
- Lower costs due to increased scale, and

Agricultural trade can generate higher returns and capacity to purchase through-

- Agricultural trade can lower prices for local consumers, leading to greater consumption of fresh and processed food

⇒ As far as **utilization** is concerned, Agricultural trade can diversify and improve diets among workers, consumers; Agricultural trade can lead to the adoption of Good Agricultural Practices that minimize environmental impact, improve sanitation, and protect the health of workers; and agricultural trade can lead to the adoption of post-harvest and processing technologies that improve the safety of food, while extending its transit and shelf life, which in turn conserves condition.

Annex 3: Kenyan Horticulture Institutions⁹

Horticulture Crops Development Authority (HCDA) is a parastatal, a regulatory body which organizes groups of small scale farmers for production and marketing, disseminates market information, advises on agro-inputs and post-harvest handling, encourages contract farming through HCDA's Code of Conduct, and manages product handling facilities.

Ministry Of Agriculture And Rural Development (MOA&RD) coordinates implementation of agricultural, cooperative and rural development policies. Ministry functions include crop production and marketing, land use, pests and disease control, agricultural research, phytosanitary services, and information management for agricultural cooperatives.

Fresh Produce Exporters Association Of Kenya (FPEAK), est. 1975, is a private member assn. for fresh produce exporters. Functions include liaison with public/private organizations, promoting exports via exhibitions & trade missions, market information, training members and outgrowers; ensuring high quality, environmentally sound products; has Code of Practice.

Kenya Flower Council (KFC) was registered in 1996 to protect the interests of flower growers and exporters. KFC assists members to ensure the welfare of their work force, to grow flowers while safeguarding the environment, to meet the quality standards of the importing countries, and ensure market acceptance of Kenya flowers.

Kenya Agricultural Research Institute (KARI) is a parastatal established under the Science and Technology Act to carry out research activities covering agricultural and livestock development through its 17 research centers countrywide. Besides the national center at Thika, a number of other regional research centers also handle horticultural crops.

Export Promotion Council (EPC) is responsible for the country's export development activities. Its mandate is to remove constraints facing exporters of goods and services, identify export opportunities, formulate market strategy and promote public awareness. A Horticultural Committee includes industry stakeholders.

Kenya Plant Health Inspectorate Service (KEPHIS) est. 1996, is mandated to : Co-ordinate matters related to pests and disease control; Monitor toxic residue in plants, soils and products; Administer Plant Breeders Rights; Undertake inspection, testing, certification, quarantine control, variety testing of planting materials; Approve import applications and inspect exports.

Pest Control Products Board (PCPB) is a parastatal whose functions are to regulate the importation, exportation, manufacture, distribution and use of products used for the control of pests and of the organic functions of plants and animals and for connected purposes.

Kenya Bureau Of Standards (KEBS) is a parastatal established under the Standards Act. Its primary function is to promote standardization in commerce and industry through standards, quality control, certification and metrology. It has the mandate of establishing and enforcing quality standards of all products on the Kenyan Market.

⁹ As excerpted/summarized from the HCDA website at <http://www.hcda.or.ke/>

Annex 4: Banned/Restricted Pesticides In Kenya

1. Dibromochloropropane
2. Ethylene Dibromide
3. Chlordimiform
4. Lindane (pure gamma) insecticide restricted to seed dressing only
5. Chlordane
6. Heptachlor
7. Endrin
8. Aldrin for termite control in building industry
9. Dieldrin
10. Toxaphene(Camphechlor)
11. D.D.T used for public health for mosquito control
12. 2,4,5,-T
13. Mixture of isomers of Hexachlorocyclohexane(HCH)

The above 1-13 were banned in 1986.

14. Captafol banned in 1989
15. Parathion(Methyl and Parathion Ethyl) banned in 1988
16. Daminozide (Alar)plant growth regulator for use in fruits withdrawn.
17. Cyhexatin(Plictran) acaricide-withdrawn

Noted below are those banned in Europe,in addition to the Kenya banned substances

1. Alkoxyalkyl and aryl mercury compounds
2. Mercuric oxide
3. Mercurous chloride
4. Other inorganic mercury compounds
5. Alkyl mercury compounds
6. Hexachlorobenzene
7. Ethylene oxide
8. Nitrofen
9. 1,2-dibromoethane
10. 1,2-dichloroethane
11. Dinoseb
12. Binapacryl
13. Dicofol containing less than 78% of pp-dicofol or more than 1g/kg DDT and DDT related compounds.
14. Maleic hydrazide and its salts other than its chlorine, potassium or sodium salts.
15. Chlorine/potassium and sodium salts of maleic hydrazide containing more than 1mg/kg.
16. Free hydrazine expressed on the basis of the acid equivalent.
17. Quintozene containing more than 19/kg of HCB or more than 1kg pentachlorobenzene.

Annex 5: Crop Protection & Pesticide Use Guidelines

(A) CROP PROTECTION STRATEGY

Pest control is vital in any farming system, if yield, quality and profit are to be maintained. Reduction of chemical inputs is usually possible by evaluation of all available options and use of appropriate measures. However, it is the nature and size of the problem that dictate the solution.

Identification of Problem

Management strategies to keep pest levels below economically damaging thresholds should be devised using the most appropriate combination of biological, cultural, mechanical and chemical methods. They would be based on a thorough evaluation of the situation, taking into account:

- Previous experience of pest incidence and crop susceptibility
- Weather
- Regular crop inspection to identify and assess pest levels.
- Use of established pest thresholds.
 - Trapping of pests where appropriate.
 - Employment of field scouts competent in such duties by training or experience.
 - Where necessary, laboratory diagnosis.

Implementing a Control Strategy

The presence of pests is inevitable and control should be achieved by an integrated strategy. Consequently as part of a responsible approach, a longer term strategy for pest control should be drawn up for each crop including:

- Past history of pest infestation.
- Identification of main pest threats.
- Understanding and implementation where possible of non-chemical options, encompassing rotations, crop hygiene, resistant varieties cultural control and biological control.
- Understanding that establishment of healthy crops reduces the need for spray and over application of nitrogen can render crops more susceptible to disease.
- Where a chemical option is chosen:
 - no banned products should be used. (Appendix I).
 - only products approved for the job are used.
 - pesticides are used in accordance with manufacturers instructions.
 - pesticides are chosen to avoid reliance and continued use of any one single chemical.
 - where a choice exists, choose a product which will be safer to handle, and have least environmental impact.
 - the application of the chemical should be as efficient as possible, both in timeliness and in targeting. Approved harvest intervals must be adhered to for this purpose. The safety precautions recommended by the manufacturer for the handling of the product must be observed during re-packing. The containers must be securely closed and properly labelled, ideally with the original product label, but' failing that, with an accurate copy. The product should be used up as soon as possible.

(B) APPLICATION AND DISPOSAL OF PESTICIDES

Preparing for Spraying

Spray operators must be suitably instructed, trained and supplied with appropriate equipment to carry out the application. He must be provided with personal protective equipment (PPE) that will adequately control exposure. Further, operators must know what action to take in the event of a failure or breakdown of the equipment in his charge.

Operational Controls

The work should be organised to minimize exposure to both concentrates and diluted spray liquids. Spray application machinery and implements should be well maintained and serviced to avoid the need for repairs during actual spraying operations. Regular calibration of spray shipment is the simplest and most immediate method to highlight nozzle wear and other imperfections in the spray system. This will also prevent uneven application overdosing, of crops. Check quality/cleanliness of water used as most problems with sprayers can be traced to foreign materials in the water. correct calibration is essential to ensure that chemicals are applied at recommended rates and that the appropriate quantities spray solution are made up for any given area. This reduces need to dispose of waste and is more economical. the case of static/fixed spraying systems where the pumping unit is remote from spray line risers, these should be marked clearly as not suitable for drinking/poison.

Personal Protective Equipment

The most likely route of absorption of a pesticide is through the skin. Operator contamination risks are highest when pesticide concentrates are being handled, so maximum precautions must be taken during measuring out, mixing and filling. A Suitable overall, gloves, boots and face shield must be worn. The product label may indicate further requirements. During spraying, risks of operator contamination arises from sprayer leakage, spray drift and operator contact with sprayed crops. Although such contamination will be with diluted pesticide, the period of exposure may be lengthy and the risks therefore significant.

In all cases all personal protective clothing must be washed weekly and always separately from other clothing. This should take place on the farm to avoid workers returning to their homes with contaminated clothing. The outside of heavily contaminated garments must be washed down before removal and contaminated gloves washed inside and out. The following protective clothing must be worn by all spray personnel:

- Respirator (with disposable filter, dated on installation and charged regularly)
- Goggles
- Overalls(fully buttoned up)
- Gumboots
- Impermeable -gloves

Personal hygiene is of utmost importance when using pesticides. Operators must be made to understand they should not eat, drink smoke during spraying and to avoid touching the face or the other bare skin with soiled hands or gloves. After spraying, operators should wash hands and face before eating, drinking and smoking or going to the toilet. It is understood that due to high temperatures experienced in tropics the use of personal protective clothing by spray operators is heavy, hot and uncomfortable. Growers are encouraged to obtain the most comfortable type of protective gear as a means to promote its use.

Medical Checks

All spray operators and chemical store personnel must have an annual medical check up.

Spraying Practice

Sites for mixing the spray and filling the sprayer must be carefully chosen to avoid the risk of spillages draining into ditches, drains or watercourses. When spraying outside the wind direction should be taken into account. In order to avoid spraydrift, the operator must always work into the wind. All workers in the vicinity of the spraying should be warned and asked to leave the area of work.

After Spraying

At the end of the day's! spraying, the sprayer should be rinsed out with several changes of water and detergent. Several changes of a few litres of water will give a better result than one wash with a larger volume and minimize the disposal problem. All rinsings, no matter how diluted should be considered pollutants and disposed of carefully. The sprayer exterior should also be washed in an area which will not contaminate streams and waterways.

Disposal of pesticide waste

The disposal of pesticide waste is a major responsibility for growers. It is important that everything should be done to keep to a minimum the amount of waste generated.

Pesticides waste is of four types:-

- Concentrated products
- Diluted pesticides, including washing
- Empty containers
- Contaminated clothing and other materials.

Concentrated Products

The disposals of concentrates can be minimized by careful consideration of the amount purchased originally.

Diluted Pesticides

These are unused spray mixtures, tank washings and animal dips. Options are to spray over an area of crop not previously treated or an area of wasteland. Never pour pesticides in any form into a watercourse, ditch sewer or drain.

Empty containers

If a choice exists, select pesticide products sold in packaging that can be easily disposed of. Containers must be thoroughly washed before disposal, and the washing added to the spray mixture being prepared. Containers must be punctured or crushed avoid their subsequent use as drinking water containers or any other purpose.

Rinsed containers should be stored securely before disposal. Disposal will be burning or burial. Incineration sites should be instructed to have an impermeable floor and a containment sill, a perforated steel drum may suffice for smaller quantities. Burial on the farm is possible with the following precautions strictly observed:

- Only bury thoroughly rinsed containers
- Drainage or seepage into water courses avoided
- Burial must be deep enough to ensure that human and animal activities will not uncover the pesticide.
- All such sites should be clearly labeled with warning signs.

Contaminated clothing

Heavily contaminated articles which are beyond cleaning burned or buried following procedures in part(c).

METHODS OF DISPOSAL

Incineration

Some pesticides need very high temperatures to destroy them. These cannot be achieved in a bonfire. As a general rule it is safer for pesticides to be burnt in incinerators designed for the purpose. Great care must be taken in transporting waste to incinerator to ensure that no leaks and spillage occur, and that the vehicle is thoroughly cleaned after unloading.

Where there is no incinerator within reasonable access, and are the amount of waste to be disposed of is not excessive, a bonfire may be used. Care must be taken that there is no risk of smoke and fumes drifting downwind to affect people, animals, houses or any other inhabited buildings or plants, and there must be no risk of the fire getting out of hand and spreading. a bonfire site should ideally have an impermeable floor and a containment sill. For smaller quantities a perforated steel drum should be used. Products which contain highly chlorinated materials or heavy metals (especially mercury) must not be burnt an open fire.

The fire must be kept very hot, with plenty of dry combustible material, such as brushwood and timber, or, alternatively with kerosene or used motor oil in a drum. The waste must be carefully fed to the fire in small portions, allowing each portion to be fully consumed before adding the next. In order to achieve the most complete burning, the glowing ash should be stirred mechanically before it is removed. The ashes from the bonfire must be buried as described in the following section since they may contain undistorted pesticide residues.

Burial

In the absence of an incinerator and where burning on the farm not practical, pesticide waste may be disposed of by burial. Burial should be done in a small pit, with the following precautions strictly observed:

- Drainage or seepage into water courses or sources of drinking water must be avoided.
- Burial must be deep enough, and the site adequately fenced off, to ensure that human and animal activities will not uncover the pesticide wastes. The site must also be clearly labeled with warning signs.
- The disposal pit should ideally be sighted where the sub-soil will permit a limited but slow permeation and biological degradation of the pesticide; thus excessively sandy sites should be avoided. The area chosen must not be subject to flooding and must be sited well away from streams, springs, ponds and well. The pit should be in the form of a bowl with a diameter of 2-3 metres and a depth of 1-15 metres. An additional area should be reserved alongside for second or third pit for future use. Initially the pit should be to a 5-10 cm depth and intermixed with lime and biodegradable household waste, to assist biological degradation.
- Concentrated wastes should be diluted with water before disposal. Contaminated containers should be cut open, ruptured or crushed before disposal. On completion of each deposit, a layer of compost or earth should cover the waste to prevent risk of contact and to provide a source of nutrients and micro organisms for biological degradation. Fill the pit and allow room for a final layer of 50cm of compacted compost or soil to top it off. To avoid rapid drainage of water into the sub-soil the top should be planted with bushes. Subsequent pits should then be excavated and operated in a similar manner. The waste area must be securely fenced off and labeled with

warning signs. The composition and date of each waste deposit consigned to the pit should be recorded.

Annex 6: Legal Notice No. 231(EXPORT) ORDER 1995

The Agriculture Act (Cap.318) The Horticultural Crops Development Authority Order, 1995 (Sub. Leg.)

In exercise of the powers conferred by paragraph 10(h) (ii) of Horticultural Crops Development Authority Order, 1995, the Agricultural Crops Development Authority, with the approval of Minister for Agriculture, Livestock Development and marketing, makes the following Order:

The Horticultural Crops Development Authority (Export) Order, 1995

1. This Order may be cited as the Horticultural Crops Development Authority (Export) order,1995
2. In this Order unless the context otherwise requires-"horticultural crops" means crops declared to be special crops under the Agricultural (Declaration of Special Crops) (Horticultural Crops) Order and includes those canned, dehydrated, frozen, bottled or sun dried.
3. No person shall export horticultural crops unless he is in possession of a valid export license issued to him by the Authority.
4.
 - a. Every application for an export license by an established exporter shall be in Form 1 set out in the Schedule and shall be accompanied by a fee of five thousand shillings which fee shall be returned to the applicant if the Authority refuses to grant a license.
 - b. An application for an export license by a new applicant shall be in Form 2 set out in the Schedule and shall be accompanied by a fee of five thousand shillings which fee shall be returned to the applicant if the Authority refuses to grant a license.
 - c. Every export license issued in response to such applications shall be in Form 3 set out in the schedule and shall remain valid for a period of three years from the date of issue.
5. Any person who contravenes the provisions of paragraph 3 commits an offence and shall be liable to a fine not exceeding one thousand shillings or to imprisonment for a not exceeding one month or both.
6. .
 - a. No licensee shall
 - i. Sponsor the growing of horticulture crops for export without informing the Authority. Any production schemes so sponsored shall be regulated by contract
 - ii. Issue planting materials (imported seeds in particular) to any farmer without a phytosanitary certificate and for locally produced seeds a certificate obtained from the National Seed Quality Control Service
 - iii. Issue to farmers of horticultural crops any pesticide which has not been approved and recommended by the Pest Control Products Board, established under the Pest Control Products National Agricultural Laboratories of the Ministry of Research, Science and Technology
 - iv. Appoint middlemen or brokers to collect or deliver produce on his behalf
 - v. Return produce collected from the farmers or suppliers
 - vi. Pay a lower price to the producers than the indicated minimum for each crop and area.
 - b. A licensee shall-
 - i. Submit to the Authority his provisional seasonal export programs which shall clearly indicate the identified source of the produce, types of crops and

- approximate amount, duration of production and indicative prices to be offered to the farmers or suppliers
- ii. Strive to attain the highest produce quality standards and ensure that all produce for export shall be pre-cooled
 - iii. Be required from the 1st day of January 1995 to adopt and use the specified national horticultural export logo prescribed by the Authority.
 - iv. Notify the Authority of any overseas agent who contravenes any order not more than 30 days after the date of default. The defaulter shall thereafter be banned from importing produce from Kenya.
7. Every exporter shall observe the minimum export prices as be indicated by the Authority from time to time.
 8. Exporters who refuse to pay growers for produce will have their licenses revoked.
 9.
 - a. No exporter shall collect produce from sponsored production schemes unless authorized to do so by the sponsoring firm.
 - b. Any person who contravenes the provisions of sub-paragraph (1) shall have his license cancelled.
 10. The Horticultural Crops Development Authority (Export) Order, 1986, is revoked.

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