

Horticultural Policy: CFR Policy Paper

To accelerate the rate of horticultural growth and production, the following broad objectives will be pursued in the sub sector:

1. To facilitate increased production of top quality horticultural produce in order to:
 - a. meet the rising demand for more food and nutritious diets for the ever-rising population
 - b. attain food self-sufficiency and security at household, local and national levels
 - c. provide processors with dependable supply of suitable raw materials
 - d. meet the increasing demand for top quality produce in the export market
2. To earn foreign exchange by diversifying crops grown in suitable agro-ecological zones
3. To generate more employment opportunities within the horticultural sub-sector by introducing labour intensive enterprises and use of appropriate technology
4. To enhance development in arid and semi-arid areas through horticultural production under irrigation
5. To contribute to generation of income and alleviation of poverty

Strategies for Achieving the Objectives

1. Development and Improvement of Infrastructure

a. Roads

- i. The major problem that hinders commercial horticultural production is poor road network. Most roads in horticultural production areas are impassable, especially during the rainy season. Further, the access roads crucial to farmers are not classified, hence do not get any direct funding from the central Government. As a result, a number of high rainfall areas remain untapped by farmers. It also results in heavy losses to farmers whose produce ends up rotting in the farms. In addition, produce quality deteriorates due to bumping during transportation or the long duration taken to reach the market. Furthermore, poor road network increases transport costs thus reducing the margins to farmers. Besides leading to wide regional price variations within the country, poor road network adversely affects the competitiveness of Kenyan produce in the international market.
- ii. To achieve sustainable development in the horticultural subsector, emphasis will be laid on development and maintenance of rural access roads and other roads leading to market outlets. Priority will be given to upgrading of access roads in potential horticultural production areas. Thus, it will be necessary to place the essential access roads under a special roads category. community or private initiatives will also be encouraged in construction and maintenance of rural access roads.

b. Telecommunications

Telecommunication services such as telephone and fax are inadequate, expensive and unreliable. this has hampered quick and efficient flow of information for players in the subsector. To overcome this problem, there is need to extend a countrywide telephone network. It is expected that the privatisation of telecommunication services will ease the situation and reduce costs.

c. Electricity

Supply is inadequate. There are frequent power rationings and blackouts that adversely

d. Water

Water for irrigation and processing is a limiting factor in horticulture that the quantity supplied is insufficient and the quality unassured. In this regard, monitoring and protection of water supply against pollution and preservation of water catchment areas will be enhanced. In order to expand irrigated agriculture in various parts of the country and ensure availability of water to processing factories, sinking of bore-holes, water harvesting and construction of dams will be encouraged

e. Sea Ports

The sea port is a major facility in shipment of bulky fresh exports like fruits. Successful shipments have been done with avocados to Europe and mangoes to the Middle East. Through shipping, more volumes of these commodities can easily be supplied to the international market since it is cheaper hence enhancing competitiveness of exports. Delays at the port has reduced usage of the port for export of horticultural produce hence limiting expansion of export volumes. In order to facilitate the shipping of bulky products, port services will be improved with the aim of enhancing its efficiency and competitiveness.

- f. **Railways**
Railway transport is the second most important form of transport after roads. It is an alternative to transporting bulky produce for both local and export market. However, this service has not been adequately utilized due to its inefficiency and unreliability. Restructuring of the Kenya Railways, commercializing and privatizing its services will go a long way in improving transport for horticultural produce.
- g. **Air Transport**
Air transport remains the key mode of transport of high value exports and perishable produce. It is expected that strengthening of the Kenya Airports Authority will lead to efficiency thereby enhancing provision of services and reduced handling costs.

2. Horticultural Production Under Irrigation

- a. Horticultural production in Kenya is mainly under rain fed conditions. Due to seasonality of rainfall and vagaries of weather, production has been inadequate and unreliable. There is great potential for horticultural production in the arid and semi-arid (ASAL) regions which has not been exploited due to inadequate funding for irrigation. However, substantial horticultural crops for export are produced under irrigation.
- b. It is envisaged that irrigation will play a major role in intensifying and diversifying the production of horticultural crops within the country. With increased irrigation and proper planning, horticultural crop production will become more dependable and continuous supply of produce will become possible throughout the year.
- c. With the development of a national irrigation and drainage policy, the Government will encourage development of more irrigation schemes especially in the marginal areas. More so, water harvesting and development of simple irrigation technologies will be pursued. For high rainfall areas, supplementary irrigation will be encouraged to ensure stable supply throughout the year. However, the use of unsuitable water for production will be discouraged due to its adverse effects on quality of produce.
- d. Local and International Organizations such as National Irrigation Board (NIB), Non Governmental Organizations (NGOs) and the private sector will be encouraged to invest in ASAL areas using simple technologies for small-scale irrigation. This will enhance rural development in the ASAL areas. 4.3 Financing and Credit
- e. In the recent past, the cost of crop production has risen considerably due to the rising cost of inputs such as fertilizers, irrigation equipment, pesticides, cold storage facilities, seeds and other planting materials, machinery and spare parts. Besides high interest rates on credit, commercial banks require securities that most farmers do not have. This has limited farmers to only low self-financing production levels.
- f. In order to achieve the envisaged thrust in development, it is imperative that adequate finances be available to producers. The government will provide a conducive environment for the private sector and other stakeholders to develop workable credit facilities for small-scale farmers e.g. micro credit schemes, group lending system and contract farming. In order to make loans affordable to farmers, the Government will continue with the fiscal and monetary policies aimed at lowering the interest rates.

3. Crop Inputs

- a. **Seeds**
 - i. Shortage of high quality locally developed seeds and untimely availability of planting materials, have led to reliance on imports for which farmers pay exorbitant prices. Moreover, introduction of payment of royalties, more so, on imported seeds has increased cost of production. This calls for strengthening local research in horticultural crops with the aim of producing varieties that are high yielding and more adaptable to the local conditions.
 - ii. Unscrupulous traders have taken advantage of liberalization of seed industry to sell to farmers poor quality seeds thereby resulting in low crop yields. The resulting poor yields and low quality produce affect the competitiveness of Kenyan produce in the international market. In order to curb this practice, strict inspection of marketed seeds will be enforced. In addition, farmers will be encouraged to purchase seeds from reliable dealers.
 - iii. There is a global concern about the use of genetically modified planting materials whose side effects are yet to be known. In this regard, genetically modified seeds will only be allowed into the market if they are locally developed based on existing bio-safety regulations.
- b. **Planting Materials**

Planting materials from some of the local nurseries are diseased, low yielding and not true-to-type. In order to alleviate this problem, HCDA will carry out registration of nurseries, set guidelines standards for nursery operations and offer general advisory services to regulate and enhance quality. KEPHIS will undertake inspection and certification of planting materials from these nurseries. To relieve the shortage of rootstock and scion materials, HCDA in collaboration with other organizations such as KARI, Universities and other players will promote establishment and maintenance of mother blocks to serve as local rootstock and scion sources.

C. Fertilizers and other agrochemicals

- a. Production at the small-scale level has been affected by: incorrect and inadequate use of farm inputs such as fertilizers, fungicides, insecticides, nematicides and herbicides; inadequate research on pests and disease management; lack of clear procedure for introduction of biological pest control methods; high cost of inputs; long duration taken to register and avail to farmers new chemicals developed in other countries; among others. In order to increase effective use of fertilizers, the extension service will be strengthened to train farmers to use appropriate fertilizers and correct quantities for the various soil types. To reduce the cost of inputs, farmer groups will be encouraged to procure these inputs from source. Other players will also be encouraged to venture into marketing of these inputs. The use of farmyard and compost manure as an alternative or supplement to chemical fertilizers will also be encouraged.
- b. To enhance pest control, integrated pest management system will be encouraged. In this regard, research on pest and disease management will be strengthened with the aim of eliminating pests and diseases such as the African fruit fly and the citrus greening disease. Biological pest control methods will also be encouraged.
- c. In order to capture the rising demand for organically produced crops, organic farming will be encouraged. To this end, HCDA in collaboration with KEPHIS and others, will certify and register organic farming.

4. Specialized Extension Services

- a. Due to inadequate extension services, some farmers in horticultural industry lack adequate knowledge and skills on production techniques. In addition, most farmers are not commercial oriented and produce only for subsistence. As a result, they attain poor yields, low quality produce, and hence poor returns.
- b. Specialized extension services has been offered by HCDA for export crops and only in specific high concentration areas. Consequently, high potential regions and farmers who produce for the local market have not benefited from this service.
- c. In order to enhance horticultural production, HCDA will be strengthened to cover as many districts as possible. The mode of training will include seminars, demonstrations, field days, field visits, information bulletins in local languages among others. Emphasis will be laid on training farmers in areas such as:
 - i. how to plan production for various crops using available market information;
 - ii. use of certified propagation material and seeds;
 - iii. nursery management and plant propagation techniques;
 - iv. basic cultural practices for improved crop production including, proper use of fertilizers, pesticides, pruning and training;
 - v. harvesting and post-harvest handling of horticultural produce including grading, packaging, simple pre-cooling units and transportation;
 - vi. the importance of safe and effective use of pesticides and in particular the observance of pre-harvest intervals (P.H.I) in line with international regulations on maximum residue limits (MRLs). In most countries, there is a move towards analytical zero tolerance, that is, on analysis of produce, there should be no trace of residues;
 - vii. cooking methods, diets and industrial uses of horticultural crops such as oils, essential oils, fats, spirits, perfumes, colouring, dyes and flavours. HCDA will provide training in collaboration with other institutions such as Health Organizations, NGOs and the Ministry of Agriculture and Rural Development;
 - viii. comprehensive record keeping on all activities/practices including proper inventory of the pesticides used. This will be done in collaboration with KEPHIS and Pest Control Products Board;

- viii. marketing aspects such as packaging and cold chain to ensure that the produce reaches the consumer promptly and in the preferred form;
 - ix. on- farm processing of produce;
 - x. the contents and observance of the National Code of Practice in the horticultural production and marketing;
 - xi. business techniques;
 - xii. environmental aspects such as conservation, protection, impact assessment, among others;
 - xiii. formation and management of farmer groups and associations.
- d. Due to the dynamic nature of the horticultural sub-sector, the staff need constant updating on:- new production technologies; new varieties/cultivars; disease and pest control measures; post harvest technologies; market regulations and consumer demands.
 - e. With diversification of curricula, the availability of specialized-trained staff from universities and colleges of agriculture is improving. Further development and refinement of the curricula will be done in consultation with stakeholders in the sub-sector to ensure that graduates meet the needs of the industry. The training institutions will also be encouraged to provide short in-service courses for horticultural staff.
 - f. Some overseas training will be required in specialized areas not offered locally. This will also provide staff with necessary exposure to ensure that they are abreast of changes in the international market.

5. Appropriate research

- a. The level of research in horticultural crops has remained low for many years. Furthermore, poor dissemination of research findings has aggravated the problem leading to poor crop yields. As a result, farmers continue to rely on imported seeds, planting materials and other technologies so as to keep up with constantly changing trends of production techniques and consumer demands. Other constraints include:-
 - . limited collaboration between research organizations and other stakeholders when determining the research priorities;
 - i. lack of implementation of intellectual property rights;
 - ii. inadequate research on post-harvest handling technologies;
 - iii. lack of research in irrigation technologies;
 - iv. inadequate research on pests and disease management;
 - v. lack of market driven and participatory research;
 - vi. high reliance on donor funds for research with little contribution from the industry; and
 - vii. ineffective methods of transferring research findings to farmers.
- b. In order to address the above constraints, a Horticultural Research Fund will be created. The major contributors to this fund will be the Government, the local community and the stakeholders. This fund will be used by KARI in various horticultural research activities that include research on:-
 - . post-harvest technologies, particularly packaging, transportation, processing;
 - i. irrigation technologies, including salination and plant water requirements;
 - ii. pest and disease management;
 - iii. cultivar improvement;
 - iv. better utilization of horticultural produce;
 - v. better storage methods; and
 - vi. any other priority areas that the industry may identify.
- c. In the long run, in order to ensure sustainable horticultural research, a Horticultural Research Foundation will be established. It will have an express mandate to carry out activities highlighted above and collect funds from the stakeholders, donors and any other sources.
- d. Plant Breeders Rights Regulations and the provisions of the Union for the Protection of New Plant Varieties (UPOV) Convention will be implemented so as to facilitate recognition and payment of royalties to breeders.
- e. Besides basic and applied, adaptive research will be undertaken. The resulting research findings will be made more accessible to farmers through extension and publications in local languages.

6. **Value Added Tax (VAT) and Import Duty on inputs. Most inputs for** horticultural produce such as fertilizers, pesticides, fungicides, herbicides, nematicides, growth hormones, plant growth regulators, rodenticides, green houses, shade netting, reinforced polyvinyl chloride (PVC), high density polyethylene (HDPE) sheeting, and irrigation equipment are zero rated. Although the procedures have been streamlined and shortened, there are still complaints of delays in remission of duty and VAT refunds. Some of these delays result due to the failure on the part of claimants to provide the necessary documents, launching claims on inputs that are not recognized by the Law, among others. All relevant stakeholders will therefore be sensitized on duty remissions and VAT refund procedures so as to avoid delays. In particular, stakeholders will be enlightened on the contents of the Kenya Revenue Authority Charter, which spells out the rights, and obligations of the taxpayers and the performance expected of the Authority's employees.

7. **Specific production strategies for major horticultural crops**

a. **Fruits**

- . Fruits are grown as a source of food/income and source of raw material for the processing industry. Fruit exports from Kenya earned the country about Kshs 617 million in 1995, 805 million in 1997 and 1,256 million in 1999. Production of fruits is mainly under rain fed conditions, for both local and export markets. Production increased from 1.7 million tons in 1997 valued at Kshs. 12.3 billion to 2.2 million tons in 1999 valued at Kshs. 18.3 billion.
- i. Due to Kenya's diverse agro-ecological zones, it is possible to produce a wide range of tropical and temperate fruits. The tropical fruit species grown in Kenya include mangoes, avocados, bananas, citrus, pineapples, passion fruits, pawpaw guava among others while the temperate zone fruits include apples, strawberries grapes, pears, plums and others.
- ii. Fruit production is constrained by: lack of clean planting materials; pests and diseases; little use of fertilizers; lack of knowledge on improved production technology; inadequate rural infrastructure; lack of market information; and inaccessibility to credit all of which lead to reduced yields and quality.
- iii. Potential that exists in drier areas remains untapped. Farmers will therefore be encouraged to develop drier areas for fruit production under supplemental irrigation. Production will also be encouraged in existing and potential production areas. Besides drier areas, farmers will be encouraged to expand production in existing and potential production areas.
- iv. In order to widen the market, local consumption and utilization will be encouraged and promoted through schools, women groups among others. Processing will also be encouraged. In order to improve marketing, emphasis will be laid on rehabilitation of rural access roads.
- v. **Vegetables**
 - Production of vegetables such as tomatoes, onions, Kenya beans, carrots, kales cabbages, Asian vegetables and potatoes is carried out throughout the country mainly in small plots. There are only a few areas specializing in vegetable crops on large scale such as Naivasha, Meru, Kiambu, Nakuru, Perkerra, Kinangop Nyeri, etc. In 1999, production of vegetables from the two production categories was estimated at 1.13 million tons valued at Kshs. 12.3 billion. However, production for sale to the processors is inadequate and much below preseru processing potential.
 - Over the years, individual farmers have been engaged in the production of vegetable seedlings to meet their own needs. However, of late, commercial nurseries have been established because of rising demand for seedlings and timeliness of their supply. In this regard, establishment of registered nurseries for vegetable seedlings will be encouraged.
 - With increased irrigation and improved cultural practices, production per unit area could be increased, quality of vegetables improved and supplies made more uniform throughout the year. Emphasis will also be laid on production in other