

Agricultural technology, economic viability and poverty alleviation in Kenya

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Abstract

The major challenges facing Kenya today are poverty and unemployment. About 50% of the rural population and 30% of the urban population live below the poverty line. With 80% of the population being rural the poverty problem is overwhelming. The country has been unable to generate adequate employment and wage employment has been declining over the recent past. While in the 1970s the growth rate of employment was about 4% per annum, in the current decade, the growth rate has been about 1.9% per annum, which is below the population growth rate estimated at about 3%. The country has also witnessed declining growth in income per capita. While in the 1960s per capita income grew at 2.6% p.a. this declined to 0.4% in 1980s. Between 1990 and 95 the decline was even more dramatic at negative 0.3% (Kenya, 1997). The poverty line is defined here as the value of consumption of food and non-food items below which individuals cannot afford the recommended energy intake plus a minimum allowance for non-food consumption. The poverty line has been estimated at about US\$ 200 and 300 for rural and urban areas respectively (GoK, 1998). This translates to less than one US\$ per day. Of Kenya's total land area of 57.6 million hectares, 9.4 million or about 16% is classified as high and medium potential land for agriculture. The remaining area estimated at 84% makes up the arid and semi arid lands (ASALs). Out of the ASALs 48 million hectares, about 9 million hectares can support crop production, 15 million hectares is adequate for livestock production while the rest is dry and only useful for nomadic pastoralism. The ASAL supports about 20% of the population, 50% of livestock and 3% of current agricultural output and 7% of commercial output. ASALs have low natural fertility which are prone to compaction and vulnerable to erosion. The agriculture sector dominates the economy and contributes virtually to all the stated national goals including achievement of national and household food security, industrialization by year 2020 as well as provision of employment opportunities. Currently, agriculture accounts for about one-third of the gross domestic product, employs more than two-thirds of the labour force, accounts for almost 70% of the export earnings (excluding refined petroleum), generates the bulk of the country's food requirements and provides significant proportion of raw materials for the agricultural based industrial sector. Overall, the smallholder sub-sector contributes about 75% of the total value of agricultural output, 55% of the marketed agricultural output and provides just over 85% of the total employment in agriculture. The sector's ability to contribute effectively to the national goals hinges on identifying and implementing measures which promote high and sustainable growth rate. Mellor (1990) asserted that agricultural productivity growth is normally the major source of sustained improvements in rural welfare. Three sources of agricultural growth can be identified in Kenya. One is the expansion of cultivated area. The second is substitution or switching towards higher valued commodities. The third is intensification. The first source of agricultural growth is currently extremely limited. The cultivable land available to open up has diminished over the years with rapidly rising population estimated at about 3% per annum to the extent that the land holdings are becoming sub-optimal economic units and there is ever increasing temptation to migrate to the marginal and fragile

zone. Moreover, irrigation development which could help in increasing cultivable land has been very slow due to the seemingly high cost associated with it. Commodity substitution will contribute significantly to growth only if the input and output markets function in a way to allow the producers and the private sectors respond appropriately to the market signals. This is expected to occur if the on-going structural adjustment programmes succeed in limiting government intervention to its core functions (of public good nature) and allowing the private sector to take up the production, marketing and distribution role. Most agricultural growth will therefore come from the third source: increased output per unit land area. The realization of this growth potential will hinge on shifting rapidly from resource based to science and knowledge-based agriculture. The objective of this paper is to analyze the potential for agricultural technology to solve one of Kenya's biggest challenges, alleviation of poverty