

PARLIAMENT
OF KENYA
LIBRARY

NATIONAL ASSEMBLY LIBRARY



RS LAID No 208

Speaker N. A.

Clerk Assis

Dispeaker

C. H Editor

MINISTRY OF AGRICULTURE

Reporters

LIVESTOCK DEVELOPMENT AND MARKETING

D/Clerk

Library ✓

P. C. A.

Press

Sessional Paper No. 3 of 1993

ON

NATIONAL FOOD POLICY

OCTOBER 1993

Sessional Paper No. 3 of 1993

ON

NATIONAL FOOD POLICY

OCTOBER 1993

SECTION 1

INTRODUCTION

Objectives

- 1.1 The major national objectives in Kenya's development policy are food self-sufficiency, food security, employment creation, income generation, generation of foreign exchange earnings, rural-urban balance, and overall growth.
- 1.2 In view of the rapid population growth and the increasing demand for food, food production and food security will remain key priorities in the agricultural sector. Other important objectives of the sector will continue to be the generation of raw materials for domestic industry and agricultural exports and contribution towards the national objectives indicated above.
- 1.3 Food security is basic to the survival of any nation, not to mention any family or individual. Accordingly, within the list of national, family or individual goals, that of food security should have top priority since no meaningful development in economic, social or cultural spheres is possible without food security. An economy based on agriculture, as is the case in Kenya, must allocate sufficient resources to its agricultural sector to ensure that national food security is achieved, through self-sufficiency in the production of basic food commodities and the generation of foreign exchange which can be used for the importation of other foods, and the occasional importation of basic food when the need arises.

Recent Performance of the Agriculture Sector

- 1.4 The policies on food stated in Sessional Paper No. 4 of 1981 on *National Food Policy*, and consolidated in the Sessional Paper No. 1 of 1986 on *Economic Management for Renewed Growth* oriented towards food production and distribution have broadly been attained in years of good weather.
- 1.5 Over the decade 1980 to 1990, agricultural production as a whole grew at an average rate of 3.5 per cent per year. The rate of growth was 4.0 per cent per year over the period 1986 to 1990. Considerable progress in the expansion of food production was achieved through the use of hybrid maize and an increase in the number of improved cattle. Tea production grew from 73,000 tonnes in 1980 to 197,000 tonnes in 1990, making Kenya the world's third largest exporter. Coffee production over the same period increased from 51,900 tonnes to 112,000 tonnes. Both Kenyan tea and coffee are renowned for their quality and frequently trade on world markets at prices

extension and similar infrastructural support and services, farmers must be accorded adequate incentives to motivate them to produce food sufficient to meet national requirements.

1.9 Moreover, the last three years have demonstrated that pressures on the economy and food security in particular, can come from unexpected sources as the following three examples illustrate. Firstly, the political instability in the region which brought an exodus of refugees into the country from neighbouring countries in 1992 put considerable pressure on available supplies of food. Secondly, the withholding of external aid by donors from 1991 denied the country foreign exchange resources for use in financing food imports. Thirdly, the pressure exerted by donors on political reform and the structural adjustment process has resulted in considerable changes in the allocation of domestic resources. From these examples, it is clear that the country needs to put increased emphasis on self-sufficiency in food to avoid being held at ransom by external forces.

Food Security Strategy

1.10 In order to meet the above sectoral objectives, Kenya's agricultural development strategy is aimed at the continued expansion of productive investment, through growth in agricultural outputs and conservation of scarce natural resources to ensure their sustainable utilization.

1.11 There is a clear need for the country to continue with the major policies spelt out in Sessional Paper No. 4 of 1981 on National Food Policy which set guidelines for decision-making on all major issues related to food production and distribution. The overall objectives of this policy were to:-

- Maintain a position of broad self-sufficiency in the main foodstuffs in order to enable the nation to be fed without using scarce foreign exchange on food imports.
- Achieve a calculated degree of security of food supply for each area of the country.
- Ensure that these foodstuffs are distributed in such a manner that every member of the population has a nutritionally adequate diet.

1.12 It is essential that the food policy continue to be consistent with the broad objectives of national development. This is important because it has implications for the attainment of other national objectives, such as high levels of employment, a more equitable distribution of income, optimal resource allocation and the maintenance of a sound balance of payments position.

above those achieved by other major exporting countries. Horticultural production has registered a phenomenal growth, with exports of fresh horticultural produce increasing from 110,000 tonnes in 1986 to 189,000 tonnes in 1990. The production of other major crops such as sugar, rice and pyrethrum, also increased over the decade. Much of the expansion of agricultural output came from an increase in smallholder production, as new land was incorporated into small holdings and large farms subdivided.

Constraints

1.6 Despite these successes, serious problems have emerged. The terms of trade between agricultural exports and imports, have deteriorated, reducing the real benefits to the nation of the expanded agricultural production. The production of maize, sugar, oilcrops, coffee and cotton, has declined sharply particularly over the last three years. Most importantly, the growth in population has absorbed the increases in food production thereby preventing improvement in per capita nutritional intake. Although the country has retained a capacity to be broadly self-sufficient in foodstuffs throughout the past decade, certain sectors of the population remain malnourished as a result of income inequalities, problems of distribution between geographical zones, seasonal fluctuations in supply and a lack of nutrition education among certain groups.

1.7 The rapid population growth and a shortage of arable land in the main high potential areas create an imbalance in the relationship between the national supply of, and demand for food. The country no longer enjoys the advantage of regular surpluses of foodstuffs to cushion the impact of a fall in production in years of crop failure, whereas present levels of domestic food production would have been broadly sufficient to satisfy demand in the mid-1970's, Kenya still faces occasional shortages of maize and sugar particularly in years of drought such as in 1980/81, 1984/85 and 1992/93. Domestic production of wheat, rice and oilcrops has not matched population growth. Moreover, the rapid increase in the cost of agricultural inputs will quickly lead to a structural deficit in food production unless the Government intervenes to ensure affordability of inputs by the majority of farmers.

1.8 In real terms, public investment in agriculture has declined to a third of the level in the 1960's and 1970's. This has contributed to the country's slide into poverty. Because of the relative importance of agricultural sector in the economy, a speedy recovery of the economy is unlikely unless the Government acts decisively in allocating agricultural resources. Priority it deserves in the allocation of national resources. In addition to increased public investment in roads, research,

1.13 The food policy will continue to be sufficiently flexible to adjust to policy decisions taken in other sectors of the economy and to changes in the domestic and international economic environment.

1.14 The Ministry of Agriculture, Livestock Development and Marketing will co-ordinate the implementation of the food policy, including the *National Food Security Action Plan* and the *Drought Contingency Action Plan*, working closely with relevant ministries and other government agencies.

1.15 Domestic resources are owned, controlled and managed by individuals, private institutions and the Government. Responsibility for feeding the nation will, therefore, continue to be shared between the public and private sectors. Within the liberalized economic framework, the role of Government is to define and formulate policies which are in the best interests of the country and to create an environment favourable to their implementation. Realization of the goals of these policies requires the commitment and the active participation of the private sector as producers, land-owners, distributors and consumers. The recent liberalization policies formulated by the Government and now being implemented will enhance this objective. However, it should be noted that the liberalized money market and exchange rates through their impacts on the prices of credit and inputs will have far reaching effects in the production and marketing of food commodities. Food prices have already increased and will no doubt increase further, with negative implications in the availability of food to low income groups. Therefore, it is imperative that in the short and medium term, the Government undertakes measures to mitigate the negative impact of the structural adjustment process on the food security of vulnerable groups in the country.

1.16 Successful attainment of the objectives in the National Food Policy will be dependent upon the efficiency with which detailed implementation strategies are prepared and appropriate investment decisions made.

1.17 Farmers will be given the necessary incentives to motivate them to increase agricultural production.

1.18 This paper is structured as follows:

Section 2 examines the present food supply situation. Projections are made of future demand for the main foodstuffs and the nutritional adequacy of the implied diet is discussed. The projections are then employed to derive the rates of growth in domestic production necessary to achieve self-sufficiency. The growth rates are compared with the corresponding rates in the current Development Plan. A

constant review of these rates is stressed. The possible means by which production can be increased are then considered and the required expansion in marketing capacity is estimated.

1.19 In Section 3, a policy framework is developed for each of the major areas of food production and distribution, encompassing pricing and marketing, agricultural inputs, research and extension, food security, processing, trade, nutrition, resource development, and incentives.

1.20 Section 4 indicates the programmes that require to be implemented or strengthened in order to achieve the goals of the National Food Policy.

1.21 Section 5 gives, at a general level, the financial implications of the major programmes required.

1.22 Section 6 is a description of an appropriate framework for government decision-making concerning production, pricing and marketing and distribution.

THE FOOD SUPPLY SITUATION AND POLICY IMPLICATIONS

The Present Situation

and inadequate machinery services for land preparation and harvesting, have prevented expansion in production. The country continues to depend on imports for 50 to 60 per cent of annual requirements.

2.5 Sugar production is below self-sufficiency requirements. Production increased from 308,000 tonnes in 1982 to 432,000 tonnes in 1990. With the exception of 1986 when imports reached 142,500 tonnes, they were insignificant in most years over the period, ranging between nil and 80,000 tonnes. Production in 1992 was 372,000 tonnes compared to 434,000 tonnes in 1991. In 1993, production is expected to be about 350,000 tonnes. The sharp decline in domestic production has been caused primarily by inadequate investment in cane development in the sugar industry. Imports in 1992 were 130,000 tonnes and may reach 150,000 in 1993. The country is, however, in the process of rehabilitating Nzola, Sony and Miwani sugar factories and expanding existing processing facilities in addition to establishing new sugar processing facilities with a view to satisfying domestic demand. The crushing capacity Nzola sugar factory is being expanded from 3000 to 7000 tonnes of cane per day while there are plans to expand Sony from 3,400 to 5,400 tonnes of cane per day.

2.6 Over the decade 1980 to 1990, rice production in irrigated schemes stagnated around 21,000 tonnes of milled rice per year. Rainfed rice production now accounts for an additional 6,000 tonnes per year. National consumption requirements are estimated at 60,000 tonnes of milled rice per year and imports account for about 55 per cent of requirements.

2.7 Recorded milk production increased from 260 million litres in 1982 to 316 million litres in 1986 and to 392 million litres in 1990. Except in years of drought when imports of dry milk powder have been necessary, production has generally been sufficient to meet demand. Total production was estimated at 2.4 billion litres in 1990 of which about 60 per cent entered the formal marketing system. A large proportion of the remaining 40 per cent would have entered the formal market, had roads been in place and factory intake capacity been adequate. Milk pricing and marketing was liberalized in May 1992.

2.8 Beef is the most important meat consumed in the country. Production in 1990 was estimated at 228,000 tonnes. Pricing was liberalized in 1987 and the market has behaved quite well, with consumer prices responding to the supply versus demand circumstances. Mainly due to financial problems and clinging to outdated policies, the Kenya Meat Commission (KMC) did not live up to expectations of an export slaughterhouse. KMC is no longer a monopoly in the meat trade.

2.1 Since independence, Kenya has realized considerable success in expanding the production of food and has managed to remain approximately self-sufficient in foodstuffs despite the population increasing from 8.9 million in 1963 to 24.4 million in 1993. Moreover, this has been achieved alongside a high rate of expansion of export crop output and through a strategy centred on increasing the area farmed by smallholders. This has meant that a large number of households produce most of their basic food needs on their own land. Over the last decade, per capita food availability from domestic sources has declined largely as a result of declining food production and a shift in taste from traditional crops like sorghums and millet to wheat and rice. Over the last two years, rapid increases in food prices has also contributed to reduced availability to low income households.

2.2 At times when national food production has fallen as a result of drought, the government has ensured the importation of sufficient food to meet local demand. During the droughts of 1980/81, 1984/85 and 1992/93 an orderly formal market in grains and other foodstuffs was maintained, despite the widespread failure of the long rains. The recovery of food production after the 1984/85 drought, the worst in 50 years, was rapid, and between 1986 and 1990, the country was able to hold large national stocks of maize. Over the period 1991 to 1993, poor weather combined with very rapid increases in the prices of major agricultural inputs has led to low production, depletion of maize stocks and significant dependence on imports.

2.3 Over the period 1986 to 1990, NCPB's maize intake increased due to increased production brought about by good weather, adoption of improved technology, intensification of input use combined with sound pricing and marketing policies. The gradual liberalization of marketing and improvement of payments to farmers under the First Phase of the Cereals Sector Reform Programme gave producers needed incentives and helped the country to produce an average of 30 million bags per year.

2.4 In the 1980's wheat production had a mixed performance, fluctuating between 135,000 to 252,000 tonnes per year. The stagnation in yields, sub-division of the former large scale farms, shift of large-scale wheat producers to marginal areas,

- 2.9 The demand for food will increase throughout the next decade and beyond, primarily as a result of population growth. The 1989 Population Census shows an intercensal period (1979 - 1989) population growth rate of 3.34 per cent per annum. At the rate of 3.34 per cent per year, the population is estimated to have increased to 24.4 million in 1993 and will increase by 6.3 million to reach 30.7 million by the year 2000. The demand for food is growing by at least this rate of population growth. Recent declining trends in the production of major food commodities like maize, wheat, beans, sugar and oilcrops, indicate that the overall food supply is growing at a slower rate than national requirements.
- 2.10 The estimated requirements for the nine major foods in 1993 and 2000 are highlighted in Table 1. These estimates reflect the growth in rural and urban population and the different rural/urban consumption patterns but do not take into account the impact of disposable income on demand since it is not expected that per capita disposable income will increase significantly over the period. This may have the effect of underestimating the (income elastic) demand for commodities like rice, wheat, milk, and beef.
- 2.11 The estimated growth rates required to meet production requirements in 2000 based on production in 1990 are shown in Table 2. In addition to the requirements for human consumption, the estimates include a provision for post-harvest losses and also take into account requirements for seed, livestock use, industrial use and, in the case of milk, consumption by calves. For rice, the annual rate of growth required to attain self-sufficiency by 2000 is 12.5 per cent and relatively difficult to achieve. Among the nine foods only beef and milk have target growth rates below the population growth rate. The growth rates for maize, wheat, sorghum/millet, sugar and milk are between 4.0 and 7.8 per cent per year, while the estimate growth rate for beef is 1.0 per cent per year. The decline in the production of maize, wheat, beans, potatoes and sugar recorded in the last three years has the implication that the percentage growth rates required to reach the requirements by the year 2000 need to be higher than those estimated in Table 2. The high rates of growth needed to attain a position of broad self-sufficiency in food, mean that, food production should grow at a rate higher than the population growth rate in order to avoid increasing food deficits through the remainder of the present decade.
- 2.12 For comparison purposes, the annual rates of growth projected in the 1989 - 1993 Development Plan were 4 per cent for maize; 2 per cent for wheat; 3 per cent for sorghum/millet; 8 per cent for rice; 5 per cent each for beans, potatoes and sugar; 2 per cent for milk and 1 per cent for beef.

- 2.13 To maintain a position of self-sufficiency in maize up to 2000, production capacity will need to expand by at least 4.0 per cent per annum and probably at a rate considerably in excess of this. Rates of growth of this magnitude have in the past been achieved in Kenya only during the brief period of rapid adoption of hybrid maize. There are few examples of countries sustaining such rates of growth in the production of their staple foodstuffs over extended periods.
- 2.14 The high rates of growth required in the production of wheat and rice reflect both the fact that the nation is short of self-sufficiency in them and that, per capita demand is expected to grow over time, leading to production requirements increasing at a rate greater than that of population growth. Similarly, rising per capita demand for milk, beef and beans will require a high rate of production growth if self-sufficiency is to be maintained.
- 2.15 In summary, Table 1 shows the high rate of overall expansion in the production of foodstuffs required to meet growing domestic demand. The high rates of growth required also highlight the necessity to sustain the expansion in production through the remainder of the decade and beyond if self-sufficiency is to be achieved. Few countries have been able to sustain such growth in food production and the need to do so presents Kenya with a formidable challenge.
- 2.16 To ensure that growth targets are realistic and that adequate measures are undertaken to meet them, the estimated growth rates require to be reviewed regularly to ensure that they reflect the reality as closely as possible.

Nutritional Considerations

- 2.17 The above forecasts of food requirements are based on market demand and take no account of the nutritional requirements of the population.
- 2.18 The average daily per capita food intake provided an estimated 2,020 calories and 54.6 grams of protein in 1979-81. In 1986, the national food intake embodied an estimated average daily per capita intake of 2,089 calories and 62 grams of protein. In 1987-88, the per capita daily intake was estimated at 1,799 calories and 51.9 grams of protein, indicating a significant decline.
- 2.19 In 1990, the minimum per capita nutritional requirement was an estimated 2,111 calories and 63 grams of protein. Current demographic changes involve a reduction in the rate of population growth as well as small changes in the age distribution. The annual population growth rate declined from 4 per cent over the period 1969 to 1979 to 3.34 per cent

2.20 The total projected demand for the nine major foodstuffs in the year 2000 would result in an average daily per capita intake of 2,212 calories and 65 grams of protein, if the per capita consumption of all other foods were to remain at 1986 levels.

2.21 The fact that the average per capita nutritional intake would be adequate does not imply, however, that the whole population would be able to purchase sufficient foodstuffs to be sure of a nutritionally adequate diet. Inequalities in income distribution have a direct effect on the quantity and quality of food consumed. Under such circumstances, and given policies aimed specifically at increasing the nutritional intake of low income groups, considerably more food must be supplied to meet the national average per capita nutritional requirement if the entire population is to be fed adequately.

2.22 The fact that the projected demand in year 2000 gives a basic per capita intake only marginally above the minimum required, suggests that the high required rates of growth shown in Table 1 may underestimate, particularly for protein rich foods, the rate of increase in food production necessary to meet national nutritional requirements fully from domestic production.

2.23 If the food requirements for the year 2000 and beyond are to be met, the government requires to (a) create an enabling socio-economic and political environment through various incentives and encouragements that will motivate farmers to increase production; (b) substantially increase public sector investment in roads to serve agriculture, research and extension; and (c) implement policies and strategies supportive of the private sector in production, storage, mechanization, processing and marketing.

Potential for Increasing Production

2.24 In order to maintain self-sufficiency in maize production up to the year 2000 and beyond the strategy to be adopted will include intensification of production per unit area. There is only limited scope for increasing the current area under maize to more than 1.8 million hectares. Area expansion and maize production are expected to increase at the rate of 1.5 and 3.5 percent per year respectively. Use of certified seed maize is about 50 per cent and should increase to 100 per cent.

2.25 As far as practically feasible, there should be no diversification of land under export crops, the earnings from

them being essential for national development. Nor should there be further destruction of forests, which must be retained for ecological reasons. This means that in order to meet the required output growth rates for milk and maize, the per hectare yields will have to increase more rapidly. For maize the necessary growth rates are achievable provided there is widespread adoption of the already available high-yield seed varieties and more intensive and extensive use of fertilizer. For milk, however, the achievement of the necessary expansion will only be possible through intensive feed-based dairy keeping, improved transport system and better processing capacity. Under the Sixth Development Plan (1989 - 1993) strategies have been applied laying emphasis on development of drought resistance crops for ASAL areas including sorghum, millet, sweet potatoes, pulses and oilseeds. The ASAL areas include most of the Eastern and North Eastern Provinces.

2.26 Although in Nyanza and Western Provinces there is still some scope for expansion in the area devoted to the production of food, land availability is also rapidly becoming a constraint. As in Central and Eastern Provinces, increases in food production must rely largely on intensification and increased yields.

2.27 There is some potential for expansion in Rift Valley and Coast Provinces, where considerable tracts of land are either idle or under-utilized. Expansion of the area devoted to intensive food production, as well as increases in yields, will be an important means of expanding food supply in these provinces. Resources will be required and measures taken to ensure that these sources are exploited to the full.

2.28 Intensive production of food will also be achieved through the development of the country's full potential of small-scale irrigation and drainage.

2.29 During the next decade, however, expansion of food production will need to be based primarily on increases in yields. The aim is to set rolling a "green revolution".

This may be achieved by:

- increasing inter-cropping;
- improved soil analysis and increased and efficient use of fertilizers;
- increased use of other inputs;

- the progressive introduction of improved seeds and improved livestock breeds;
 - other improvements in cultural practices;
 - use of organic manures.
- 2.30 In addition to yield increases, the supply of food actually available for consumption can be increased substantially through a reduction in storage and handling losses. These will be reduced by improved extension advice and investment in on-farm storage facilities and by increased participation by the private sector in marketing, storage and processing.
- 2.31 The results from monitoring weather conditions form an important tool that can be used to alert farmers about likely weather patterns in the future. Farmers will be kept aware of changes in weather that might affect their production levels.

Expansion in Marketing and Storage

- 2.32 The feeding of Kenya's growing population will require increasing supplies of staple foods, principally cereals (maize, wheat, sorghum, millet, rice) pulses (peas, beans, grams) roots and tubers (cassava, potatoes), oilseeds (groundnuts, sunflower, simsim), fruits and vegetables, meat and meat products, dairy products, poultry and eggs. The production of these items will be stepped up in order to meet the country's needs for internal self-sufficiency.
- 2.33 In addition to producing enough food to meet domestic demand, production levels will also be geared towards meeting strategic reserves sufficient to carry the country for at least six months in the event of drought. This will entail the development, largely by the private sector, of adequate storage facilities at appropriate locations in all districts alongside national storage facilities. To ensure that all parts of the country are food secure, the Government will operate public storage facilities in locations which for reasons of distance and demand, are uneconomic for the private sector. The Government will also ensure that funds are always available to finance food imports should this become necessary.
- 2.34 As stated earlier, with diminished import substitution in the consumer goods industry and the drive towards export-led growth, agriculture will change in favour of exportables, particularly those in which the country has significant comparative advantage. Under this policy framework, it will be imperative to boost production and productivity so that there are sufficient supplies of the relevant commodities

available for export after priority internal consumption and strategic reserve needs have been met.

- 2.35 To support the storage, marketing and distribution of the increased production, the development of additional storage and marketing capacity is required. Most of this capacity will be required for cereals, legumes, horticulture, milk and beef. Current storage facilities in the country under the public and private sectors are more or less adequate for the present population size under the scenario of no futures trading. But to increase and improve marketing and storage capacities to cater for the requirements of the population by the year 2000, including gradual development of futures trading capacity, it is estimated that marketing and storage capacities need to be increased by more than 25 per cent above current levels. The investment in physical facilities will come largely from the private sector but the public sector will require to play a key role in facilitating the development of private sector participation through training of commodity dealers and access to long-term credit. The Government will also need to set the necessary environmental health standards and undertake the necessary regulatory inspection of facilities.

Household Food Security Considerations

- 2.36 The availability of adequate supplies of food at the national level will not ensure access to food by households and individuals. The ability of households and individuals to obtain sufficient food will depend among other factors, on whether they grow their own food and their ability to generate other forms of income. Macroeconomic policy will impinge on household food security through its effect on job creation, income growth, population growth, education, health, etc. The structural adjustment programmes (SAPs) being undertaken will continue to have important repercussions on household food security. The implementation of such SAPs should include a strong social dimensions facility to assist targetted vulnerable groups to maintain or improve their access to adequate diets. The definition and identification of vulnerable groups should be reviewed regularly to ensure efficient targetting of assistance.

A POLICY FRAMEWORK FOR THE FUTURE

Pricing, Marketing and Distribution Policy

3.1 Whether or not the country achieves the set rates of growth in food production necessary to achieve and maintain a position of broad self-sufficiency in major food commodities will depend to a major extent on farm-level profitability of producing given crops and livestock. With a few exceptions, the pricing and marketing of food crops and animal products have already been fully liberalized. As a result, farmers can allocate their resources rationally on the basis of relative profitabilities of different enterprises. The process of liberalization of pricing and marketing will be continued. However, to protect farmers from extreme fluctuations in their returns, minimum (floor) prices will be maintained for maize, wheat, rice and sugarcane based on import parities. In recognition of the unstable nature of world food commodity markets, such producer prices will not be adjusted to reflect transitory world price movements, but will be based on long-term parities.

3.2 In the past under price controls, consumer prices were set at levels which sought to cover the domestic producer prices plus processing and distribution costs. Under a liberalized environment, the government will no longer control consumer prices or subsidize them. During the transition period, however, the government will take measures to ensure that the increases in costs arising from liberalization, particularly of maize meal are passed on to the consumer gradually.

3.3 Targeted assistance will be given to vulnerable groups such as school children, lactating mothers in food deficit areas and streeturchins. Food aid such as, famine relief, will continue to be provided to families affected by drought and other calamities. Non-governmental organizations will continue to assist the government in targeting food assistance to needy groups.

3.4 The government will pursue its objectives of providing all regions of the country with an assured supply of food at the lowest cost possible. These objectives will be addressed by the following measures:

Farmers will be provided with minimum (floor) prices for selected commodities (maize, wheat, rice and sugar).

Grain marketing will be liberalized. This will involve the removal of the movement permits and their replacement by licensing of commodity dealers, who may be private companies or co-operatives, and who will deal with cereals in both producing and consuming areas. This licensing will not affect small traders.

A training and financial assistance programme will be put in place for commodity dealers to enable them to take over successfully the storage, marketing and distribution of cereals from public institutions.

In the short to medium term, the NCPB will remain an active participant in grain marketing. In the long-term, however, the NCPB will become a "buyer and seller of last resort". For its normal trading, NCPB will operate on commercial principles. However, whenever there is a bumper crop which NCPB and other traders cannot handle under normal trading, then the government will assist NCPB financially for the purchase of that crop. The NCPB will keep separate accounts for these different activities.

The activities of the Livestock Marketing Division will be confined to assisting pastoralists in difficult areas where private traders cannot operate profitably. In order to cut down on the loss of weight and quality of beef animals from excessive trekking, the government will encourage private entrepreneurs to set up slaughterhouses in the beef production areas, with the meat being moved in refrigerated trucks to central marketing places. The private sector including farmers will be encouraged to become majority shareholders in KMC. The intention is to encourage farmers and other private people to participate actively in the management and marketing of meat.

To improve services to farmers and consumers, the monopoly of KCC in milk processing and marketing will be reduced by licensing other milk processors and marketers, subject to meeting the legally required sanitary standards. The Kenya Dairy Board will be restructured to become more responsive to the needs of the dairy industry, accountable to milk producers, processors and the government. The restructured Board will undertake the role of regulating the dairy industry more effectively and efficiently. The government will also implement other facets of the Dairy Development Master Plan. The Dairy Act (Cap. 336) will be reviewed to harmonize it with a liberalized dairy industry.

The maintenance of rural roads will be improved to facilitate the marketing and distribution of food. Other

infrastructural facilities to be improved include rural and urban markets and milk collection points and coolers.

- Marketing information system will be improved. The Ministry of Agriculture, Livestock Development and Marketing will intensify its programme to disseminate more widely up-to-date market information to assist farmers, traders and consumers.

Agricultural Inputs Policy

- 3.5 The central objective of the Government's agricultural and livestock inputs policy is to ensure that adequate and quality inputs are made available to farmers and that, to the greatest extent possible, they are used at the right time and in the correct quantities.
- 3.6 Fertilizer importation and distribution was liberalised in 1991 and in general, the market has performed reasonably well. However, fertilizer use has been on a declining trend over the last five years, primarily because of high relative prices. Unfortunately, the foreign exchange crunch of 1992/93 resulted in difficulties of importation while the rapid devaluation of the shilling led to even steeper hikes in the domestic prices. Fertilizer policy will be focused on achieving efficient and timely importation and distribution. In recognition of the need to increase food production through intensification of land use and of the importance of fertilizer in this process, the Government will strengthen measures to increase fertilizer use especially among smallholders. The long term policy of the Government is not to subsidize fertilizers or other agricultural inputs directly. To keep the prices of fertilizers low, the Government will continue to allow the importation of fertilisers free of duty and will encourage co-operatives, farmers' companies and farmers' groups to import fertilizers for their members. Moreover, the Government will ensure that importation of fertilizer and other key agricultural and livestock inputs is given priority allocation of foreign exchange. Nevertheless, there is a justifiable need to put in place a short term subsidy programme on key inputs over the three year period 1993/94 to 1995/96 to encourage greater input use and thus enhance the recovery of the agricultural production.
- 3.7 Measures will also continue to be taken to ensure the adequate provision and optimum utilization of other agricultural chemicals. To keep the prices of agro-chemicals low, the Government will allow their importation free of duty. Strict supervision will be exercised to ensure that ineffective and high-risk chemicals are not imported. In view of the high health risks involved in mishandling of chemicals by farmers, their families and farm workers, extension workers and

distributors of agro-chemicals will be required to hold regular campaigns to educate users on the safe handling and use of agro-chemicals.

- 3.8 The main aim of policy for seeds will be to ensure adequate supplies of high quality seeds of improved varieties of a wide range of crops.
- 3.9 To increase the availability and the quality of concentrates, compound feeds and minerals required for increased livestock and poultry production, the Government will support the production of protein-rich crops like soya beans and support private manufacture of animal feeds in the rural areas to reduce unnecessary transport and distribution costs. Animal feed manufacturers will be encouraged to switch from maize and wheat to sorghum and other raw material sources. The liberalisation of the pricing of maize and wheat will contribute to bringing about a rationalization in their use for human food vis a vis their use in animal feed compounding.
- 3.10 To keep the prices of imported livestock drugs, semen and embryos low, the Government will allow their importation free of duty.
- 3.11 For agricultural machinery, the main aim of the policy will be to support the private sector in the development and wider distribution and maintenance of more appropriate technology to increase labour productivity and to reduce the present emphasis on imported capital-intensive equipment. Part of this support will be in the form of improved mechanization extension services. The availability of agricultural machinery, particularly that which is required for small scale farming will be increased through programmes supporting the formal and jua kali manufacturing sub-sectors in supplying mechanized, ox-drawn and hand equipment.
- 3.12 To encourage farmers to intensify agricultural production through the use of agricultural and livestock inputs (fertilizers, agro-chemicals, livestock drugs, farm machinery), the Government will further seek to reduce their prices by waiving Value Added tax (VAT) on those inputs.
- 3.13 The Ministry of Agriculture, Livestock Development and Marketing will liaise with relevant institutions to finalize the preparation of the *National Agricultural Mechanization Strategy (NAMS)*. Through the implementation of NAMS, the Government will support the development of an effective farm machinery manufacturing, distribution and servicing system for the country's needs and even for export.
- 3.14 It is estimated that about a third of the price of major agricultural and livestock inputs accrues to middlemen. While

3.18 Farming compared to other investments. The liberalization of resources in agriculture and other sectors. The government will ensure that agriculture receives the required level of investment to achieve sectoral objectives.

3.17 The government will establish an agricultural development bank under the Agricultural Finance Corporation (AFC) with the necessary legal mandate to accept deposits from the public. In this way, the perennial liquidity problem of the AFC, and its heavy dependence on Treasury for funds will be solved. The AFC has not been able to meet the credit needs of farmers, and especially the needs of small-scale farmers. The main reasons accounting for this situation include high default rate by major borrowers and inadequate liquidity. To enable AFC to undertake its mandate in a more satisfactory manner, it is necessary to ensure that strict commercial lending criteria are employed and that the liquidity position is improved. It is not prudent to expect significant amounts of funding to come from the Treasury and an alternative sourcing of funds is required. By creating an Agricultural Bank with legal authority to accept deposits from the public, the AFC will be enabled to raise the necessary finances. The bank would lend primarily to agriculture but selected agro-industrial enterprises would also be eligible for credit. To ensure that the bank operates on strict commercial principles, the ownership of the bank would be 51 per cent GOK and 49 per cent private. Farmers, co-operatives and agro-industrial enterprises would be given first priority in the allocation of the private sector portion of shares. Directors would be representative of the shareholding. To prevent abuse of agricultural credit, the government's long term policy is to discontinue subsidized interest rates. For this reason, AFC's interest rates will be raised to commercial levels. However, whenever the government wishes to promote the production of specified food commodities, AFC will be provided with funds under specific programmes for lending to small-scale farmers at subsidized rates of interest. Such credit will be supervised by the extension service of the Ministry of Agriculture, Livestock Development and Marketing. AFC's lending terms will be revised to encourage borrowing by farmers for short to long-term needs.

3.16 A recent report on Rural Finance Review shows that agriculture as a whole receives only 10 per cent of the total credit extended to the economy as a whole and yet contributes nearly 30 per cent of the GDP, and more than 60 per cent of the Agricultural Finance Corporation (AFC) reaches about 45,000 farmers while co-operatives reach another 115,000 farmers. While large farmers receive only 20 per cent. Credit is biased against small-scale farmers and food crops. Plantation crops receive about 60 per cent of total credit. The government will improve the proportions of credit going to agriculture, smallholder farmers and food crops.

3.15 To continue making effective use of improved supply of agricultural and livestock inputs, it is essential that farmers have access to adequate financial resources. These resources will be provided by expanding seasonal and long-term credit programmes. The policy of the government will be to move towards a decentralized agricultural finance system and to support the expansion of informal credit.

3.14 Within the formal system, the government will increase the percentage of lending to agriculture to deposit liabilities from 17 to 20 per cent for commercial banks and from 10 to 15 per cent for non-bank financial institutions. In the past, this requirement for a minimum lending to agriculture by banks and other financial institutions has not been fully met. A major factor has been the relatively low profitability of

Agricultural and Livestock Credit Policy

3.16 A recent report on Rural Finance Review shows that agriculture as a whole receives only 10 per cent of the total credit extended to the economy as a whole and yet contributes nearly 30 per cent of the GDP, and more than 60 per cent of the Agricultural Finance Corporation (AFC) reaches about 45,000 farmers while co-operatives reach another 115,000 farmers. While large farmers receive only 20 per cent. Credit is biased against small-scale farmers and food crops. Plantation crops receive about 60 per cent of total credit. The government will improve the proportions of credit going to agriculture, smallholder farmers and food crops.

3.15 To continue making effective use of improved supply of agricultural and livestock inputs, it is essential that farmers have access to adequate financial resources. These resources will be provided by expanding seasonal and long-term credit programmes. The policy of the government will be to move towards a decentralized agricultural finance system and to support the expansion of informal credit.

3.14 Within the formal system, the government will increase the percentage of lending to agriculture to deposit liabilities from 17 to 20 per cent for commercial banks and from 10 to 15 per cent for non-bank financial institutions. In the past, this requirement for a minimum lending to agriculture by banks and other financial institutions has not been fully met. A major factor has been the relatively low profitability of

3.20 The Co-operative Bank of Kenya will be strengthened in its lending to small-scale farmers.

3.21 Drawing upon relevant experience from other regions of the world, the Government will study, among other possibilities, the role of co-operatives and farmer groups and credit arrangements that do not require title to land as collateral. The Government will then assist in the implementation of the least bureaucratic mechanisms under which small-scale farmers can best be assisted with credit.

Research and Extension Policy

Research Policy

3.22 The objective of foodcrop research will be to continue the search for more productive and affordable crop varieties. Increased emphasis will be placed on

(a) breeding programmes aimed at continuous increases in the yields of already established crops,

(b) breeding for disease and pest resistance,

(c) research in integrated pest management (IPM) systems,

(d) efficient fertilizer use,

(e) agroforestry, and

(f) agronomic research particularly under smallholder production systems.

3.23 Whilst maize will continue to be the priority crop for food crop research, increased attention will be given to:

(a) drought tolerant crops,

(b) oilcrops, and

(c) environmental protection.

3.24 Livestock research will still be directed towards improvement of the genetic potential of animals suitable for arid and semi-arid areas and for zero and near-zero grazing systems. Efforts will be made to develop more suitable types of forage crops including more integrated methods of recycling crop residues through livestock production.

Research-Extension Linkages

3.25 The District Farming Systems Teams will be strengthened to improve the linkage between farmers, research and extension. In particular research projects at Regional Research Centres (RRCs) will be developed by the Regional Research Centres Committees (RRCCs) to which farmers and extension workers have been incorporated. Communication between farmers and extension workers will be improved through regular meetings of Agricultural Committees constituted of farmers and extension workers at the sub-location, location, division and district level. Whenever necessary researchers will be included in these meetings. Maize tours will be undertaken jointly by officials from both the Ministry of Agriculture, Livestock Development and Marketing and the Ministry of Research, Technical Training and Technology.

3.26 In addition to crop and livestock research, the Government will support food research, particularly (a) the processing and storage of traditional foods to increase their appeal to consumers and shelf-life; and (b) food preparation trials and introduction of different dishes to consumers with a view to changing food eating habits. Home economics extension will be strengthened particularly in districts with severe food and nutritional problems.

3.27 Private Research Funding in Kenya is extremely low. Efforts will be made to encourage agricultural research beneficiaries to contribute more to agricultural research.

3.28 The Kenya Sugar Authority will be strengthened and restructured to become more responsive to the needs of the sugar industry and in this way, ensure that sugar research is strengthened significantly, funded by the industry.

3.29 Since the 1920's when the Kenya Stud Book was established, the Livestock Recording Centre, Kenya Milk Records, Central Artificial Insemination Station and Kenya National Artificial Insemination Service have been introduced, operated by Departments in the Ministry of Agriculture, Livestock Development and Marketing, Breed Societies and the Agricultural Society of Kenya. To harmonize and improve coordination and solve the recurring financial problems plaguing these activities, these and similar livestock breeding activities will be put under one organization which will develop a self-sustaining and self-financing breeding programme. This body will finance its activities from a cess from the sale of livestock products and sales of semen. The organization will supply farmers with improved breeds on commercial basis.

- 3.30 The Artificial Insemination Service was introduced in the country in the 1940's and its use among smallholder dairy farmers accelerated after independence. The model borrowed from Europe based on motorised services and frozen semen has proved unsustainable. Moreover, under zero-grazing systems, the efficiency of A.I. is reduced by poor detection of heat in cows. The government will work out the modalities under which effective alternative methods of providing the service to farmers can be introduced. For example, individual farmers or co-operatives, who meet certain livestock husbandry and health standards may be allowed to keep pedigree breeding bulls for their own use and for hire to other farmers. The policy in this area is to promote cost-sharing with the aim of eventual privatisation of the service. In the interim, the government will improve the existing A.I. services by allocating increased levels of resources for training of staff, staff deployment and operational funds.
- 3.31 The government will continue with the policy of establishing self-sustaining animal health and dipping services. The policy is to move gradually from subsidised services to increased cost-sharing and eventually to full-cost recovery and privatisation of some veterinary services and management of dips. In the transitional period, the government will improve services by allocating increased resources to maintain adequate levels of animal health.
- 3.32 The Ministry of Agriculture, Livestock Development and Marketing will print and publicise an annual calendar of animal vaccinations.
- 3.33 To improve the communication between farmers, researchers and extension workers, the Ministry of Agriculture, Livestock Development and Marketing will strengthen their collaboration at all levels. In this way, more relevant technological packages for farmers will be developed and disseminated.
- 3.34 The flow of information to farmers, will be improved through the extension services of the Ministry of Agriculture, Livestock Development and Marketing will undertake a vigorous programme to improve the credibility of the extension service in the eyes of farmers. Improved planning, management and supervision will ensure that extension workers stay in regular, monitorable contact with farmers. Communication between farmers and extension farmers will be necessary to increase normal budgetary support to extension.
- 3.35 The Ministry of Agriculture, Livestock Development and Marketing will undertake a vigorous programme to improve the credibility of the extension service in the eyes of farmers. Improved planning, management and supervision will ensure that extension workers stay in regular, monitorable contact with farmers. Communication between farmers and extension farmers will be necessary to increase normal budgetary support to extension.

- 3.36 Additionally, to improve the credibility of extension workers, the Ministry of Agriculture, Livestock Development and Marketing will undertake in-service training of extension workers in farming systems methodology to enable them to assist farmers in detailed planning and budgeting of their farm activities. Such plans and budget will take into account not only commercial enterprises like coffee, tea, dairy, pyrethrum, and horticulture, but also household food requirements and off-farm activities. In such budgets, requirements for credit should also cover traditional crops such as millets, sorghums, pigeon peas, bananas, roots and tubers. The contribution of wild (non-cultivated) vegetables and fruits, such as *Amaranthus spp.* and guava, and small stock such as rabbits, chicken, ducks, etc. to the household diet should not be neglected.
- 3.37 The central objective of national food security policy is to ensure an adequate supply of nutritionally balanced foods in all parts of the country at all times. Food security at the national level will be achieved through :-
- increasing food production in all areas of the country;
 - emphasizing drought-resistant crops such as sorghum and millet in the dryland areas;
 - rapid development of the country's irrigation and drainage potential;
 - the establishment of a food commodity monitoring and reporting system;
 - continued monitoring and forecasting of weather conditions in the main agricultural zones, and wider dissemination of information on expected weather trends; improvement in the marketing, processing and distribution of food;
 - adequate multi-commodity strategic reserves, including strategic reserves of milk powder, will be maintained at all times to see the country through difficult times such as droughts and poor harvests.
- Food Security Policy

- liberalization of marketing, including importation of food, subject to variable import duties.
- 3.38 Food security at the level of individuals and households will be improved through the following measures:-
- Improvement of macroeconomic management for better economic performance.
 - Providing incentives to farmers for improved agricultural production.
 - Improved extension services on storage methods to reduce post-harvest losses.
 - Providing traders and commodity dealers incentives for improved marketing, storage and distribution of food commodities.
 - Improved health and nutrition education.
 - Provision of emergency food relief programmes.
 - Food-for-work programmes for the rural poor, similar and other programmes targetting assistance to identified vulnerable groups.

Food Trade Policy

- 3.39 Kenya's food policy priority will continue to be the maintenance of broad self-sufficiency in essential foodstuffs, a major objective being the achievement of self-sufficiency in maize production. Strategic reserves to last the country six months in the event of drought or other contingencies will be maintained in the public sector. The liberalized marketing system will provide additional storage.
- 3.40 The public sector will import maize whenever necessary. For this purpose, the Ministry of Finance will maintain at all times a foreign exchange Maize Import Fund solely for financing maize imports. At the same time, importation of maize by the private sector will be liberalized but to protect domestic maize producers, such imports will be subject to the variable import duty. Any Government intervention in the food market, if deemed necessary, will be done in a transparent manner using open tender for sale or purchase of food commodities by Government bodies such as NCPB (for maize and wheat) and KNTC (for sugar).
- 3.41 National demand for wheat has increased rapidly in the past decade. Domestic production currently only meets approximately

40 per cent of national consumption requirements. Given the limited potential for rapid expansion of production, demand is expected to continue to exceed supply. The Government recognizes the importance of wheat and bread as components of the diet of many Kenyans. The liberalization of the domestic wheat industry as well as importation of wheat, is expected to increase the supply of wheat in the country. To protect domestic producers from dumping of cheap imports, wheat imports will continue to attract variable duty.

- 3.42 The demand for rice will continue to exceed domestic supply in the short to medium term. Importation of rice will be liberalised but as in the case of maize, wheat, rice and vegetable oils, will be subject to the variable import duty.
- 3.43 Recognizing the need to safeguard domestic food supplies at all times, Government policy is to allow food exports only when domestic supplies are assured for the foreseeable future. At the same time, the Government recognizes the need to protect the interests of the farming community and will only sanction food imports to meet confirmed deficits of staple foods which cannot be met from domestic stocks. The long-term goal, however, is liberalization of food trade in keeping with the interregional/international agreements such as the Preferential Trade Area (PTA) and the Pan African Economic Community (PAEC).
- 3.44 In order to safeguard the national dairy herd, exports of dairy breeding stock will be regulated by the Government.

Nutritional Policy

- 3.45 A significant proportion of the population, particularly pre-school age children, is malnourished as a result of inequalities in the distribution of purchasing power, seasonal localized food shortages and lack of nutritional education. The overall objective of nutritional policy is to overcome this situation. Recognizing that increasing production alone will not resolve this problem effectively, government policy is aimed at increasing the production and consumption of the more nutritious foods, improving the distribution of purchasing power and implementing specific market intervention programmes as and when necessary.
- 3.46 The Government will improve nutrition education offered in schools by the Ministry of Education, and the informal nutrition education offered by the Ministry of Health, and the Ministry of Agriculture, Livestock Development and Marketing. Non-governmental organizations will also be encouraged to step up their emphasis on nutrition education.

3.47 The production of highly nutritious food crops will be given particular emphasis. Beans, peas and groundnuts provide both more protein and calories per kilogram and, in the high and medium potential areas, per hectare than do beef and other meats. These crops are relatively inexpensive to produce and well suited to smallholder production. Government policy is to continue encouraging their production and consumption.

3.48 Fish, is an important source of protein and in this regard Government programmes will continue to boost production and marketing to meet demand. The Government will also encourage the rearing and eating of non-conventional food animals like game animals, ostriches, rabbits, wild birds, etc.

3.49 Improvements will be made in the collection and analysis of information on the nutritional status of the population as a basis for determining the programmes which will eliminate specific nutritional deficiencies effectively.

3.50 The Government's policies aimed at reducing inequalities in the distribution of income have the effect of mitigating the nutritional problem. The nutritional effects of these policies are reinforced by the expansion of specific nutrition intervention programmes, namely, school milk, pre-school feeding, pregnant mothers programmes and the Family Life Training Centres. The Famine Relief Programme will continue when necessary to meet temporary food shortages. Priority will be given at all times to those programmes which improve the nutritional status of children and lactating mothers.

Resource Development Policy

3.51 The Government land-use policy is to ensure that all land is efficiently utilized and developed. Priority is also being given to measures aimed at increasing rural employment and incomes and alleviating poverty.

3.52 It is Government policy that land rights of agricultural producers should be secured and protected by the state and Kenya's Constitution guarantees the right and security of land tenure. The Government will continue to assess the efficiency of existing land tenure systems and of the laws and regulations governing the transfer and adjudication of land. The process of land adjudication has been accelerated and special attention will be given to the problems created by the de facto subdivision of group-owned large farms to ensure that these farms are not subdivided into uneconomic units.

3.53 In addition to formulating and implementing appropriate land ownership and transfer systems, measures to foster land management practices that will maintain soil fertility,

prevent soil erosion and siltng and protect water catchment areas will be strengthened.

3.54 Measures will be taken to discourage owning land for speculation purposes since this has a direct effect on land use.

3.55 The current policies encouraging the production of drought-resistant crops such as sorghum, millet and cassava in marginal and semi-arid areas (ASAL) will be continued.

3.56 Recognizing the high cost of imported energy and the likelihood of further increases in fuel prices, priority will continue to be given to the development of energy-efficient technologies and practices. Local sources of energy, particularly those based on by-products, will be developed whenever possible.

3.57 While it is recognized that irrigation development is an expensive undertaking, nevertheless, importing food is even more expensive. Emphasis will therefore continue to be given to the development of small-scale irrigation. A major constraint to this type of irrigation is the lack of affordable power for pumping irrigation water. In this regard, the Government will encourage (a) the location of electric power supply lines along rivers and lakes in areas with irrigation potential, and (b) the development of shallow or deep wells to tap underground water in arid and semi-arid areas.

3.58 The Government has the responsibility to ensure that economic development processes do not damage the environment. The Government will develop a National Environment Action Plan (NEAP) which will spell out measures to be put in place to ensure sustainable development.

3.59 A contributory factor in poor agricultural and food production is inadequate policy analysis in Government ministries. This shortcoming will be addressed by developing a strong capacity in food and agricultural policy analysis (FAPA) based at the Ministry of Agriculture, Livestock Development and Marketing but with strong links to the proposed National Food and Nutrition Secretariat (NFNS) based at the Ministry of Planning and National Development.

Employment Policy

3.60 The employment question was addressed by the Report of the Presidential Commission on Employment of January 1991. Despite substantial rural-urban migration, there is still considerable unemployment in rural areas. The agricultural sector will

continue to be the major source of new jobs for the rapidly expanding labour force to the year 2000 and beyond.

- 3.61 The basic aims of manpower development policy is to increase the willingness of the population to participate in agricultural development and to equip the agricultural workforce with appropriate technical and managerial skills. The Government has placed increased emphasis on vocational training for agriculture. Within the programmes to expand food production, labour intensive techniques will be emphasized wherever situations of labour surplus are envisaged.
- 3.62 The seasonal nature of much of agricultural employment means that labour shortages occur at certain times of the year despite the general surplus of labour. As the rural population will grow at a slower rate over the next decade than the aggregate demand for food, seasonal labour shortages could well become progressively more of a constraint to meeting this demand unless corrective measures are taken. Programmes to increase labour mobility and labour productivity at times of labour shortage should be undertaken to ease this constraint.

Incentives

- 3.63 Farmers require solid support in terms of incentives to motivate them to invest their resources in farming. Major incentives include remunerative prices, availability of reasonably priced inputs, effective research and extension services, availability of affordable credit, efficient marketing infrastructure and timely payments. Disincentives should be removed, a prime example being the Presumptive Income Tax (PIT), and whose withdrawal with effect from January 1994, will be welcomed by farmers.
- 3.64 The liberalization of marketing, improved marketing information, support with minimum producer prices for selected commodities, and improved storage and marketing, and timely payments, will provide farmers with remunerative prices.
- 3.65 Low prices of inputs will be achieved by (a) importation, free of duty, of fertilizers, agro-chemicals, livestock drugs, livestock semen and embryos, selected farm machinery and equipment, and raw materials for the manufacture of agricultural inputs, machinery and equipment; (b) removal of Value Added Tax on the same; and similar taxes on agricultural and livestock inputs; and (c) the assistance, with foreign exchange to farmers' co-operatives, companies and groups to import agricultural inputs for their members.
- 3.66 Better communication and rapport with extension workers and researchers will be achieved through better funding of extension and research services, improved supervision and

motivation of researchers and extension workers, increased interaction between farmers, researchers and extension workers, revival of agricultural committees at sub-location, location, division and district levels, and improved coordination and collaboration between the Ministry of Agriculture, Livestock Development and Marketing and KARI.

- 3.67 Farmers will also benefit from programmes to improve information on weather patterns, maintenance of rural roads, and the availability and administration of credit.
- 3.68 To encourage farmers to increase their usage rates of key inputs and thus enhance the recovery of agricultural production, the Government will undertake the following additional short-term measures over the period 1993/94 to 1995/96: (a) support importers of fertilizers and veterinary drugs with a five (5) per cent subsidy on actual imports to be verified by the Ministry of Finance and the Ministry of Agriculture, Livestock Development and Marketing; and (b) provide subsidized credit targetted at small-scale farmers, offered in kind and supervised by the extension staff of the Ministry of Agriculture, Livestock Development and Marketing; the level of subsidy being ten (10) percentage points below the average interest rate charged by commercial banks.

PROGRAMMES TO ACHIEVE THE POLICY OBJECTIVES

4.1 Forging ahead towards the year 2000, the Government, particularly through the Ministry of Agriculture, Livestock Development and Marketing will continue to undertake a comprehensive range of prioritized programmes.

4.2 These programmes will focus on promoting increases in national food production to keep pace with population and income growth and to maintain a position of broad self-sufficiency in food for the remainder of the century. Other programmes will be aimed at improving processing and marketing efficiency to cope with the growth in supply.

4.3 As part of a comprehensive programme to ensure the security of food supplies without excessive dependence on imports in years of crop failure, food reserves sufficient to see the country through six months will be maintained with appropriate control mechanisms for their management. Additionally, the government will maintain at all times hard currency reserves for needed food imports. Specific measures will also be introduced to ensure that the increased and more secure supply of food will result in an adequate nutritional intake for the entire population. Phase Two of the Cereal Sector Reform Programme will address itself to the issues.

4.4 In order that these programmes be implemented successfully and have maximum impact, it is important that they are mutually reinforcing and consistent with the main aims of both food policy and development policies in general.

Programme to Establish the National Food and Nutrition Secretariat

4.5 To undertake longer-term policy analysis and to develop food-security policies and strategies for use in national planning and decision-making a National Food and Nutrition Secretariat (NFNS) is to be created in the Ministry of Planning and National Development. NFNS will also house the Strategic Reserves and Inventories Monitoring Facility. The responsibilities envisaged for the NFNS are as follows:-

- (a) to assist ministries, parastatals and other organisations to improve the focus, timeliness and quality of the data which they collect on variables relating to food security;
- (b) to assemble routinely data on variables relating to food security;

(c) to assess routinely the state of food security at national and household levels and to submit regular, focused reports on the current food security situation to the steering committee of Permanent Secretaries;

(d) in liaison with the Forward Planning Unit of the NCPB, to assess routinely and make recommendations for the export and import of staple food commodities;

(e) to develop recommendations routinely for the distribution of government food relief;

(f) in liaison with the KNCS, to prepare routinely briefing material for NGOs on the need for short-term food relief and on other developments and new government policies of relevance to their food-security activities;

(g) to assist in the preparation and appraisal of projects and programmes with food-security dimensions and to assess projects for their impact on national and household food security;

(h) to review the nutritional impact of government taxation and expenditure and to participate in the government budget process;

(i) to undertake longer-term food policy analysis and to develop food-security policies and strategies for use in national planning and decision-making;

(j) to establish and operate a food-security information and documentation centre.

4.6 It is estimated that, to meet these responsibilities, the NFNS will need to be staffed by some 50 skilled professionals, specialising in data processing, information technology, statistics, economics, nutrition and environmental health. The secretariat would be headed by a Director at the level of Deputy Secretary.

Programme to Improve Food and Agricultural Policy Analysis (FAPA)

4.7 The Ministry of Agriculture, Livestock Development and Marketing will strengthen the data base and analytical capacity in the area of food and agricultural policy. This will require improving the system of data collection from the districts and enhancing policy analysis capacity through training and hiring of highly qualified personnel at remunerative rates.

more productively. Enhanced user charges will be an important source of funding for PHS.

4.14 Land preparation is also a constraint for achieving higher production on small farms. Reliance on hand tools limits a family's ability to plant early and weed adequately. Preparation time to less than 40 per cent of that required with hand tools alone, markedly expanding the area planted and thus raising yields to both land and labour. Development and use of improved ox-drawn equipment requires efforts in research, manufacture, marketing and extension. Small-farm mechanization using appropriate technologies will provide an important opportunity for rural, small-scale industry in manufacture, sales and repair of equipment. The Rural Technology Unit of the Ministry of Agriculture, Livestock and Marketing will collaborate with KIRDI and other relevant agencies and Ministries to ensure successful implementation of the National Agricultural Mechanization Strategy which will address these issues.

Programme to Improve the Supply and Utilization of Agricultural and Livestock Inputs

4.15 The Government will ensure that the necessary foreign exchange is made available, as a matter of national priority, to importers of critical agricultural and livestock inputs such as fertilizers, agro-chemicals and livestock drugs.

4.16 The Government will ensure that adequate quantities of fertilizers are imported and distributed on time. This will be co-ordinated by the Ministry of Agriculture, Livestock Development and Marketing and the Ministry of Finance.

4.17 For the fifth year running, fertilizer use in the country declined in 1992. The Ministry of Agriculture, Livestock Development and Marketing aims at reversing this declining trend in fertilizer use especially in food crops. It is recognized that by and large, fertilizer use intensify in a given food crop will be determined by the price of fertilizer relative to that of the food crop. Within the liberalised pricing and marketing framework, the government will intervene in non-price areas. In this context, the following actions will be undertaken: extension workers will hold regular fertilizer use demonstrations particularly during the long rains seasons; soil testing services will be improved; the Government will encourage the rebagging of fertilizers in smaller quantities convenient for small-scale farmers; and marketing information and farm management extension services will be improved to assist farmers in making economic decisions. The Government will encourage capable co-

Programme to Improve the Supply of Seeds

4.8 The Kenya Seed Company (KSC) has the obligation to ensure that adequate supplies of seed, particularly maize and wheat, are available at the beginning of each crop season. A target rate of growth of sales of improved maize and wheat seed has been established for the company at 10 per cent per annum. The pricing of seed is already liberalized and therefore KSC and other seed companies that might enter the market can operate on commercially viable principles. The Government will continue to encourage seed companies to increase the range of crops for which they supply improved seed.

4.9 The Government will encourage the initiation of both private and public sector projects to increase production of seed and planting materials, particularly of beans, potatoes, oilseeds and horticultural crops.

4.10 The Ministry of Agriculture, Livestock Development and Marketing will continue to maintain close liaison with the seed companies and participate in major decisions on investment and prices. In the main grain growing areas the KGGU already has distribution centres. Co-operative unions and societies and private agents are encouraged to expand their seed distribution activities.

4.11 The Government will gazette Plant Breeders' Rights and negotiate membership of relevant international organizations. This will allow Kenyan farmers to acquire patented new innovations of plant varieties that hitherto have been difficult to get, particularly flowers and other horticultural crops. Farmers will therefore be able to acquire from external sources, competitive planting material which our researchers have yet to develop.

4.12 In view of the need to increase productivity of livestock in high and medium potential areas, KSC and other seed companies will be encouraged to improve the quality and supply of seed for pasture and forage crops.

Programme to Improve Land Preparation Services

4.13 The Tractor Hire Service (THS) of the Ministry of Agriculture, Livestock Development and Marketing will charge commercial rates for its services and will be withdrawn from areas where private contractors provide adequate services in land preparation. The Plant Hire Service (PHS) of the same Ministry, will first, be mobilized to help farmers institute soil conservation programmes on large farms and in arid and semi-arid areas, where mechanization is essential. Second, PHS will help farmers build small dams and other works for micro-irrigation systems that conserve water and utilize it

operatives, farmers' companies and farmers' groups to acquire and market fertilizers.

- 4.18 The seasonal credit programmes presently in operation will be strengthened to enable farmers to purchase increased quantities of fertilizer.

Programme to Improve the Supply and Utilization of Other Inputs

- 4.19 The distribution of disease and pest control chemicals in livestock will continue to be undertaken by the private sector. Extension campaigns will provide farmers with adequate information on suitable types and application rates. The Ministry of Agriculture, Livestock Development and Marketing will continue to enforce the provisions of The Cattle Cleansing Act and The Animal Diseases Act to ensure that animals are dipped and vaccinated as required by law.

The Ministry of Agriculture, Livestock Development and Marketing will review its strategy to control livestock diseases and make recommendations relating to:-

- The possibility of replacing cattle dipping with immunization as a measure for controlling tick-borne diseases.
- The potential and precise methods for increasing charges paid by the beneficiaries of disease control.
- Means to increase the effectiveness of collecting user charges that are already established.
- A shift of the responsibility for managing cattle dips to the districts; and
- Increases in the efficiency of vaccine production through joint ventures between Government and private pharmaceutical firms.

Programme to Improve Credit Facilities for Food Production

- 4.20 The overall aim of credit policy for food crops and livestock for the rest of the century will be to steadily expand the supply of credit in order to provide a financial base for the intensive production necessary to meet consumption requirements. Over the long term, the Government aims to broaden the institutional base for credit disbursement through a programme of decentralization.

- 4.21 The Ministry of Agriculture, Livestock Development and Marketing proposes to expand the seasonal credit scheme so that, by the year 2000, credit is provided for 1.8 million

hectares of maize and 150,000 hectares of wheat.

- 4.22 The New Seasonal Crop Credit Scheme introduced in 1980 will continue until replaced by a more permanent scheme and will be funded by Government through the Cereals and Sugar Finance Corporation.

- 4.23 The AFC at present provides limited credit for the purchase of dairy cattle and for the provision of water and fencing, but this is inadequate. The government will encourage the private sector to increase its involvement in credit programmes. Already some insurance companies have launched a livenessock insurance scheme. The needs of livestock producers will be served better by developing loan schemes that have longer grace and repayment periods.

- 4.24 The Government intends to introduce an element of Insurance Premium with the credit system. This will be done through the establishment of an agricultural Loan Guarantee Fund.

Programme to Improve Extension Services

- 4.25 The Ministry of Agriculture, Livestock Development and Marketing will continue to use the Training and Visit (T&V) extension approach. Although government will retain dominance in the administration of the extension system, measures will be taken to encourage the private sector to play an increasing role.

- 4.26 The key to a successful extension service lies in its ability to put well trained officers in the field, supply them with timely and useful advice to the farmers. The National Extension Programme Phase I came to an end in 1990. The T&V programme which was the main component of NEP I was evaluated. A follow up version of T&V has been incorporated under NEP II. The new programme will continue to address issues related to:-

- Provision of additional transport facilities for extension workers.
- Improvement and use of more demonstration plots to illustrate the effectiveness and profitability of improved production techniques.
- Improvement in the dissemination of farming guides and other materials to farmers and producers co-operatives.

- 4.27 An important means of improving food crop yield is the increase of, and more efficient use of double cropping and intercropping. Extension staff will pay particular attention to making farmers aware of the advantages of these practices.

4.28 It has been estimated that approximately 16 per cent of small-holder maize production is lost during the post-harvest period, either through insect and rodent damage or mould. A start has been made on a programme to encourage better handling and storage of crops, at the farm level. The aim of the programme will be to reduce these losses by 50 per cent by year 2000. If successful this will increase the volume of maize available for consumption by some two million bags (220,000 tonnes).

4.29 Extension programmes will be geared to make farmers aware of the advantages of combining traditional and modern materials and techniques of constructing on-farm stores.

4.30 Under NEP II short training courses in storage methods will be conducted for farmers and dealers and extension staff of the Ministry of Agriculture, Livestock Development and Marketing by the Crop Storage Unit of the Ministry.

4.31 The Ministry of Agriculture, Livestock Development and Marketing will continue to improve its livestock extension activities, giving priority to extension and demonstrations designed to improve management practices and to encourage the introduction of high-quality stock under NEP II.

Programmes to Intensify Research on Food Production

Programmes on Food Crops Research

4.32 Plant breeding is a gradual process of variety generation. There has been concern on the performance of available maize seed, particularly the 500 series and efforts will be made to revitalize these series through breeding as well as have a fairly broad base for other maize varieties.

4.33 Although maize accounts for 23 per cent of total farmland and 13 per cent of the value of marketed output, it only receives 8 per cent of the research funds. This share will be increased. Other high priority crops include oil crops. Research for oil crops will be fully funded before we switch to other crops.

4.34 Attention will also be given to efficient crop production systems for semi-arid areas. Priority will be placed on drought resistant crops such as sorghums, millets, pulses, roots and tubers. The national wheat research programme will focus on minimum cultivation techniques and production methods suited to smallholders in drier parts of the country. Research in triticale production and utilization will continue. The paddy breeding programme will be focussed on rain-fed rice particularly in Western Kenya.

Programmes on Horticultural Research

4.35 Horticulture is increasingly becoming a major foreign exchange earner in addition to being a major supplementary food item. Yet Kenya relies heavily on imported seed for almost all horticultural crops. In the years ahead efforts are going to concentrate on local seed development and production including the appropriate managerial skill for individual species. Tissue culture and other biotechnological methods will be perfected for cleaning cultivars and seedlings in order to offer clean, disease free material to the farmers.

Programmes on Soil and Water Management

4.36 Overused soils particularly by smallholders frequently need fertilizers in order to be productive. The ongoing Fertilizer Use Research Project will be continued in order to test soils in every part of the country and determine what type of fertilizer is needed for particular crops.

4.37 Soil surveys will be intensified throughout the country to determine what sort of soils we have, their moisture retentive capacity, acidity, etc. to help both the farm and other planning and development activities.

4.38 Irrigated agriculture takes up only a negligible percentage of our dry areas. If we are to expand our irrigated land there is need to identify suitable soils and start planning future food production.

Programmes on Environmental Protection

4.39 All agrochemicals have the ability to pollute the environment. In order to use less and less chemicals more intensive search will be made for farming systems which need less chemical applications, i.e. Integrated Pest Management (IPM) approaches.

4.40 Greater research efforts will be directed to producing disease resistant varieties of all crops to obviate the need for intensive spraying.

4.41 The continued development of the tse tse trap as well as the development of vaccines against tick borne diseases are efforts in this direction. These programmes will be continued.

4.42 Gene banks already established for crops and trees will be maintained. More wild tree and shrub species will be identified, classified and stored for posterity.

Other Measures to Boost Livestock Production

4.51 Major measures to stimulate an increase in beef production include the following:-

4.52 The Livestock Marketing System will be improved, including completion of the trunk system of stock routes and holding grounds to serve pastoral areas and establishment of a national livestock marketing reporting and information.

4.53 Water supplies will be developed at strategic points for nomadic herders and fees charged to cover maintenance costs. Ranchers will be encouraged to develop their own water supplies, possibly sharing cost with Government as appropriate.

4.54 A programme to reduce infestation by the tsetse fly will be developed in co-operation with Tanzania, Uganda, Ethiopia, Sudan and Somalia. International co-operation will be enhanced to prevent the spread of diseases across borders.

4.55 Improvement of security in pastoral areas will be given increased priority to enable full utilization of available rangelands.

4.56 Sheep and goats provide a major source of meat for Kenyans. Consumption is about 60,000 tons a year, almost a third of total meat consumption. Moreover, the main concentrations of production and consumption are in zones of low and marginal potential. Thus improvements in this industry can have important benefits to low-income rural families. To improve the productivity of sheep and goat raising, the following measures will be undertaken:-

- Extension activities must become more effective through provision of adequate complementary resources to extension officers and the development of zone-specific extension packages.

- A national breeding policy will be developed, with a focus on those aspects of breeding that have the greatest potential for raising incomes of sheep and goat herders.

- Herders' investments in improved stock will be considered in formulating national agricultural credit programmes.

Meats
Programme to increase the production of fish and non-conventional

4.57 Fishing is both an important source of protein in Kenya and a major employer near the large lakes and the coast. Measures outlined in the Development Plan 1983-1988 form the basis for

Programmes on Research in Agroforestry

4.43 Research to identify local multipurpose trees (MPT) and shrubs will be intensified as well as their efficient propagation methods. Multipurpose trees fertilize the soil and they can be used as fodder for livestock and even serve as firewood, building poles, etc.

Programmes on Livestock Breeding

4.44 Research on productive traits for both milk, meat and eggs will be intensified in relevant species.

4.45 Breeding for disease resistance is a much more difficult proposition but essential. Studies will be initiated to sample local breeds that are resistant to local diseases. These will be used for crossing purposes to impart resistance to more productive breeds.

Programmes in Animal Diseases Research

4.46 Animal diseases play a major role in limiting livestock production through reduced production or death. Efforts will be intensified to find affordable and efficient vaccines for Foot-and-Mouth Disease (FMD), Contagious Bovine Pleuropneumonia (CBPP) and Contagious Caprine Pleuropneumonia (CCPP), among others.

4.47 Trypanosomiasis is a major debilitating disease of cattle and camels. Efforts to identify the environmentally friendly method of controlling the vector tse tse flies will be intensified.

4.48 Worm burdens are a serious threat to young calves and small stock particularly during rainy weather and when stock are living in unhygienically high concentrations. Efforts to find suitable strategic dosing regimes will be continued for every ecozone.

Programmes on Research in Animal Nutrition

4.49 Nutrition is a major problem for both monogastric and ruminant farm animals in Kenya. Efforts to develop on farm concentrate feeds for ruminants, pigs, and poultry will be intensified. The search for an alternative source of energy will go a long way towards eliminating the competition between man and animals for maize.

4.50 Forage forms the bulk feed for milk production. Intensified research to find suitable forage species particularly for dry areas will be a major focus. Use of crop residues by livestock will be investigated for recycling purposes.

Programme to Improve the Marketing and Distribution of Food

4.64 As indicated earlier, Kenya's population is expected to increase from the 1989 figure of 21.4 million by 3.34 per cent per year. It is thus imperative that the country not only increases food production, but also ensures availability of adequate storage facilities. Currently NCPB has a total storage capacity of 19 million bags mainly to take care of the strategic reserves for national food security purposes. In view of the expected reduced role of the NCPB in the marketing of cereals, the private sector will be expected to construct and/or lease storage facilities to meet their own needs.

4.65 The current storage development programme for the NCPB involves the construction of grain silos in Narok, Mosoriot and trans-shipment silos at Mombasa. These are expected to be completed during the 1993/94 financial year. Alongside each silo project, conventional stores will be constructed for keeping national strategic reserves in bags for rapid movement to deficit areas. Construction of the storage facilities will take into account the following:-

- Storage capacity in the primary food surplus production areas, for reception and storage of marketed crops, particularly during the peak period following the harvests.

- Distribution storage capacity in the food deficit areas of the country.

- Strategic reserve storage capacity in the surplus production areas.

- Adequate import and export storage capacity.

4.66 As indicated earlier, with liberalisation, current restrictions on inter-district movement of maize and other produce which increase marketing costs and consumer prices will be removed to allow for free movement of produce throughout the country. Permits for movements outside the country will, however, be maintained for national food security reasons.

4.67 Farmers and traders lack adequate information on prices prevailing in other markets and are aware only of the NCPB purchase price which is announced annually. To overcome this problem, the Ministry of Agriculture, Livestock Development and Marketing is now collecting grain prices in selected markets. These will be broadcast on the radio. Initially this will be done weekly, but with time, there will be more frequent broadcasts. The livestock market information system

Programme to Improve and Expand Food Processing Facilities

a continuing programme to develop fisheries further as a source of both food and, in the case of coastal fisheries, expanded exports. Farmers will be encouraged to develop fish ponds for the production of fish for home consumption and/or for commercial sale. The development of poultry, game and non-conventional sources of meats will be intensified. The Ministry of Agriculture, Livestock Development and Marketing will popularize the production and consumption of these types of meats through its extension services.

4.58 To overcome the limitations in the present agricultural marketing system, liberalisation will be continued over the next five years. This will be accomplished through the removal of movement controls on maize, among other factors.

4.59 In this respect, the NCPB will be exposed to increasing competition in the short to medium term. In the long-term, its functions will be limited to the maintenance of the strategic reserves and buyer of last resort, thus leaving over 75 per cent of the market to private traders, millers and co-operative societies.

4.60 There is need to increase the production and commercial offtake of milk. Producer co-operatives and private individuals will be encouraged to participate in the dairy industry by the issuing of licenses to process and distribute milk. This will serve to increase production of offtake and minimize processing and distribution costs and, hence, consumer prices.

4.61 KMC is an important instrument for the implementation of national meat production programmes and policy measures will be aimed at maintaining it as a viable institution.

4.62 Horticultural processing facilities will be developed further to cater for domestic and export markets. The HCDA is undertaking the establishment of processing facilities alongside horticultural production centres. Wholesale markets for fresh fruits and vegetables have been established in most urban centres and this process will continue in the future.

4.63 The Kenya Bureau of Standards will continue to implement comprehensive quality controls, which will apply to all food processing operations. Measures will also be taken to prevent misleading advertising and promotional campaigns which exaggerate the nutritional qualities of processed food products.

which has been introduced for Nairobi and Eldoret will be expanded.

- 4.68 The Government will promote the orderly development of the private sector in the marketing of agricultural commodities, including livestock. One means of achieving this will be to facilitate the establishment of a programme of training and commercial credit for commodity dealers to take over the functions of food storage, marketing and distribution from public institutions.
- 4.69 The programme to expand the role of co-operatives in maize and milk processing and distribution will continue.
- 4.70 The price mechanism plays a crucial role in ensuring that domestic food production is adequate to meet consumption requirements. In the past, the producer and consumer prices of the main staple foods were fixed by Government. This control will not be continued, with the exception of minimum (floor) producer prices for maize, wheat, sugarcane and rice paddy, which will continue to be reviewed annually by the Ministry of Agriculture, Livestock Development and Marketing and will be fixed at levels which are sufficiently attractive to farmers to stimulate domestic production to achieve a level of broad self-sufficiency. Subsidies will only be used to meet the losses incurred on imports and in supporting purchases of surplus maize during glut periods. A programme to improve the decision-making framework for price policy is described separately below.

Programme to Establish an Information System

- 4.71 The critical importance of accurately monitoring the overall food supply position is well recognized by the Ministry of Agriculture, Livestock Development and Marketing. The Ministry will develop a comprehensive food information and reporting system. Suitable donors will be approached to fund this programme.

The Programme will provide:-

- Early warning to Government, the private sector and parastatals on emerging crop or livestock conditions which could result in either shortages or excess supply of major food commodities.
 - Reliable and timely information on the availability and use of major agricultural inputs, including fertilizers, seeds, chemicals, credit and land preparation services.
- 4.72 The programme will be implemented by the extension service of the Ministry of Agriculture, Livestock Development and

Marketing, the Central Bureau of Statistics (CBS), the National Food and Nutrition Secretariat (NFNS), the Department of Resource Surveys and Remote Sensing (DRSRS) and the inter-ministerial Crop Forecasting Committee already established to monitor the food supply situation.

- 4.73 Early estimates of areas planted will continue to be made by the Ministry of Agriculture, Livestock Development and Marketing extension staff, who will make regular surveys of the farms included in the CBS sample. The results will continue to be compared with the aerial surveys of the Department of Resource Surveys and Remote Sensing (DRSRS).
- 4.74 Extension staff will continue to provide periodic reports on:-
- input availability, use and distributional difficulties;
 - land preparation and planting;
 - monthly weather and crop situation;
 - progress of harvesting, marketing and stock accumulation; and
 - local food supply situation, farm-gate and market prices of the main food crops.
- 4.75 The CBS will continue its integrated rural surveys, which will include a twice yearly survey of areas planted and yields. The timing of this survey will be modified to ensure that each district is covered at the most appropriate time. The sample has been expanded to cover 15,000 holdings in 648 clusters and this will facilitate the preparation of crop forecasts at the district level. The same sample frame will also be used as a basis for ad hoc surveys as and when required.
- 4.76 In co-operation with the CBS, the NCPB will continue its surveys of maize yields, using the CBS samples of farms, as a basis for estimating the quantity of maize to be purchased by the Board.
- 4.77 Food and Livestock Market prices will be used, in conjunction with the crop and yield data obtained by the Ministry of Agriculture's extension services, the CBS and the NCPB, in assessment of the food supply situation.
- 4.78 The Crop Forecasting Committee, will monitor the food supply situation closely. The committee will evaluate regularly the overall supply prospects and provide timely warning of any impending shortages to decision makers.

Programme to Improve Weather Monitoring and Dissemination of Weather Information

4.79 The Kenya Meteorological Department is the main institution charged with the responsibility of generating meteorological and climatological information above, in addition to providing services to civil aviation and for shipping routes in the Western Indian Ocean. Although the facilities currently available at the Department have been improved considerably making it one of the leading institutions in Africa for this kind of work further improvements are required to make it even more effective.

4.80 The Meteorological Department will continue to monitor, through an expanded station network, meteorological parameters critical for crop development, including rainfall, evaporation, soil temperatures and surface winds.

4.81 There is need to expand meteorological stations in the rural areas to support those already existing in the large urban areas. An information dissemination system at the district level will be required to improve information on weather for the farmers and extension staff.

4.82 Computerised facilities that link our system with the regional and global networks will be designed to provide advance information on impending weather changes on a day to day basis.

Programme to Improve National Food Security

4.83 Kenya is committed to the maintenance of food reserves to safeguard food security. The most important reserves will be maize, beans, wheat, sugar and milk powder. To reduce the cost of purchase and storage, the reserve physical stocks will be maintained at levels just adequate to cover the import lead time of six months. In addition, the Treasury will maintain, at all times, a foreign currency fund sufficient to meet import requirements for at least three months.

4.84 The basic agricultural commodities to be promoted can be classified as, meeting internal self-sufficiency, strategic reserves and surpluses for export.

4.85 First, basic food crops will be promoted principally to meet internal self-sufficiency and strategic reserve needs of the nation. Second, major cash crops, namely tea, coffee and horticulture will be produced mainly for export. And third, industrial raw materials will be produced primarily to feed existing and emerging industries which will also require strategic inventories to smoothen production, with some surpluses being exported after processing.

4.86 The level of reserves for dry milk powder will be determined annually by the Ministry of Agriculture, Livestock Development and Marketing and the Kenya Dairy Board. The costs of production and storage of such reserves will be borne by the Government. Production and storage will be assigned to the most cost-effective milk processor on an open tender system.

Programme to Improve Nutrition

4.87 The programmes outlined elsewhere in this paper aim at increasing food production and improving its distribution. As such, they will contribute to an improvement in the nutritional intake of the population.

4.88 However, these programmes alone are not sufficient to eradicate malnutrition completely. Recognizing this, the Government established the Food and Nutrition Planning Unit and an Inter-Ministerial co-ordinating Committee on Nutrition within the Ministry of Economic Planning and Development, which co-ordinates the activities of the various organizations and agencies involved in nutrition.

4.89 Programmes and measures undertaken to improve the nutritional status of the low income groups and those most at risk include:-

- evaluation of the cost effectiveness of the School Milk Programme and identification of measures to improve the nutritional status of children;

- expansion of the Government's food relief programme to cover the large number of rural and urban families adversely affected by food shortages;

- expansion of the national nutrition education programmes, increasing the number of nutrition teachers and enlarging the Karen College of Nutrition;

- expansion of the Nutrition Intervention Programmes as visualized in the Development Plan for the period 1989-1993;

- designing appropriate government sponsored programmes for food fortification;

- close monitoring of the quality of prepacked and processed foods by the Ministry of Health and the Ministry of Commerce and Industry;

- improved Home Economics Service of the Ministry of Agriculture, Livestock Development and Marketing laying more emphasis on nutritional education; and continued

surveys and monitoring of the nutritional status of the population.

SECTION 5

FINANCIAL IMPLICATIONS FOR SELECTED PROGRAMMES

- 5.1 The programmes outlined above have financial implications for both the private sector and the Government. The programmes with financial implications for the public sector are summarized below. Detailed cost estimates and, where appropriate, projected cash flows for each programme will be prepared as a preliminary step to implementation.

Agricultural and Livestock Inputs

- 5.2 The Government liberalized the fertilizer industry by decontrolling prices in early 1990. Any registered company with the capacity to handle and distribute fertilizer is free to import the commodity. The Government will not operate a fertilizer subsidy scheme. It is expected that supply/demand interactions working within the framework of liberalized prices for farm produce will rationalize fertilizer use. The marketing of other agricultural and livestock inputs is also liberalized. The Treasury will forgo duty on imports of fertilizers, agro-chemicals, livestock drugs, and selected agricultural machinery and equipment in an effort to keep domestic prices of these inputs low.
- 5.3 The Government will provide as a matter of national priority, allocation of foreign exchange for the importation of priority agricultural and livestock inputs, giving preference to farmers' co-operatives, farmers' companies and farmer groups for imports of inputs for their members. The Government will set aside the necessary foreign exchange for this purpose.
- 5.4 In the case of Artificial Insemination (A.I.) and animal health, the Government will continue funding programmes that will eventually either charge full-cost recovery charges or be transferred to the private sector. During the transition enhanced funding will be required to improve the services given to farmers.
- 5.5 Over the period 1993/94 to 1995/96, the Government will require to fund the five (5) per cent subsidy on imports of fertilizers and veterinary drugs.

Agricultural Research and Extension

- 5.6 The funding of crop and livestock research and extension will require to be increased substantially.

Agricultural and Livestock Credit

5.7 Upon establishing an agricultural development bank under the AFC, the government will need to inject share capital into the bank. Funds will also be required to set up the crop and Livestock Insurance facility and the Agricultural Loan Guarantee Fund. In addition, the government will need to provide finances for subsidized credit to small-scale farmers for promoting food production.

Infrastructure

5.8 The government will require to substantially increase funds allocated to the maintenance of rural and trunk roads particularly in areas of high agricultural and livestock production potential.

5.9 In order to develop irrigation potential along lakes and rivers, the government will need to share the initial costs of bringing power supply lines to those areas with the Kenya Power and Lighting Company.

Weather Monitoring

5.10 Improving the services of the Meteorological Department will require additional funding.

Marketing Information

5.11 The Ministry of Agriculture, Livestock Development and Marketing will require additional funding to support the development of a strengthened marketing information system.

Health and Nutrition Education

5.12 The Ministries of Education and Health, and the Ministry of Agriculture, Livestock Development and Marketing will need additional funding for increased health and nutrition education.

NCPB's Storage Facilities

5.13 The formal marketing system managed by the NCPB has changed substantially since the liberalisation programme of the cereal sector started. Presently, NCPB owns 104 depots with a storage capacity of 19 million bags. Under the second phase of the Cereal Sector Reform Programme, NCPB will rationalize this capacity. There are possibilities of disposal or renting out capacity that is not required by NCPB. This measure would imply reduced overheads for the Board and a corresponding reduction in the amount of subvention required from the

Development of Marketing and Storage Capacity

5.14 The government will need to set aside funds for training food commodity dealers.

The National Food Strategic Reserves

5.15 The government will have to meet the annual cost of the strategic reserves of cereals and beans by the NCPB, the storage of sugar by KNTC, and the storage of dry milk powder. Currently, the average annual operating cost per bag for all the NCPB depots is about KSh. 12 although a third of the depots have higher operational cost.

Food Security of Vulnerable Groups

5.17 Resources will be required to assist vulnerable groups obtain adequate food. The implementation of structural adjustment in the agricultural sector should include a strong social dimensions facility to assist targeted vulnerable groups to maintain or improve their access to adequate diets.

National Food and Nutrition Secretariat (NFNS)

5.18 The government will need to budget for the establishment of the NFNS within the Ministry of Planning and National Development.

Food and Agriculture Policy Analysis (FAPA)

5.19 The budget of the Ministry of Agriculture, Livestock Development and Marketing will need to be increased to support improved food and agricultural policy analysis by providing resources for improved data collection and analysis.

SECTION 6

THE DECISION-MAKING FRAMEWORK

- 6.1 One of the factors contributing to the periodic food deficits with which Kenya has been confronted since independence has been the lack of appropriate and timely decisions on producer and consumer prices and on import and export programmes to cater for deficits and surpluses. The decision-making framework in these two critical areas needs to be more clearly defined to prevent repetition of food shortages.
- 6.2 Decision-making for minimum producer prices for the main staple food commodities is centred on the Annual Agricultural Price Review. The Ministry of Agriculture, Livestock Development and Marketing is required by law to announce producer prices in advance of the crop season for all scheduled crops and commodities. In the future, this annual review will cover only those commodities for which minimum producer prices will apply. However, in order to prepare effective policy intervention strategies in the agricultural sector, careful monitoring of all agricultural commodities will be mandatory.
- 6.3 The Ministry of Agriculture, Livestock Development and Marketing will continue to prepare the basic analysis of production, processing and distribution costs and movements in international market prices as a basis for determining import and export parities.
- 6.4 Decisions on minimum producer prices will be made within the framework of the Review. In the event that there is a need for ad hoc price revisions within the year to reflect changed circumstances, such revision will follow the same review procedure.
- 6.5 Consumer prices for food commodities are no longer controlled with the exception of maize which will be abolished in 1994. The responsibility for decisions on consumer prices has been with the Ministry of Finance. The Ministry's Monopolies and Prices Commission will monitor the marketing of agricultural commodities to discourage monopoly/monopsony elements and promote competition.
- 6.6 Steps have been taken to define more clearly the reporting and decision-making procedures for the supply of the main staple foods. Overall responsibility for maintaining adequate supplies rests with the Ministry of Agriculture, Livestock

Development and Marketing. This Ministry will collect background information on the food supply situation, working in close cooperation with the Ministry of Planning and Development, the Central Bureau of Statistics and the inter-ministerial Food forecasting Committee.

- 6.7 The Permanent Secretary of the Ministry of Agriculture, Livestock Development and Marketing will continue to submit quarterly reports on the food supply situation to the Office of the President. These reports will summarize:
- The present stock position.
 - Production prospects and consumption requirements for the next 6 months.
 - Import and export programmes already scheduled.
 - Additional imports or exports required during this period, their timing and financial implications.
- 6.8 The Office of the President will continue to keep the Cabinet informed about national food supply situation and to ensure that timely decisions are taken and financial provision is made for whatever actions are required to safe-guard national food supplies.
- 6.9 Release of grain from the strategic reserve, other than in the process of normal recycling, will be authorized by the Minister for Agriculture, Livestock Development and Marketing only, and only after Government approval has been obtained.
- 6.10 Internal market movement restrictions (inter-district) will be phased out. Eventually it is envisaged the role of NCPB will be that of a buyer and seller of the last resort.

TABLE 1: PROJECTED NATIONAL FOOD REQUIREMENTS FOR THE YEAR 2000

NATIONAL FOOD	CONSUMPTION		REQUIREMENTS IN	
	ENERGY/PROTEIN	PER 100 GRAMS	PER PERSON/YEAR	RURAL CALORIES & PROTEIN
MAIZE	97.1	125.6	345	9.4
MILLET/SORGHUM	0.0	19.8	327	9.7
WHEAT	24.7	10.0	333	10.0
RICE	13.1	1.4	333	7.0
POTATOES	14.8	26.4	74	1.7
OTHER ROOTS	3.0	30.5	110	0.9
PULSES	13.8	14.2	320	22.1
SUGAR*	20.6	10.4	375	0.0
MILK**	88.6	72.1	79	3.8
BEEF	11.9	6.8	234	18.0
FAT	6.5	1.7	700	0.0
VEG	36.9	20.4	21	1.2
FISH	1.9	1.7	115	22.0

Cal. g prot.
per person
'000t per day per day

TABLE 2: PROJECTED RATES OF GROWTH REQUIRED FOR SELF-SUFFICIENCY IN FOOD BY THE YEAR 2000

MAIZE	1990		2000	
	ANNUAL PER CENT GROWTH	REQUIREMENTS	ANNUAL PER CENT GROWTH	REQUIREMENTS
MAIZE	2480*	3676	4.0	4.0
WHEAT	190	401	7.8	7.8
SORGHUM/MILLET	181	284	4.6	4.6
RICE PADDY	36	117	12.5	12.5
BEANS	256	486	6.6	6.6
POTATOES	450	737	5.1	5.1
OTHER ROOTS & TUBERS ?	?	762	5.0	5.0
SUGAR	433	660	5.2	5.2
BEEF	228	241	1.0	1.0
MILK (BILLION LTRS)	1.826	2.795	4.4	4.4

*AVERAGE OF PRODUCTION OVER 1987/88 TO 1992/93

*, **per capita consumption figures in the table appear to be underestimated.

Assumptions:

Sugar demand estimated on basis of 21.4 kg per caput per yr. Milk demand estimated on basis of 91 lt per caput per yr. Liquid milk and milk products expressed in whole milk equivalent.

Urban population will increase from 3.8 m. in 1989 at the rate of 4.8 per cent per year. Hence urban population by year 2000 will be 6.364 million compared to 24.35 million rural population.