The KENYA INSTITUTE for PUBLIC POLICY RESEARCH and ANALYSIS

Role of Agricultural Policy Reforms in Poverty Reduction in Kenya

Introduction

The positive linkages between agricultural growth and overall economic growth in developing countries has been empirically established in development economics. Indeed, Kenya's poor growth performance in the last decade can be linked to the poor performance of agriculture. Where poverty is a substantially rural phenomenon, as is the case in Kenya, accelerated growth of agricultural production can also lead to significant reductions in poverty and income inequality. This critical role for agriculture can be traced to the sector's strong linkages with the rest of the economy. Agricultural growth, associated with strong labour-intensive linkages, has higher equity effects as opposed to growth that concentrates gains in the more affluent households and that favours capital-intensive products and imported goods and services.

Due to the importance of agriculture in economic growth, Kenya followed a development strategy that was heavily interventionist and inward looking before the mid-1980s. Heavy protection of the domestic manufacturing sector inadvertently taxed agricultural production, leading to dismal growth performance, rising poverty, inequality and unemployment. Reforms in the last decade, and those stipulated in the Economic Recovery Strategy 2003-2007, focus mainly on dismantling the policy distortions to reverse these trends.

This policy brief is based on a study on the *Role of agricultural policy reforms in poverty reduction: Implication for economic recovery strategy for wealth and employment creation*. The aim of the study is to contribute to the understanding of both macroeconomic and agricultural policy adjustments and their implications for poverty reduction and other pro-poor concerns such as food security. The study combines a historical descriptive analysis and a social accounting multiplier approach. A social accounting matrix (SAM) captures economic relationships between production activities, commodity accounts, labour, capital and income distribution among households of different social economic characteristics. A SAM multiplier analysis shows how sectoral value added accrues to various factors of production and institutions. Within this framework, it is possible to explore employment and income generating possibilities of different policy options through forward and backward linkages or multipliers. This framework is used in the Kenya context to understand the forward and backward multipliers between the various sectors of the economy and with specific focus on the agricultural sector. The multiplier analysis is based on a SAM 2001. One of the limitations is that the SAM is an update of the 1990 input-output table. While this is a major limitation of the study, the findings could inform policy in broad terms, not in the least the need to invest in a new input-output table.

Agricultural Growth Performance during the Reform Period

Output growth

Agricultural output expanded immediately after independence, averaging about 4.8 percent. This trend however reversed, recording a growth rate of 4.5 percent between 1972-1983 and 1.9 percent during the reform period (1983-2001). The post-independence growth is attributed to area expansion, subdivision of large farms and the introduction of high value crops and livestock to small-scale farmers. The decline in the second period is partly blamed on external shocks that had the overall effect of lowering export incomes and

worsening the terms of trade for Kenya. The reform period can be divided into two periods: 1983-1990, during which output growth increased from 3.2 percent per year in the early 1980s to 4.2 percent in the late 1980s. The second reform period is the 1990s during which a steady decline in growth occurred, reaching a low of negative 3 percent by 1992. A mild recovery was witnessed between 1993 and 1996, but the trend again changed and the sector has recorded negative growth rates until 2002. Although it is not possible to wholly attribute this poor performance to reforms, the apparent ineffectiveness has been blamed partly on poor sequencing and lack of synchronization of reforms with other policies. To date, the biggest challenge to achievement of the intended reform results remains the lack of a regulatory framework that allows the private sector to respond to incentives provided by the policies. This is primarily due to weak enforcement of the laws that govern the sector.

Input growth

The main inputs purchased in agricultural production in Kenya are fertilizers, pesticides, seeds and machinery. Use of purchased inputs, especially by smallholder farmers, has been low. The near subsistence nature of production and weak extension services has been blamed for the low usage of purchased inputs, especially pesticides. Terms of trade between outputs and inputs have worsened during the reform period. While the output quantities have remained almost the same since mid-1980s, input prices had increased fourfold by 1994 and have remained high ever since. The rapid increase was attributed to inflationary conditions and the weakening of the Kenyan shilling.

Employment

A major objective of reforms was to increase the use of resources for which the country has a comparative advantage. For Kenya then, reforms should have induced more labour-intensive activities such as agriculture and therefore more employment. However, growth of the agricultural labour force has been on the decline since the late 1980s and below the population growth most of the time. This may indicate out-migration from agriculture and/or disguised unemployment in the sector. This out-migration from the sector has a gender implication. It is mainly the young, and especially men, who migrate leaving agricultural production in the hands of women. It is estimated that women currently provide about 75 percent of the labour in small-scale agriculture.

However, women's constrained access to productive resources hinders their performance and consequently agricultural growth.

Impact on National Food Security

Variables that reflect on food security can be categorized into two: (i) those that directly measure shortfalls in consumption requirements, e.g. per capita food production and self-sufficiency ratio, and; (ii) those that are concerned with the potential to meet such shortfalls, e.g. changes in the ratios of food imports to agricultural exports and food imports to total exports. The latter indicators are to some extent indicative of the strength of supply response. The indicators are presented in figures 1 and 2 for the period 1980-2000.

Pre-reform period indicators show a better food security status than the post-reform period. The fact
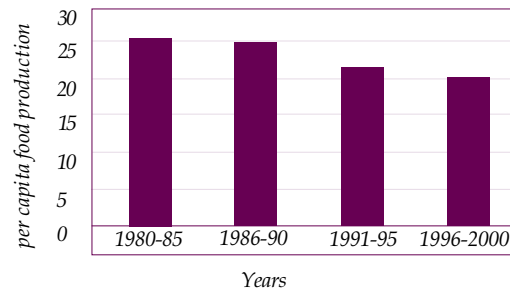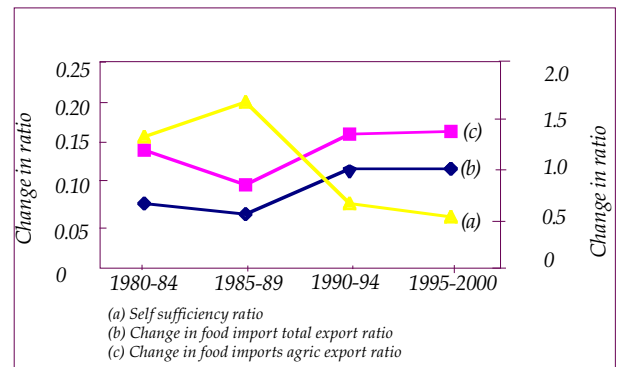

Figure 1: Food production per capita (1980-2000

Figure 2: Indicators of food security: 1980-2000

(a) Self sufficiency ratio
(b) Change in food import total export ratio
(c) Change in food imports agric export ratio

that the terms of trade seem to be deteriorating is indicative of a weak supply response in both agriculture and other export sectors. This poses a risk as far as availability of foreign exchange to meet consumption needs is concerned. The matter is made worse by the fact that foreign exchange levels may need to grow at a faster rate than a country's imports; 1.3-2 percent increase in foreign exchange is needed for a 1 percent growth in food imports.

Sectoral Multipliers	Multipliers	
	Industrial	**SAM**
Agricultural sector	**6.1**	**8.8**
Maize and other cereals	5.2	7.5
Roots, tubers, pulse and sugarcane	6.4	9.1
Fruits vegetables and cut flowers	6.4	9.1
Tea and coffee	6.3	8.8
Beef and veal, milk an dairy, other livestock	6.3	9.1
Fishing, forestry and logging	6.0	9.1
Manufacturing	**4.3**	**5.5**
Mining	4.9	6.3
Food processing	6.1	8.5
Textiles and wood	4.1	5.3
Petroleum and other chemicals	4.4	5.4
Non-metallic	4.5	5.8
Metal products, including machinery and equipment	1.5	1.7
Services	**6.6**	**9.6**
Trade	7.1	10.4
Transport and communication	5.7	8.3
Own housing	7.0	10.9
Other private services (incl. hotels, restaurants and financial services)	6.2	8.9
Public services	7.1	9.5
Effects on Households Income and Expenditure	**Backward Linkages**	**Forward Linkages** *(% income share)*
Wage labor, agricultural	9.4	7.9
Wage labor, non-agricultural	9.2	9.0
Capital, agricultural	9.3	10.9
Capital, non-agricultural	8.9	15.2
Households, rural female ultra poor	9.2	2.4 *(1)*
Households, rural female poor	9.0	1.8 *(1)*
Households, rural female non poor	8.7	5.7 *(2)*
Households, rural male ultra poor	9.0	5.0 *(2)*
Households, rural male poor	8.8	3.8 *(1)*
Households, rural male non poor	7.7	17.1 *(6)*
Households, urban female ultra poor	9.3	1.1 *(<1)*
Households, urban female poor	9.2	1.6 *(1)*
Households, urban female non poor	7.5	2.2 *(1)*
Households, urban male ultra poor	9.0	1.2 *(<1)*
Households, urban male poor	8.7	3.0 *(1)*
Households, urban male non poor	7.7	10.1 *(3)*

Table 1: Results of the Social Accounting Matrix Multiplier Analysis

Note: The difference between industry and social accounting multipliers is that the latter traces the backward and forward linkages through industry to labour and capital and then to household incomes and consumption.

Effects on Household Incomes and Expenditure

Post-reform income levels for all types of households are lower than those existing in early 1980s in real terms. Between the two Welfare Monitoring Surveys carried out after the reforms (1994 and 1997), rural incomes dropped by 40 percent. Inequality seems to have increased, with a deterioration occurring during the reform period. While in 1982 the region (Western) earning the lowest income earned 83 percent of incomes of the highest income region (Rift Valley), this proportion declined to about 63 percent in 1994. By 1997, Western Kenya only earned about 26 percent of the Rift Valley incomes.

Examination of the sources of income indicates that the contribution of farm incomes to total incomes has declined with reforms. Rising in importance is off-farm income and remittances. However, these sources have not compensated for the fall in farm incomes since household expenditures have also declined in real terms. The decline in incomes has an implication on food access since about 70 percent of the food requirements for rural households are met through the market. The poorer households seem to be more negatively affected given that they spend more of their incomes on food.

The poor performance of the agricultural sector may also have affected off-farm job opportunities because of the close linkages between rural off-farm job opportunities such as in agro-processing, manufacturing and marketing of farm inputs.

Alternative Growth Paths for the Agricultural Sector

In Kenya, agriculture and services have the highest multipliers at 8.8 and 9.6, respectively (see table above). Manufacturing has a relatively lower multiplier at 5.5. A comparison between labour and capital reveals that agricultural labour has the highest multiplier at 9.4 compared to non-agricultural capital with a multiplier of 8.9. Within agriculture, the input-output level multiplier shows that horticulture and the production of roots, tubers and sugarcane have high multipliers at 6.4 and that cereal production (including maize) has the lowest multiplier at 5.2. Tea coffee and livestock production have the same multiplier at 6.3.

However, the SAM multiplier has some interesting findings (Figures 3). The non-traditional food and export crops have larger SAM multipliers. Tubers, roots, pulses, sugarcane and horticulture have larger income effects than maize, tea and coffee. The fact that tubers and roots are mainly grown by the poorer

households and that sugarcane is mainly grown in some of the poorest regions in the country (mainly Western Kenya) indicates that policy interventions in these crops may be one of the sure pathways out of poverty. An interesting observation is that although coffee and tea have high strong backward linkages at industry level (6.3), these two crops take a fifth position when household income and consumption effect is taken into account. The linkage for forestry and fishing also provides some useful insights; although they have a low industry linkage at 6.0, the high social accounting linkage at 9.1 reflects their high potential for poverty reduction. It is also important to note the large multipliers (9.1) associated with injections in livestock activities. Rural household multipliers are generally higher than the urban ones. However, the distributional effects are in favour of the wealthier households, suggesting that livestock enterprises may generally be more capital-intensive.

Another growth path with good prospects for equity growth is food processing, which is the only manufacturing activity with an above average multiplier (see table 1). The rural household multipliers are higher than the urban ones, implying that the distribution of income benefits from value addition in food processing has a significant effect in overall economic growth. This also provides an opportunity for the country to exploit the comparative advantage of neighboring countries in production of food crops through trade. Trade activities have the second largest income effects in the whole economy. The highest income gains are in own housing, with rural households having slightly higher multipliers.

Overall, the analysis suggests that growth that focuses on production by poor female-headed households

Figure 3: Multipliers for the agricultural sector
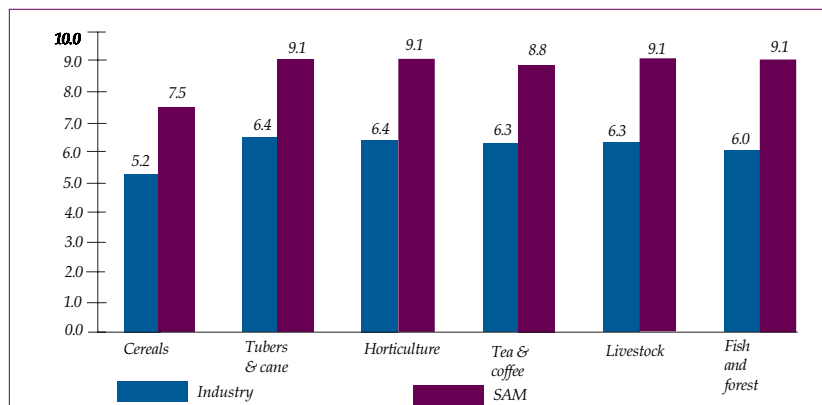
seems to have the most favourable equity impacts. Among households, rural and urban poor female-headed households have the highest backward linkages at 9.2 compared to 7.7 for urban and rural rich male-headed households. However, despite this high contribution to the economy, they absorb only 1% (4.4 units) of the generated income within the economy compared to 6% (17.1 units) absorbed by the non-poor male-headed households as shown by the forward linkages.

Conclusion

These linkages point to the need for identifying complementarities in policy interventions. They also show the need to identify those policy changes that are likely to yield highest gains for the poorer households.

The results from this study are only suggestive, given that the SAM used is based on a 1990 structure of the economy. Given that the SAM multipliers offer a gold mine for policy analysis, this study calls for a survey based SAM in order to provide more accurate policies for economic growth and poverty reduction.

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KIPPRA policy briefs are aimed at a wide dissemination of the Institute's policy research findings. The findings are expected to stimulate discussion and also build capacity in the public policy making process in Kenya.