The Evolution of Kenyan Agricultural Policy

Jeff Gow and Kevin A. Parton

Department of Agricultural Economics and Business Management
University of New England
Armidale NSW 2351

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1. Introduction

Between 1984 and 1990 a research project was conducted in semi-arid eastern Kenya with the objective of designing appropriate technologies for the sustained development of agriculture in the region. This project was funded by the Australian Centre for International Agricultural Research (ACIAR) and was carried out by the CSIRO Division of Tropical Crops and Pastures in collaboration with the Kenyan Agricultural Research Institute (KARI). The work was based in the Machakos and Kitui Districts (see Figure 1) in which smallholder farming consists largely of subsistence crop and livestock activities. The urgency of the research was emphasised by food demands periodically outstripping regional supply, and by regional population growth being among the highest in the world. To the CSIRO team the problems they analysed during the course of the project are those that much of semi-arid Africa will soon confront (McCown, Keating, Probert and Jones 1992).

After a study which integrated agronomic and socioeconomic aspects (McCown, Wafula, Muhammad, Ryan and Hargreaves 1991), a major conclusion was that improvement in land fertility was essential to sustainable development. To achieve this, the approach suggested for many farms was a fertilizer-augmented soil enrichment (FASE) strategy. This is the use of inorganic fertilizers as 'an enhancement of the current agroecological strategy based on manure and grain/legumes, which is basically sound but quantitively deficient in its ability to meet demand for soil nutrient' (McCown et al. 1992, p. 8). This strategy is not a replacement of manure and legumes by fertilizers, but the use of fertilizers in conjunction with manure and legumes. The rationale for the strategy is that the soils are low in organic matter and improvement of productivity requires inputs of carbon in addition to nutrients. Indeed, use of inorganic fertilizers alone could lead to soil acidification.

Nevertheless, the suggested approach to improving soil fertility does involve the increased use of fertilizers. Such an increase has demand and supply side implications. The demand side of the fertilizer market is under investigation in a study examining farmers' lack of adoption by Mr Lutta Muhammad (Ph.D student, Department of Agricultural Economics and Business Management, University of New England) and some aspects of the limited use of fertilizers are reported in Parton (1991).

On the supply side, government policy is particularly influential, and this is the centre of attention in the current paper. The crucial issue is whether there would be a supply constraint if farmers were to respond to efforts to get them to adopt fertilizer.

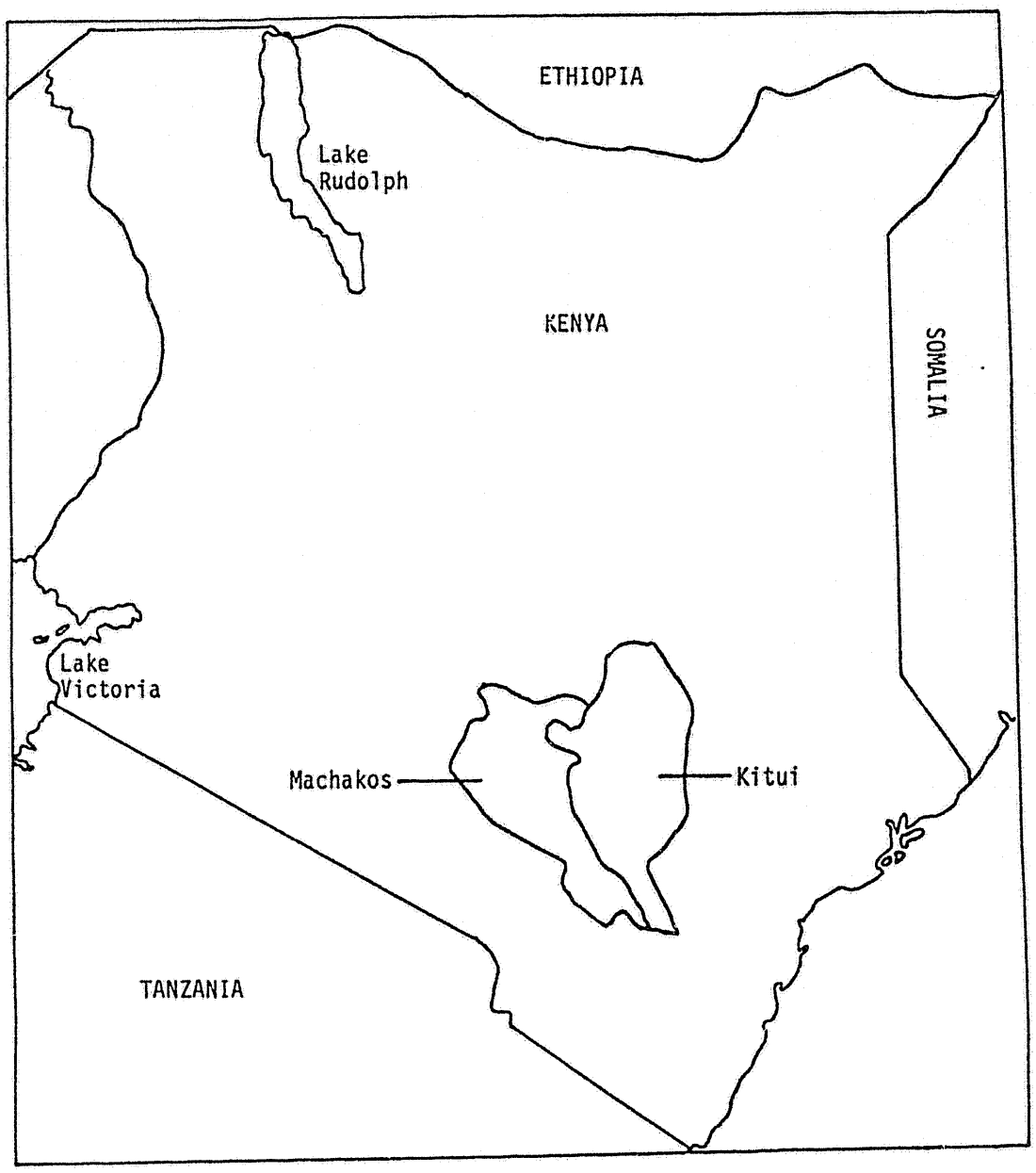

Figure 1 The locations of Machakos and Kitui

2. The Setting

The Kenyan economy is characterised by a high dependence on the agricultural sector. Agriculture's share of gross domestic product (GDP) averaged 35 per cent over the decade 1972-82. This had fallen to 31 per cent by 1988. Agricultural exports constitute the bulk of Kenya's exports, approaching 60 per cent of the total over the decade 1972-82. Agriculture also employs the bulk of the population, up to 75 per cent, either as small peasant farmers or employed wage labour in the commercial sector.

GDP growth rates were impressive with average yearly growth of 6.4 per cent during the years 1965-80 and a lower but still respectable 4.2 per cent during 1980-88. Agriculture's rate of growth was 4.9 per cent per annum during the years 1965-80 and 3.3 per cent per annum during 1980-88. The agricultural sector's performance has fluctuated over the years. However its pre-eminent position in the Kenyan economy remains unchanged.

Only about one-fifth of Kenya's land is suitable for intensive food production and this area supports about two-thirds of the country's population. The other four-fifths of the land is considered arid or semi-arid and suitable mainly for extensive (livestock) agricultural production. However, population pressure has forced the government to encourage emigration to the semi-arid areas like the Machakos and Kitui districts, and small farms and maize cropping (with livestock) now predominate there.

3. Post-Independence Agricultural Policy

3.1 Main Thrusts

The goals of Kenyan economic policy in the post-independence period were: high and growing per capita incomes equitably distributed among the population, and universal freedom from want, disease and exploitation. Kenya's first five–year development plan (1966–70) set out a program of import–substitution industrialisation to diversify the economy away from its agricultural base. The policy instruments used to encourage these aims were tariff protection, monopoly status, quotas, subsidies and the maintenance of an over–valued exchange rate. The net result of these interventions was an implicit taxing of agriculture, while the manufacturing industry received protection from competition. Sharpley (1984) noted that the 1964–72 period was marked by a decline in the domestic terms of trade between agricultural and non–agricultural commodities and by a net capital outflow from the agricultural to the non–agricultural sector. However the real income earned by agriculture increased by over 40 per

cent during the same time period. This suggests that agriculture still grew substantially despite the policy environment being unfavourable toward it.

Agricultural policy, post-independence, focused on three main areas: land transfer programs, smallholder development and promotion of cash crops by both smallholders and large-scale farmers (Jabara 1985, p. 612).

Changing the ownership structure of Kenyan agriculture which arose as a result of colonial rule was the primary target of agricultural policy. The limited land reform programme that commenced in the mid-1950s was expanded. Government devoted much of its effort towards land transfer and resettlement of smallholders on formerly European-owned mixed farms. From 1963-64 to 1968-69, three-quarters of all agricultural development expenditure went into land transfer programmes. Despite this being the main policy instrument and the majority of the agricultural budget resources flowing to it, the policy outcome was of limited success. About one-third of European farm land was made available for transfer while two-thirds, mainly corporate farms, were left untouched. By 1968, a total of 934,000 hectares of land had been transferred, with about half being settled by approximately 500,000 smallholders.

The development of smallholder agriculture was the second policy goal of the time and by 1979 out of the estimated farmed area of 6.2 million hectares, two-thirds was operated by smallholders with an average farm size of two hectares or less (Livingstone 1981).

Cash crop production for export particularly by smallholders was encouraged also. The main smallholder cash crop rapidly became tea, with the government setting up the Kenya Tea Development Authority (KTDA) to oversee the establishment and ongoing management of smallholders in the industry. The KTDA had full regulatory and financial powers and was a forerunner of other marketing boards which the government established in other agricultural industries. The KTDA provided infrastructure (roads), extension services, credit, collection, processing and marketing of tea from smallholders.

Other policy changes which took place in the immediate post-independence period included projects to encourage livestock production in arid and semi-arid areas and experimentation with integrated rural development projects.

However, the effectiveness of these agricultural policies in this period was limited in terms of their impact on output. On the whole, government policies continued to favour large farms, export crops and farming in the high potential areas (Hinderink and Sterkenburg 1987,

p. 243). Such a policy stance must have been of concern to those interested in developing the semi-arid areas.

3.2 Political Pressures

Several authors (Cox 1984, Johnston 1989, Bates 1981 and 1983) developed the theme of the elite of Kenya (politicians, government officials) having a strong self-interest in a prosperous agricultural sector. In colonial times, most Europeans were engaged in agricultural production and government policies towards agriculture were quite favourable. In independent Kenya, many of the former European farms (large scale) were acquired by the new African elite. They had a direct interest in agriculture's profitability and a direct means of influencing agricultural policies to achieve a favourable position for agriculture via the creation of institutions and the choice of economic policies. The commodity-specific agricultural policies adopted tended to support this thesis.

The main source of agitation for independence was in rural areas and farmers dominated the liberation movement. In colonial Kenya, farmer interests usually made up the majority of representatives in political institutions like the colonial parliament. These two factors explain to a significant extent the influence that farmers had upon the colonial and post-independence governments. It is unsurprising that the agricultural policies they adopted were sympathetic to the interests of farmers. It is clear that the structure and operations of the political institutions in Kenya, both before and after independence, were such as to introduce a bias in favour of farmers' interests in the making of public policy.

Agricultural policy consists of government actions that affect the incomes of farmers by influencing the prices they confront in the major markets which determine their incomes. These are the markets for agricultural outputs, the markets for farm inputs and the markets for goods in the non-farm sector.

In the markets for the output of almost all agricultural commodities, a government policy-making board or marketing board existed. In these institutions, farmer interests were usually in the majority and thus public policy was skewed towards achieving farmers' objectives (particularly higher incomes via higher prices for their outputs).

With respect to inputs, farmers interests were similarly well represented on most government instrumentalities for products which were inputs to farming in the colonial period. Land laws operated to ensure the availability of plentiful and productive land to European settlers. The land laws were similarly adjusted to achieve the land reform goals of the post-

independence government in placing many smallholders on their own small farms. Transportation facilities, in particular railways, had been provided to agricultural areas to encourage the production of export crops which were then shipped through ports which had been especially developed for this colonial trade. In post-independence Kenya, farmers interests were similarly well placed to continue the subsidies they received on transporting their inputs and outputs. The market for capital by settler farmers was similarly skewed as a result of government funds being available at subsidised interest rates for development of their farms.

However, farmers are not an homogeneous group. Smallholders particularly producing non-export crops are those who did not receive significant government support. Smallholders have traditionally been too disorganised both economically and politically to influence agricultural policy toward their interests. This is not the case for large farmers. They have large gains to be made by influencing successfully government or marketing boards policies. Similarly, they have the potential to lose if they are unsuccessful in this pursuit. The colonial period is liberally endowed with examples whereby large farmers of a commodity successfully influenced policy, in particular price policy, toward furthering their economic interests.

Large farmers had a significant influence on agricultural policy in Kenya, both before and after independence. Post-independence the number of large farms did not diminish significantly. These large farmers were mostly members of the Kenya National Farmers' Union (KNFU) which lobbied government and other organisations (mainly marketing boards) to ensure that large farmers' interests were considered. The KNFU lobbied for programs that chiefly benefitted the commodities that large-scale agriculture produce, in particular pricing policies which offerred favourable prices to farmers. They were successful in achieving policies which were favourable to the commodities with which they were mainly involved. These actions also assisted smallholders in those commodities, whilst at the same time, penalising those commodities which did not have a substantial number of large farmers.

Bates (1981) illustrated the case of coffee in the 1970s where the producer price of coffee grown on estates (large farmers) was over 90 per cent of the world price in most years. For smallholders the producer price averaged around 70 per cent of the world price. Estates were able to sell direct to the Coffee Board, whereas smallholders were forced to market their produce through a cooperative which then sold to the Board.

To an extent, the differences in political influence between large and small farms have spatial parallels between long–settled and post-independence settlement areas like Machakos and Kitui. While Soja (1968) holds the optimistic view that spatial differences in development

will dissipate over time, the evidence seems to be the contrary in Kenya. The prevailing power structure seemed to have biased post-independence policy against the newer areas and continued the spatial differences in development as in the core-periphery dichotomies of Myrdal (1957).

4. Recent Economic Performance and Policy Initiatives

4.1 Agricultural Production

In terms of growth in production of food crops and major agricultural exports the performance in Kenya has been good relative to other countries in the region (see Table 1). Furthermore, the share of smallholders in production increased between 1970 and 1985 (Lele and Agarwal 1989), and export performance was so good that Kenya's share of the world market increased for its two main export crops, coffee and tea (Lele 1989, pp. 16-17).

Despite the advances in maize production shown in Table 1 the growth in output has not been sufficient to keep pace with population growth and rising demand. As a result imports and especially food aid have grown more rapidly. In a sense these imports and food aid have been an enabling mechanism for the expansion of the export sector. Moreover, the figures for food imports and food aid shown in Table 1 fail to reveal the significant regional differences within the country. Lack of growth in food production in Eastern Kenya (including Machakos and Kitui) in circumstances of rapidly growing population has caused many rural households to become net food purchasers. At this juncture, the questions facing us were: what were the economic and policy causes of this situation? and was the supply of fertilizer either an influencing factor or influenced by these economic and policy circumstances?

When these questions are investigated, the evidence suggests that while policy has not been biased against fertilizer use by smallholders in semi-arid areas, it also has not evolved to combat the institutional framework that discourages such use.

The apparent even-handed approach to policy can be seen by examining output price policy and recent fertilizer policy.

4.2 Output Price Policy

With respect to output price policy, Kenya has had no explicit subsidies since 1977, no implicit subsidies through an overvalued exchange rate and no export taxes (Lele 1989, p. 35). Nevertheless, government intervention in pricing and marketing is high. The objectives of undertaking these actions are higher incomes and price stability. Attaining these goals via

Table 1

Growth in Production of Food Crops and Major Agricultural Exports (annual average percentage change in volume 1970-85)

	% increase
Production	
Maize	3.9
Coffee (smallholder)	6.0
Coffee (estates)	1.0
Tea (smallholder)	13.5
Tea (estates)	5.5
Exports	
Coffee	3.8
Tea	7.5
Food Imports	6.4
Food Aid	43.1

Source: Lele (1989, p. 15)

controlled prices and marketing depends upon many factors including: the structure of production, variability of supply and the existence of alternative marketing channels. However, the record of government intervention in the pricing of agricultural commodities is patchy. Government price controls have had the greatest impact upon food commodities as these are among the most regulated. The government sets official producer prices for maize, wheat, sugar, milk, beef and cotton. Prices for coffee and tea are based on world prices. The overall price policy during the Fourth Plan (1979–83) was to keep prices near to world levels, with large margins to cover marketing board costs.

Jabara (1985) calculated the trends in real agricultural producer prices over the period 1972–73 to 1982–83 (see Table 2). On the whole, producer prices for the agricultural sector rose in real terms by 10 per cent. The rates of increase in different commodity groups varied, reflecting the commodity's importance to government goals and also the degree of influence of particular producer groups. Export crop prices increased by 13 per cent overall whilst for livestock products (mainly beef and milk), real prices fell by three per cent. A comparison between the periods 1975-76 to 1979-80 and 1979-80 to 1982-83 reveals a movement in prices towards food crops and away from exports. Despite this, compared with other countries in the region that had imposed export taxes, coffee and tea prices in Kenya have been high relative to maize prices. In addition, the yield ratio between tea, coffee and maize has favoured tea and coffee. The ability of tea and coffee producers to encourage the use of research resources in their sector may have helped to increase yields. Hence, output price policy has not favoured the smallholders of Machakos and Kitui in the way that such policy has encouraged smallholders elsewhere in the region to produce more food.

4.3 Fertilizer Policy

Significant changes in fertilizer policy were introduced in 1983 Prior to this a highly inflexible import licensing system combined with a scheme of fixed prices and distributor margins had constrained expansion of fertilizer use. There was little transportation of fertilizer to the lower potential areas as the agricultural sector reacted rationally to the overall shortage by distributing fertilizer first to more profitable uses in cash crops and food crops in the higher potential areas. The operation of the fertilizer economy is demonstrated schematically in Figure 2. Fertilizer imports were used firstly on cash crops which were exported. Food crops in higher potential areas achieved good yields using some fertilizers, so that these areas were in a food surplus situation in a typical year. A marginal amount of fertilizer trickled down to the lower potential areas, like Machakos and Kitui, but this was generally insufficient to prevent them from becoming food deficit areas. The domestic food crop distribution filled such deficits by transporting maize from the surplus areas and by importing any additional requirements.

Table 2

Weighted average producer price indices for agricultural product categories in Kenya, real terms, 1975–76, 1979–80, 1982–83 (1972–73 = 100)*

Product category†	1975–76	1979–80	1982–83
Export crops	124.4	121.6	113.0
Domestic crops	106.4	105.7	112.5
Staple grains	107.0	104.8	110.9
Industrial crops	108.6	106.5	110.7
Oilseeds	99.3	140.9	101.6
Drought crops	96.9	85.3	96.4
Pulses	89.6	120.5	125.5
All crops	119.5	117.8	112.8
Livestock products	78.4	87.6	97.3
Total crop and livestock products	112.6	112.7	110.2

* Real prices are nominal output prices deflated by the index of prices paid for purchased agricultural inputs.

† Price indices weighted by shares in total marketed output in the current year.

Source: Jabara (1985, p. 620).

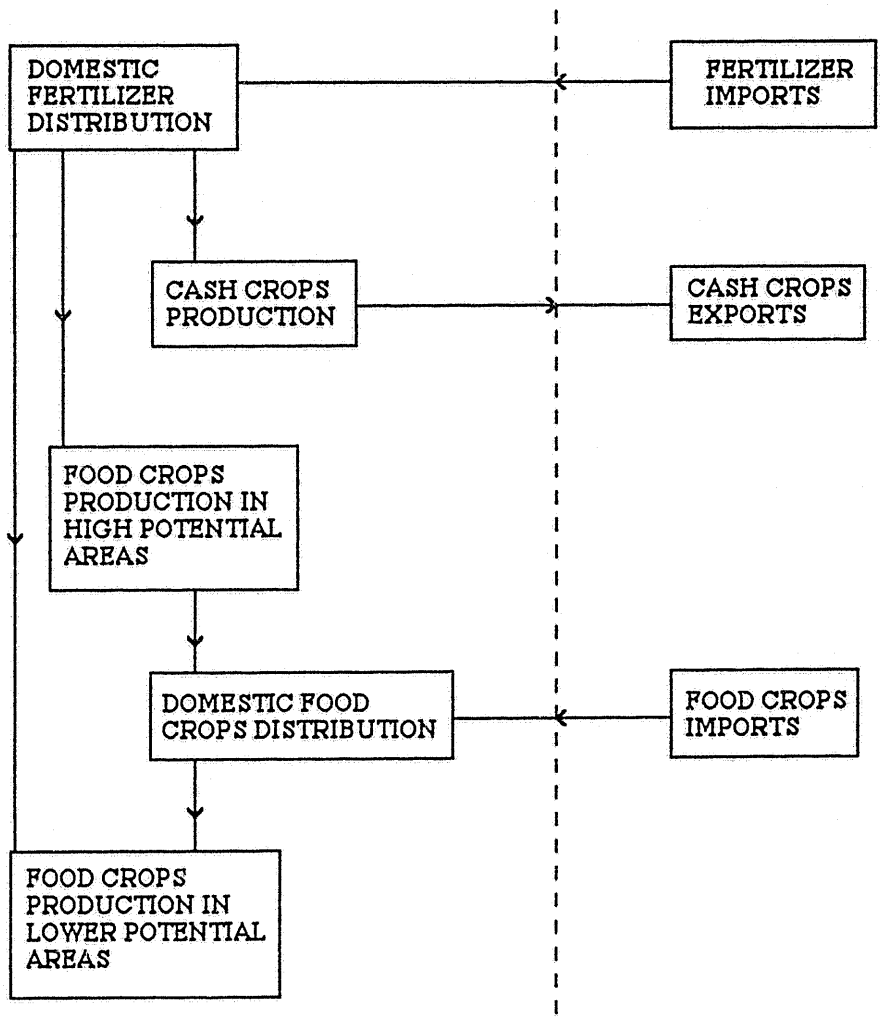

Figure 2 The fertilizer economy in Kenya

From the perspective of the balance of payments, stability was achievable as long as the foreign exchange revenue from cash crop exports was sufficient to cover net imports of fertilizer and food crops. As noted, earlier, substantial quantities of such imports were made on concessional terms, so enabling balance of payments stability to be achieved more easily.

Examining Figure 2 from another angle, it is clear that fertilizer imports and food imports are substitutes. An increased use of imported fertilizer on food crops would reduce the average food deficit and eliminate some food imports. If all these imports were made on strictly commercial terms then their relative costs and productivities would determine the appropriate import balance between fertilizer and food. However, given the concessional nature of so much of Kenya's fertilizer and food imports, it is the relative quantities which are crucial in determining the balance. Until 1983 foreign aid arrangements favoured food imports and gave little incentive to move away from the restrictive arrangements with respect to fertilizer policy.

The 1983 changes to fertilizer policy included (a) liberalizing import procedures and thereby encouraging a larger number of private importers and distributors, (b) setting margins to encourage distribution to more remote areas, and (c) bagging fertilizer in smaller quantities to encourage use by smallholders (Lele, Christiansen and Kadiresan 1989, p. 22). These measures (along with increased fertilizer aid) seem to have resulted in increased overall Kenyan use of fertilizer, from an annual average of 136,000 tonnes in 1980/81 to 1982/83 up to 227,000 tonnes in 1984/85 to 1986/87 (Amukoa 1988, p. 48). However, little change has been observed in the situation in Machakos and Kitui.

A major problem in these lower potential areas is the lack of a developed commercial infrastructure (including credit) for the distribution of fertilizer. As noted by Lele, Christiansen and Kadiresan (1989, p. 23), 'without an active and measurable goal of increasing fertilizer use among small farmers as part of a larger agricultural policy, and without expanding their access to public or cooperative institutions that promote the use of fertilizers and provide credit, there is unlikely to be significant improvement in the growth of fertilizer use'.

4.4 The Rhetoric of Recent Development Plans

The Fourth Development Plan (1979-83) emphasised smallholder development and the need for incentives for farmers to further encourage output from the sector. The Plan called for increased competition, reduced government intervention, relaxation of internal restrictions on food crop movements and development of market infrastructure, in particular grain storage facilities. Pricing policies for agricultural products were to be brought into line with world

prices and services to the sector were to be expanded, including: research, education, extension, livestock services and credit.

Also during the Fourth Plan, a National Food Policy was drafted, Cox (1984, p. 158). The overall objectives of food policy, as outlined in the paper, included:

1. maintaining a position of broad self–sufficiency in primary food commodities to avoid using scarce foreign exchange for food imports;

2. achieving a calculated degree of food supply security for each region of the country; and

3. ensuring that food distribution provides every member of the population with a nutritionally adequate diet.

The Fifth Development Plan (1984–88) continued the thrust of the policy initiatives of the Fourth Plan and the National Food Policy. Cox (1984, p. 159) claimed that the policy interventions outlined in the Fourth and Fifth Plans would provide a framework that was more than adequate to encourage agricultural development.

Again as far as the smallholders of Machakos and Kitui are concerned, the rhetoric of policy planning and reality of regional impacts of policy change seem to be divorced. While smaller bags of fertilizer are available locally there still remain supply constraints which result in it being available at the wrong times of year. Such occurrences raise doubts about substantially increasing supply should regional demand for fertilizer respond to extension efforts.

5. Conclusions

In Kenya the pressure of having one of the world's highest rates of population growth, estimated at 3.8 per cent per annum over the years 1980–88 places the role of agriculture and agricultural policy in the forefront of considerations (World Bank 1990). This population growth pressure combined with a limited availability of additional farm land for agricultural production places continuing pressure to expand agricultural output, particularly food. It also has caused migration to the more marginal semi-arid areas of interest in the present study.

The suggested introduction of new fertilizer-using practices for smallholders in Machakos and Kitui prompted an examination of the regional supply constraints on the fertilizer input. This revealed that price policy and fertilizer policy in Kenya have become less

biased against (a) food production and (b) these more marginally productive areas. However, institutional rigidities still prevail to limit the impact of policy reform in these regions. Households have limited access to credit and have not had the benefit of the strong cooperatives that are active in the higher potential areas. Profits from fertilizer sales have not encouraged private retailers to become involved in the trade. Our conclusions are in accord with Lele, Christiansen and Kadiresan (1989, p. 23) who suggest that the government should perform fertilizer transport under subsidy into regional distribution centres. Then local private entrepreneurs could complete retail activities and gain sufficient profits to become well established. In addition, credit would be an important consideration in expanding the use of fertilizer. Clearly, in this instance, there is a relationship between a recommended new technology and policy action to facilitate its introduction.

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