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A Situational Analysis of Poverty in Kenya

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Abstract

Poverty is a major social and economic concern in Kenya. According to the 1997 welfare monitoring survey, more than half of Kenya's population is poor. The government, together with donors, the private sector, the civil society and other stakeholders, has prepared a Poverty Reduction Strategy Paper (PRSP) to fight poverty. That paper prioritizes projects and programmes aimed at poverty reduction in the medium term. To ascertain and monitor the impact of such programmes and projects from time to time, estimates of poverty indices and profiles at different points in time are necessary. Such estimates are easy with regular household surveys. However, such surveys require substantial resources and expertise to design and implement. Given that resources to carry out such surveys are limited, an alternative to using survey data is to estimate poverty using previous poverty profiles. We have estimated poverty indices and profiles for the year 2000 using poverty estimates based on 1994 and 1997 welfare monitoring surveys. The estimated income poverty in Kenya for 2000 is 57%.

Acknowledgements

Abbreviations

AMREF	African Medical Research Foundation
ECA	Economic Commission for Africa
FAO	Food and Agriculture Organization of the United Nations
FGT	Foster, Greer and Thorbecke
GoK	Government of Kenya
ILO	International Labour Organization
OECD	Organization for Economic Cooperation and Development
PRSP	Poverty Reduction Strategy Paper
TIAPD	Tegemeo Institute of Agricultural Policy and Development
WHO	World Health Organization
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund

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1   Introduction

Poverty is a major concern of governments all over the world, and countless poverty-alleviation programmes and campaigns have been developed over time and across regions. Yet poverty continues to be a key impediment to human development and economic progress. Despite the advances over the last five decades in social and economic well-being, disease eradication, the Green Revolution, and technology and information, a large number of people in the developing world remain desperately poor (OECD 2000).

Recent development experiences indicate that rapid and politically sustainable progress on poverty reduction has been achieved by pursuing a strategy that has the two key elements of promoting broad-based economic growth and providing basic social services to the poor (World Bank 1995).

Since independence, one of the principal goals of Kenya's development effort has been to reduce poverty. The government has pursued this through various development strategies emphasizing economic growth, employment creation and provision of basic social services.

In the first two decades after independence, Kenya's development strategy was based on the idea that poverty would be alleviated through rapid economic growth, as the poor would also benefit from sustained growth. However, poverty reduction was not realized even when the country was experiencing strong economic growth in the 1960s and 1970s. As a result, the growth-led poverty-reduction approach has been criticized on the grounds that it ignores the non-income aspects of poverty. In a recent participatory poverty assessment study (AMREF 1998a), some Kenyan communities claimed that neither their district authorities nor the local governments had initiated effective poverty-alleviation measures. The communities attributed the lack of such measures to the failure by the administration to involve them in the development process.

In many countries, Kenya included, the consensus in development is that the beneficiaries of anti-poverty programmes should be involved in the design and implementation of such programmes. The poor, who are the potential beneficiaries of these programmes, have valuable contributions to make in the design of these programmes. The poor can provide the data and detailed insights into the causes, nature and extent of poverty, as well as on what can be done to effectively tackle it.

2   Defining Poverty and Poverty Measures

2.1   Definition of poverty

Despite years of effort in fighting poverty, misconceptions remain about the poor, why they are poor and what is needed to help them lift themselves out of poverty. Poverty is a multidimensional fact of life (World Bank 2000a), and it manifests itself in various forms. Hence, no uniform standard is available for measuring it, even though it is widely viewed as the lack of sufficient income. Some groups in the population often face a combination of the predicaments associated with poverty—low income, illiteracy, premature death, early marriage, large families, malnutrition, and illness and injury—which locks them into unacceptably low standards of living.

Poverty may be defined in absolute or relative terms (GoK 1998a). Absolute poverty is a state where one cannot raise the income required to meet the expenditure for purchasing a specified bundle of basic requirements. Relative poverty is when one cannot purchase a bundle of basic needs available to a reference social group, such as people within a median income level.

Various reports (GoK 1997, 2000a) define poverty in Kenya in the absolute sense—as a situation where individuals cannot raise the

income required to meet a given level of basic needs, usually over a period of one month. This is the definition adopted in this paper.

To determine absolute poverty, an absolute poverty line is needed, that is, an income level at which an individual just meets the cost of a specified bundle of basic needs. The critical role of a poverty line is to identify who the poor are in a society. Mwabu et al. (2000) review poverty and construct poverty lines in the Kenyan context.

2.2   Poverty measures

A poverty measure is an index that shows the magnitude of poverty in a society. In the literature, a poverty measure is used as an aggregate indicator of the income dimension of poverty. In this paper, we use a money metric measure of poverty. To form such a measure, an aggregation formula is required that sums up the income dimensions of poverty for a given population (GoK 1997; Mwabu et al. 2000). One poverty measure that has been found manageable in presenting information on the poor in an operationally convenient manner is the FGT (Foster, Greer and Thorbecke) measure developed by Foster et al. (1984). This measure is used to quantify the three well-known elements of poverty: the level, depth and severity (also known, respectively, as incidence, inequality and intensity) of poverty (Jenkins and Lambert 1997). The FGT formula that is normally used to measure overall income poverty is shown in equation (1).

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{q}\left(1-\frac{y_i}{z}\right)^\alpha \qquad\qquad (1)$$

where

P_α is a measure of absolute poverty, including food poverty,

y_i is the total expenditure of household i, expressed in per adult equivalent (i = 1…N),

z is the poverty line, expressed in per adult equivalent,

N is the total number of households,

q is the total number of poor households, and

α is the FGT parameter, which may be interpreted as a measure of poverty aversion, $\alpha \geq 0$.

2.2.1   FGT measures explained

Headcount ratio ($P_\alpha = 0$ in equation (1))

The headcount ratio is the most popular of the FGT measures. It is the ratio of the number of poor individuals to the total population. This ratio, however, has some shortcomings. First, it does not show how far below the poverty line the poor are; that is, it ignores the inequality among the poor. Second, it forces the overall poverty index to remain constant even when the welfare of the poor has improved or worsened. Third, with this index, an income transfer from an extremely poor person to a person just below the poverty line (enabling them to cross the line) would show a reduction in poverty despite the decline in the income of the extremely poor. (Poverty declines here because, for the same population, there are fewer people below the poverty line. But the poverty gap widens).

Poverty gap ($P_\alpha = 1$ in equation (1))

This measures the shortfall of the average income of the poor relative to the poverty line. Generally, it can be used to estimate the resources that would bring the expenditure of every poor person up to the poverty line, thereby eliminating absolute poverty. The main weakness of the poverty gap is that when it is used to assess welfare, it does not differentiate the degree of inequality among the poor.

Poverty severity ($P_\alpha = 2$ in equation (1))

This is a measure of the severity of poverty among the poor. Poverty severity is measured by the square of the poverty gap, and it increases more than proportionately with the poverty gap. For example, if a

person is Ksh 10 below the poverty line, their associated poverty severity is indicated by an index of 100. On the other hand, if a person is Ksh 20 below the poverty line, the attendant poverty severity index is 400. In this case, although the poverty gap increases twofold (from Ksh 10 to Ksh 20), the poverty severity increases fourfold (from 100 to 400), indicating that people with large poverty gaps suffer more from poverty than those whose incomes are just a few shillings below the poverty line. The poverty severity index as measured by $P_\alpha = 2$ is larger the greater the poverty gap, which, as one would expect, indicates that poverty is severest among the very poor.

Elaboration on FGT poverty measures

From equation (1), for $y_i = z$, P_α is zero; that is, there are no poor people in the population. Moreover, as the FGT parameter approaches infinity, so does the poverty measure Pα. This implies that the poorest household wholly accounts for the magnitude of poverty in the population. In that case, the poorest person in the society would be the focus of poverty-eradication effort. And if $y_i > z$, P_α again is zero, because, by definition, there is no poverty when household income is above the poverty line.

3   Poverty and Poverty Lines

If poverty lines are available, the FGT indices in equation (1) can be used to measure food absolute poverty and overall absolute poverty. We start by considering food poverty and food poverty lines. Food poverty is an indicator of the inability of a household to satisfy its basic food requirements. To identify the food poor, a food poverty line is needed. This line indicates the income level below which people cannot meet their minimum basic food requirements. The food poverty line for Kenya is the cost of consuming 2250 Kcalories per day per adult, a figure based on the recommendations of the Food and Agriculture Organization of the United Nations (FAO) and the

World Health Organization (WHO) on food consumption for specific age groups (GoK 1998b). In 1997, the cost of consuming 2250 Kcalories per person per day was calculated as the equivalent of Ksh 927 per adult per month in rural areas, and Ksh 1254 in urban areas. In 1994, the food poverty line was Ksh 702.99 for rural areas and Ksh 874.72 for urban areas (GoK 2000a). The headcount index for food poverty, for example, is the number of people whose food expenditure is below the food poverty line, divided by the total population.

The headcount index for absolute poverty indicates a household's inability to meet all its basic (food plus non-food) requirements. Summing the food expenditure required for food energy intake of 2250 Kcalories per day per person and the non-food expenditure allowance gives the overall absolute poverty line. The non-food component is usually taken as the mean of non-food household expenditure for households within a particular neighbourhood of the food poverty line. This neighbourhood is typically defined as the distribution of expenditure encompassing households 20% below the poverty line and 15% above it. In 1997, the overall absolute poverty line was estimated as Ksh 1239 per month per adult in rural Kenya and Ksh 2648 in the urban area. In 1994, these figures were Ksh 978.27 and Ksh 1489.60 for rural in urban areas, respectively (GoK 2000a).

A third and valuable poverty concept is 'hardcore poverty', which is an indicator of the inability of a household to meet its basic food needs even when all income is spent on food. To measure this, a hardcore poverty line is required. In 1997, this line was established at Ksh 927 per month per adult in rural areas and Ksh 1254 in urban areas (GoK 2000a). Anti-poverty programmes are usually targeted at the hardcore poor, since, as the poverty gap in equation (1) shows, they suffer the most from poverty.

4 Kenyan Poverty in a Comparative Perspective

Figure 1 shows poverty in Kenya relative to other African countries. Among the nine countries shown, Kenya is the fifth poorest when the headcount index is used as the poverty measure. However, when the poverty gap is used, Kenya emerges as the fourth poorest, with Zambia the poorest. The reason for the difference in ranking is that income distribution in Kenya is highly unequal, nearly the same as for South Africa. Thus, both per capita income (which determines the purchasing power of households) and the pattern of income distribution (which determines how the purchasing power is distributed among households) are important determinants of poverty. Figure 1 suggests that for countries to effectively attack poverty, they should both promote growth (to enable citizens to cross the poverty line from below) and undertake income redistribution measures (to enable all people to benefit from the growth process).

Figure 1 shows great variation in poverty measures in Africa. Egypt and Ghana had lowest poverty indices in the continent.
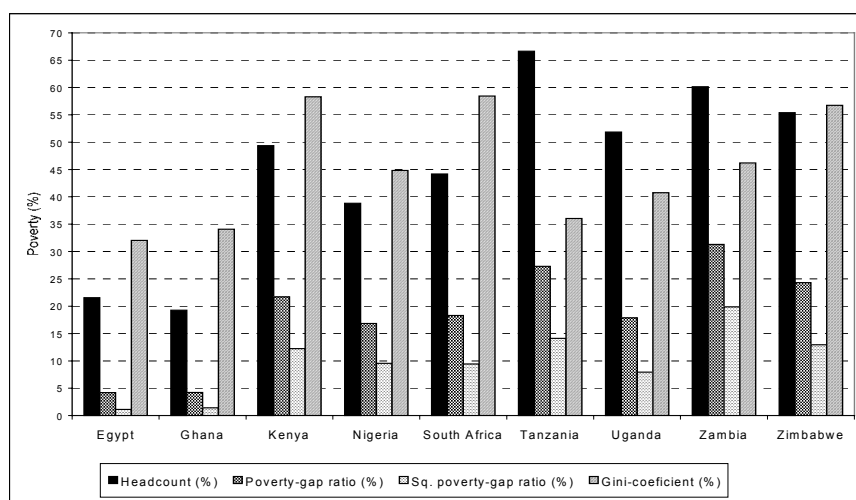
Figure 1. Poverty in a sample of African countries.

5 Proximate Indicators of Poverty: Characteristics of the Poor

5.1 Definition of poverty indicators and characteristics

As opposed to FGT indices, which are precise measures of income poverty, proximate indicators of poverty are the factors associated with poverty. They are 'proximate' in the sense that they are contemporaneous with poverty, that is, they are found together with poverty. They are the immediate determinants or immediate consequences of poverty. Proximate determinants of poverty are commonly known in the literature as the 'characteristics' of the poor.

The bulk of the poor in Africa live in rural areas. In Kenya, two-thirds of the poor live in high- and medium-potential agricultural areas in the central and western regions of the country. The arid lands, which cover 60% of the country, are home to 1 million nomads, about 5% of the country's population, and nearly all of them are poor (World Bank 1995).

Poor households are characterized by insufficient food, perpetual hunger, and heavy reliance on handouts. According to a participatory poverty assessment study in Tanzania (World Bank 1997), wealth is associated with the ability to meet basic needs, particularly food. In that study, poverty was associated with skipping meals, cutting meals to one or two per day, involuntarily changing diets, sending children to eat at neighbours' homes, and children performing poorly in schools, as hunger makes them skip classes and affects their attention in class.

5.2 Demographics

Knowledge of demographic characteristics of households and families is useful in policy and programme formulation both in the economic

and social fields. Such characteristics are useful in planning education, health and housing programmes. Overall, on average, the poor have larger households than the non-poor. According to the 1994 welfare monitoring survey (GoK 1998a), the average household size for the poor was 6.4 members, compared with 4.6 members for the non-poor. Large families dilute family resources and divert resources from long-term investment. In a participatory poverty assessment in Makueni District (AMREF 1998b), lack of family planning awareness was identified as the determinant of large families and poverty, as large families tend to devote a disproportionately large share of their budget on food, leaving little for education and other investments.

Rapid population growth is generally viewed as one of the main causes of deterioration in living standards. The total fertility rate is the number of children a woman is expected to have in her lifetime. In 1994, poor women had a significantly higher fertility rate of 6.6 children than non-poor women, whose rate was 6.1. The data show also that rural women, irrespective of whether they were poor or not, had a higher fertility rate than urban women.

The 1997 welfare monitoring survey (GoK 2000b) found that female-headed households were poorer than male-headed ones. In the rural areas, 31.2% of the poor households were female headed, while in urban areas this was 25.5%. The respective percentages for males were 17.3% and 29.8%.

5.3 Household income and expenditure

Income and expenditure are very important variables in the analysis of poverty. In a participatory poverty-assessment exercise in Kisumu District (AMREF 1998c), people defined poverty as the lack of income and the inability to meet basic needs.

5.3.1 Income

Wage employment is a major source of income in urban areas, while livestock and crops are the main income sources in rural areas. Even

in rural areas, income from wages is important in enabling households to avoid poverty. In rural Kenya, the non-poor derive a large share of their income from cash crops (GoK 2000b). In contrast, subsistence farmers are among the poorest and most vulnerable groups. In Tanzania, people whose main source of income is farm produce are five times more likely to be poor than are wage earners (World Bank 1997).

5.3.2 Expenditure

Being poor means devoting insufficient resources to consumption. The results of the 1994 welfare monitoring survey (GoK 1998a) show that the poor spend a larger proportion of their expenditure on food (71%) than do the non-poor (59%). This is in line with Engel's law, which states that relative to the non-poor, the poor spend a higher proportion of their income on food. Makueni District with 70% of its population as food poor was the poorest district in 1997, followed by Machakos, Kitui, Taita-Taveta, Kilifi, Bomet, Nyamira, Homa Bay, Busia and West Pokot. Central Province had the lowest percentage of food-poor people (33%), while Eastern Province had the highest prevalence of food poverty (60%), followed by North Eastern Province (57%).

5.3.3 Health

Access to health care has long been considered as pivotal in helping people acquire core capabilities that permit them to escape poverty. Poor health is seen as a cause of poverty. Furthermore, poverty perpetuates ill health, because the poor, compared with the non-poor, are less likely to report health problems and are less likely to seek treatment in the event of illness.

The poor have few sources of basic health care. Public health institutions in Kenya are characterized by long queues of patients and are generally inaccessible by the poor. There is anecdotal evidence that, in most cases, patients in government health facilities provide

stationery for prescriptions, have to purchase drugs and syringes, and are required to make 'unofficial' payments to medical personnel.

The time taken to reach a health facility is considered an important indicator of accessibility to health services. The 1997 welfare monitoring survey found that most poor households in rural areas took over one hour to reach the nearest health facility. In urban areas, this time was between 10 and 30 minutes. The first destination for the sick poor in rural areas was a public dispensary (26.7%), a drug store or pharmacy (23.2%), or a private doctor (20.8%). The majority of the non-poor use private sources of medical care (51.4%).

Access to health services by the poor—meaning availability, affordability and physical accessibility of drugs and consultation services—has been limited owing to factors ranging from cost sharing to long distances to health facilities. Cost sharing in health services has increased the cost of health care, making it unaffordable to the poor. In Makueni District, for example, essential medicines and drugs are generally not available in local clinics. The poor consider health care in private clinics and hospitals as too expensive (AMREF 1998b). The 1997 welfare monitoring survey found that only 35.6% of the children born to poor households were delivered at health facilities, compared with 52.3% of children born in non-poor households. Malnutrition is higher in the poor than in non-poor households, as are stunting, wasting and weight deficiency among children.

5.3.4   Education

Education is considered as a vehicle for poverty reduction. Mwabu et al. (2000) show that poverty is highest among people without any schooling. According to their study, there was virtually no poverty among households headed by university graduates. However, the precise mechanism through which education reduces poverty is not well known. Although education increases the chance of escaping poverty, it is not a guarantee in avoiding poverty altogether. In the 1997 welfare monitoring survey, nearly two thirds of the urban poor had attained secondary-level education, and 63.1% of the poor had

reached primary-level education, the highest educational level for the rural poor (GoK 2000b; also see appendix 5). The survey also found that 22.7% of children from the non-poor households advanced to secondary school, compared with 11% of children from poor families. However, there appeared to be no difference between enrolment rates in primary school for the poor and the non-poor, but there was a large disparity in secondary school enrolment by poverty status, where the non-poor reported a gross enrolment rate of 30.8%, which was nearly double the 15.9% rate for the poor (GoK 2000b; also see appendix 5).

Increasing poverty and escalating school costs have increased school dropout rates. According to UNICEF (1995), when food gets scarce, parents pull children out of school to conserve their energy and to save on school-related expenses. There is anecdotal evidence that some parents marry off their daughters early for dowries to enable the rest of the children to continue schooling. There are high repetition rates among the poor, especially in standard 8, as most of them cannot afford secondary school fees. In some cases, children either have to repeat standard 8 or drop out of school even if they have passed the national examinations well enough to advance to secondary school. Thus, many poor people are unable to educate their children beyond the primary school level. The poor also tend to send their children to inexpensive, ill-equipped schools. A poverty assessment in Kenya (World Bank 1995) found that at the primary school level the bottom expenditure decile had a net school enrolment of 63%, compared with 76% for the top decile, and at the secondary school level, the bottom decile had a net enrolment of 2%, compared with about 20% for the top decile.

A poverty-assessment exercise in Kilifi District (TIAPD 1999) found that most people in the low-income group attained only lower primary education and, consequently, their employment opportunities were limited. This group had the highest percentage of unemployed youth. People in the high-income group, constituting 17% of the households, had attained the highest educational levels.

5.3.5 Water and sanitation

According to the 1997 welfare monitoring survey, rivers, lakes and ponds were the major sources of drinking water for the poor in most of districts. Access to safe water and safe sanitation varies by poverty status and locality. During the dry seasons, 43% of the poor households and 53% of the non-poor households were reported as using water from protected sources. Two thirds of the rural poor had no access to safe drinking water. Sanitation and water disposal services are scarce in most cases for the poor in both rural and urban areas. According to the 1997 welfare monitoring survey, 58.3% of the non-poor households and 72.2% of the poor households had no access to sanitary facilities.

5.3.6 Agricultural production

On average, the non-poor cultivate more land (4.1 acres) than the poor (3.8 acres). Moreover, the yield per acre for the non-poor is considerably higher than that of the poor, owing to the differences between the two groups in accessing fertilizers, quality land, credit, irrigation and other agricultural inputs. In 1997, the poor spent on average a third (Ksh 1611.30) of what the non-poor did (Ksh 4794.60) on agricultural inputs. On average, the non-poor households own more cattle, sheep and goats than do the poor (GoK 2000c). The 1994 welfare survey found that the non-poor earned more than two and half times the money the poor did from cash crops, and nearly one and half times more from livestock products.

5.3.7 Household amenities

The type of cooking fuel a given household uses is an important indicator of its standard of living. Using electricity instead of firewood, for instance, saves time that can be spent on other productive activities. The rural poor depend overwhelmingly on collected firewood, whereas the urban poor have access to both charcoal and paraffin.

The 1994 welfare survey found that in rural areas, 97.5% of the poor and 85.4% of the non-poor used firewood for cooking. A majority of the rural poor (92.4%) used paraffin for lighting, compared with 83.7% among the non-poor. The poor had fewer consumer durables such as radios, bicycles, cemented walls and iron sheet roofs.

5.4   Environment and poverty

The most pressing environmental health problems worldwide today in terms of their role in causing death and illness, are those associated with poor households and communities. In rural areas and in the peri-urban slums of the developing world, inadequate shelter, overcrowding, inadequate safe water and sanitation, contaminated food, and indoor pollution are by far the greatest environmental threats to human health (Dasgupta and Karl-Goran 1993). According to WHO and the World Bank, environmental improvements at the household and community levels would make the greatest difference for global health. Specifically, the World Bank has calculated that improvements in the local environmental conditions facing the poor could lower the incidence of major killer diseases by up to 40% (Eckholm 1976).

By targeting policies that help to reduce environmental threats that contribute to both ill health and poverty, it is possible to produce good health faster than income growth would do on its own. Improving living conditions might itself help to reduce poverty. This means that removing the environmental hazards that make people sick could keep people productive, which would raise their incomes. Continued environmental deterioration is a source of continued impoverishment. Poor people depend on natural resources, especially common property resources, for their livelihoods, and are more likely than the better off to live in vulnerable areas. Poor people suffer most from deterioration in the environment, because of the threat to their livelihoods and the aggravation of health risks by pollution.

5.5   Insecurity and poverty

Poverty encompasses more than inadequate consumption, lack of education and poor health. It also means dreading the future and knowing that a crisis might descend any time that one might not cope with (World Bank 2000a). Such risk and insecurity are a part of the life of poor people, and today's poverty, especially in the developing world, is a main cause of insecurity in everyday life. Poor people are often the most insecure in the society, because they are the most exposed to a wide array of risks that make them vulnerable to income shocks and losses of social welfare benefits. Insecurity among the poor manifests itself in forms such as illness and injury, crime and domestic violence, the problems associated with old age, harvest failure, fluctuations in food prices and low demand for labour (World Bank 2000a).

5.6   Corruption and poverty

The destructive nature of corruption is not in dispute. Corruption widens the already yawning gap between the rich and the poor in many countries. Corruption in government increases poverty both directly and indirectly. It diverts resources to rich people who can afford to pay bribes and away from the poor people who cannot afford to do so. It weakens the government and lessens its ability to fight poverty. It reduces tax revenues and, thus, resources available for public services. More generally, corruption eats away at the fabric of public life, leading to increased lawlessness and undermining social and political stability (UNDP 1997).

Whilst corruption must be confronted at all levels, the priority focus of the Poverty Eradication Strategy Paper must be to close those windows of opportunity for exploitation of the poor by petty and not-so-petty bureaucrats at the local level. It is here that the ordinary poor and uneducated men and women first come into contact with the machinery of the government. It is here that they are confronted with

the reality that the services to which they are entitled under the law as citizens are denied them unless they bribe the bureaucrats.

5.7   Women and poverty

Even though since independence the Government of Kenya has devoted enormous resources to alleviate poverty, poverty remains widespread in the country, afflicting proportionately more women than men. One of the significant trends in post-independence Kenya has been the increase in poverty of women. The gender disparities in sharing economic power are a major factor in poverty among women. Migration and consequent changes in family structures have placed additional burdens on women, especially those with many dependants.

Gender is an essential concept in the analysis and eradication of poverty. The causes and outcomes of poverty are gender specific, yet traditional conceptualization of poverty does not capture this. Thus, policies and programmes that ignore gender aspects of poverty cannot succeed in improving the lives of poor women and their families. Poverty in women is linked to unequal access to and distribution of resources, a lack of control over productive resources and limited participation in political and economic institutions.

Women more than men have been affected by the impact of adjustments in social service programmes and the labour market and the informalization of work (Beneria and Bisnath 1996). Poor women's relatively low entitlements, such as their restricted access to land ownership, credit and other productive resources, and their limited capabilities resulting from illiteracy and low education levels, are well-documented determinants of feminization of poverty (see Mwabu et al. 2000). Social and cultural expectations and norms confine women to unpaid household work (linked to their reproductive role) and restrict their participation in paid production.

It is critical that poverty eradication strategies not only transfer productive resources to the poorest of the poor and increase resources for the poor but also include gender aspects in the

formulation of appropriate economic, political and social policies. UNDP (1995) estimated that 1.3 billion people in the developing world were poor, with women representing approximately 70% of this number. Yet, as a group, women work longer hours than men and contribute more in terms of social production. Poverty as experienced by women can be linked to gender-specific needs, which could be biological, such as those related to health, or could result from the structure and nature of relationships between women and men.

5.8   Governance and poverty

Good governance has been cited as one of the critical building blocks in fighting poverty. UNDP (2000) recommends that governments strengthen their countries' capacity for effective governance as a necessary prerequisite for reducing poverty. Poverty cannot be eradicated without a system of governance that promotes, supports and sustains human development. Good governance ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in making decisions over the allocation of national resources (UNDP 2000). In short, good governance is characterized by participation, transparency, accountability, the rule of law, effective-ness, and equity.

Developing the capacity for good governance is a prerequisite for the sustainability of poverty-eradication efforts in any country. A report by the World Bank singled out bad governance—not the lack of financial resources—as the main reason the world's poorest countries are still languishing in poverty. The report called for governments to develop national anti-poverty programmes that tackled an entire range of related issues not just the problem of how to increase incomes (World Bank 2000a).

6 Poverty Profiles and Poverty Indicators

Combining information on poverty measures with that on characteristics of the poor gives a poverty profile for a given population. A poverty profile shows how a given poverty measure (headcount ratio, poverty gap, or poverty severity) changes as a characteristic associated with poverty varies. For example, a poverty profile might show how poverty indices vary by type of residence (urban versus rural), gender (women versus men), marital status, or level of education. A poverty profile links a poverty indicator to a poverty measure. It results from attaching specific measures of poverty to characteristics that describe the poor, such as illiteracy and lack of safe drinking water. Thus, a poverty profile is the variation in a poverty measure across different indicators (for example, region or race) or over different values of the same indicator (for example, age or income). It should be mentioned that a poverty indicator is also a welfare indicator. For example, low education level is a poverty indicator, whereas high education level is a welfare indicator. Thus, a poverty indicator is defined up to a certain threshold point.

7 Poverty Determinants

A poverty indicator is considered a poverty determinant when it is viewed not as an index of the level of poverty but as the cause of the variation in poverty. For example, educational attainment is considered as determinant of poverty when it is taken to be a reason for poverty or wealth. In contrast to a poverty indicator, which is defined up to some cut-off point, a poverty determinant is defined over the entire range of its values. For example, in analysing the effect of education on poverty, all levels of educational attainment are relevant.

This section of the paper looks at a few of the key determinants of poverty in Kenya.

7.1   National income

Kenya's gross domestic product (GDP) attained a growth rate of –0.3% in 2000, down from 1.4% in 1999 (see table 1). This implies that per capita growth continued to fall, and poverty too must have risen over that period. The slowdown in activity was reflected in most key sectors of the economy and was attributed to drought, poor infrastructure, inefficient telecommunications services, mismanagement of farmers' institutions and a general feeling of insecurity in the country. Agricultural growth fell to –2.4%, down from 1.2% in 1999, with a significant fall in the production of tea, wheat, sugar cane and maize. Tea production declined by 5.0%, but the total area under the crop increased by 1.5%. Export earnings from the horticultural subsector also declined by 2.1%. The slowdown in agriculture was attributed to prolonged drought. Poor infrastructure, electricity rationing and the high cost of farm inputs also adversely affected production in this sector. The decline in growth and agriculture most likely had a negative impact on food production and, thereby, poverty. Growth in the agricultural sector is expected to remain weak, because the short rains of October–November 2000 were poor.

Table 1. Sectoral and overall growth rates, 1994–2000

Sector	1994	1995	1996	1997	1998	1999	2000
Agriculture	2.8	4.8	4.5	1.2	1.6	1.2	–2.4
Manufacturing	1.9	3.9	3.6	1.9	1.4	1.0	–1.5
Building and construction	1.3	2.7	2.8	2.3	1.3	0.9	–1.5
Trade, restaurants and hotels	6.1	8.6	8.0	4.0	2.3	2.0	1.0
Transport, storage and communication	3.0	4.2	4.0	2.0	1.2	1.4	2.0
Finance, real estate and business	6.1	6.9	7.1	5.3	3.2	2.0	0.4
Government services	1.5	1.8	1.6	1.1	0.8	0.7	0.7
GDP	3.0	4.8	4.6	2.4	1.8	1.4	–0.3

Source: Economic Survey (various issues).

Manufacturing, the second most important sector in terms of contribution to national income, continued to perform poorly as a result of intense competition, electricity rationing, poor infrastructure, the high cost of raw materials and the low aggregate demand in the economy. The sector recorded about 1% growth in 1999, but this declined to –1.5% in 2000. Building construction contracted by –1.5% in 2001, compared with an expansion of 0.9% in 1999. This was partly due to increased fuel and electricity costs. Inadequate rainfall during the short rains of 2000 had a negative impact on electricity supply, which, in turn, effected growth in manufacturing.

The services sector also experienced weak growth. The trade, and restaurant and hotel subsectors grew by 1% in 2000, compared with 2% in 1999. Growth in the tourism sector declined in 2000 with tourist arrivals increasing by 6.93%, compared with 8.39% in 1999. In absolute terms, the country received 67,200 more tourists in 2000. Tourism earnings declined by 8.3%, from Ksh 21,367 million in 1999 to Ksh 19,593 million in 2000.

The transport and communication sector grew by 2%, compared with 1.4% in 1999. This resulted from the ongoing rehabilitation of roads and port facilities and the increased operations related to the distribution of relief food. New investments in telecommunication are likely to enhance growth in this sector.

The financial sector grew by 0.4% in 2000, down from 2% in 1999. The decline in growth was attributed to the large stocks of non-performing loans associated with imprudent lending by some banking institution, and the poor business environment that led to high default rates. Most public financial institutions recorded huge losses, and the private institutions realized lower profits in 2000 than in 1999. Other losses in the sector resulted from the high costs of restructuring and investment in modern technology and payment of large insurance claims. Government services expanded by 0.7% in 2000, which is the rate achieved in 1999.

7.2   Income distribution

High degrees of inequality in income distribution can have a negative effect on growth and increase poverty. A study by Person and Tabellini (1989) found a strong negative relationship between initial income inequality and future growth and poverty reduction in both developing and developed countries. Kenya has the highest degree of income distribution inequality among the low-income countries in the world and the fourth highest world overall (World Bank 1997). The estimated Gini coefficient for Kenya was 0.57 in 1997, which was the highest among the 22 poorest countries in the world, and only lower than those of Guatemala, South Africa and Brazil. Between the early 1980s and the 1990s, income inequality increased in all rural districts of Kenya (Mukui 1993). Kenya has no specific policies to tackle this problem, and this is bound to be a major obstacle to the country's growth and poverty-reduction goals. Reducing income inequality is important because it can benefit the poor both immediately and in the long term through facilitating economic growth. Inequality could arise from unequal ownership of the means of production (land and capital) and unequal access to economic and social goods and services.

7.3   Employment

The low levels of economic activity in 2000 had a significant impact on the labour market. Only 8700 new jobs were created in 1999 in the formal sector. Employment grew by 2.4% in the private sector, while it declined by 2.1% in the public sector (see GoK 2000e). Employment continues to grow slower in manufacturing than in other sectors, such as community, social and personal services and trade, restaurant and hotel industries. The decline in public sector employment is attributed to the ongoing public sector reform programme to downsize the civil service. The second retrenchment programme was launched in 2000 aiming at retrenching some 48,000 civil servants, about 25,000 of whom were retrenched at the end of that year. The unemployment situation is likely to worsen in the

future as more civil servants are retrenched, and this is likely to increase poverty among those losing jobs. Employment in the informal sector expanded by 11.5% in 1999, creating 385,000 jobs.

7.4 Wages and earnings

On the average, the wage level is lower in the informal than in the formal sector. The increasing share of informal sector employment is likely to reduce earnings in the sector. One of the early evaluations of poverty in Kenya (see ILO 1972) attributed the then rising poverty levels to low incomes of the majority of the people, associated with low wages, low return on self- and family employment, unemployment and low productivity of the labour force.

7.5 Other factors

Poverty has many facets and, therefore, many causes. Participatory assessment exercises recognize low income, lack of assets and exclusion and isolation from and lack of trust in public agencies as causes of poverty. The results of participatory surveys conducted in Kenya in the 1990s (AMREF 1998a–d) on perceptions of poverty show that from a collective perspective, lack of environmental safety, disease epidemics and isolation are important causes of poverty. The poor identified the non-economic causes of poverty as unfavourable climate, old age, laziness, lack of initiative, mediocre governance, physical handicaps, death of spouse and social and cultural barriers.

A recent important cause of poverty in Kenya is HIV/AIDS (see appendix 5). The overriding poverty-related HIV/AIDS concerns are the AIDS orphans, population size and growth factors, costs of health care, and child mortality. The number of AIDS orphans in Kenya was estimated at 600,000 by the year 2000. This is likely to create a huge strain on the coping ability of the social system of the poor, in addition to the burden at the extended-family level (GoK 1994). The extreme case would be the increase in the incidence of the phenomena of child-headed families and urban street families. The

impact of AIDS on child survival could reverse Kenya's past gains in this front.

With the spread of AIDS, the cost of hospital care for AIDS patients would increase dramatically, adding an extra burden on the already inadequate public health-care system in meeting the health requirements of the rest of the population. The high cost of hospital care for AIDS patients is related to their relatively longer hospitalization compared with other patients and their higher in-patient numbers. For instance, in 1992 about 15% of hospital beds in Kenya were occupied by AIDS patients. It is estimated that with time nearly half of all hospital beds could be occupied by AIDS patients (Forsythe et al. 1993; Okeyo et al. 1996).

The government of Kenya has declared HIV/AIDS a disaster that must be accorded high priority. Current estimates show that more than two million Kenyans are infected with HIV/AIDS. If the current trend continues, HIV/AIDS will have a devastating effect on the structural and long-term performance of the economy. This challenge requires an effective partnership involving the government, the private sector, communities, nongovernmental organizations, donors and the international community. There is need for HIV/AIDS policy and programmes to intensify educational campaigns to increase awareness of the disease and the importance of preventive measures.

Other causes of poverty identified in previous studies include lack of good governance and weak democratic institutions (Ikiara and Tostensen 1995), who argue that the single-party political system that was in place until the early 1990s did not allow free discussion of issues or formulation of truly representative governance organs in the society. This made it difficult for the poor to effectively raise issues of concern with relevant authorities. With the opening up of the political system and the increasing competition in the political arena, the trend seems to be changing, creating hope that the voices of the poor people will be louder, and their concerns will be taken seriously in the design and implementation of anti-poverty programmes in the

country. This is currently being witnessed in the ongoing PRSP process.

Corruption has been a major factor in the rising poverty level in the country. Corruption reached alarming levels involving huge amounts of public money in the mid-1990s. The resources lost through corrupt deals could have had immense impact on poverty reduction if they were properly utilized. Corruption also discourages foreign direct investments and, thereby, the capacity to create new job opportunities.

Ikiara (1998) argues that corruption arises when there is inadequate accountability in the public sector, as has been the case in Kenya. The lack of accountability has made it easy to divert public funds for either personal use or to public projects of low priority, which often hurts the interest of the poor. The fact that highly placed individuals in the political and administrative hierarchies are often involved in some of the major corruption scandals has given considerable weight to the argument that the government has not shown serious commitment to poverty-reduction efforts beyond rhetorical statements. As a result of corruption, government services rarely reach the poor. The poor view government servants as corrupt, rude and exclusive, and they encounter corruption on a daily basis (World Bank 2000).

A related problem that has contributed to increasing poverty is mismanagement of anti-poverty programmes. Many such projects have partially or completely failed. This problem thrived especially under the one-party regime that was characterized by lack of accountability and transparency in the management of public affairs (Ikiara 1998).

8   Poverty Estimates for the 1990s

Poverty in Kenya has attracted considerable research attention from individual academic researchers, donors and the government, particularly in the 1990s when data from welfare monitoring surveys

(WMS I–III) became available. Estimates generated from these research efforts provide a fairly good account of poverty trends in the country over that period. Table 2 presents a summary of some of the poverty estimates for the 1990s from these studies.

Studies based on the 1994 welfare monitoring survey (GoK 1998; Mwabu et al. 2000) show that the total number of the poor in 1994 ranged between 39% and 44% of the total population. The total number of poor Kenyans has been increasing over time, growing from 11.5 million in 1994 to 12.6 million in 1997. The 1997 welfare monitoring survey shows that the poor constitute 52.3% of the Kenya population, and that the situation of urban poverty has deteriorated further with 49.2% of this population being poor. The increase in poverty in the country is easily observed from the rising number of people without adequate food and nutrition or adequate access to basic necessities such as education, safe water and sanitation, employment, health facilities and decent housing. By the early 1990s, 13 million Kenyans (about 50% of the population) had no access to safe water, and 6 million had no access to sanitation (UNDP 1994).

Table 2. Summary of recent poverty estimates for Kenya, 1992–1997

Author	Reference year	Data source	Poverty incidence
Mukui (1993)	1981/82 1992	1981/82 rural survey and 1992 WMS I	Rural: 48% for 1981/82; 46% for 1992 Urban: 29.3% for 1992
Narayan and Nyamwaya (1996)	1994	Participatory poverty assessment	Widespread poverty in rural areas; results similar to 1992 WMS, above
GoK (1998a)	1994	1994 WMS II	47% rural population 29% urban population 43.84% national estimates
Mwabu et al. (2000)	1994	1994 WMS II	40% rural population 29% urban population 39% national population
GoK (2000a)	1997	1997 WMS III	52.9% rural population 49.2% urban population 52.3% national population

Source: Adapted from GoK (1997) and updated.

Substantial differences exist among regions in the incidence of poverty in Kenya (table 3). First, in the 1990s, about 50% of the rural population and between 30% and 49% of the urban population were poor. Second, rural poverty is marked by its connection to agriculture and land (see Webb et al. 1991): poverty in the rural areas tends to be attributed more to low access to physical assets (particularly land), low agricultural productivity, and lack of non-farm employment opportunities, than to lack of income. In view of agriculture's high labour intensity and relevance to local food availability, any anti-poverty strategy in the rural areas should aim at raising productivity in agriculture. It should be feasible to focus rural anti-poverty policy on improving agricultural output and productivity.

The large disparities in the incidence of rural poverty need to be eliminated by deliberate policy. For example, poverty is exceptionally high in arid and semi-arid areas of the country such as Marsabit, Turkana, Isiolo, Samburu and Tana River districts (GoK 1997).

Table 3. Overall poverty estimates for Kenya, 1992–1997

Region	1992	1994a	1994b	1997
Central	35.9	31.9	31.79	31.4
Coast	43.5	55.6	41.36	62.1
Eastern	42.2	57.8	44.96	58.6
Rift Valley	51.5	42.9	38.31	50.1
North Eastern	–	58.0	51.33	–
Nyanza	47.4	42.2	38.31	63.1
Western	54.2	53.8	40.58	58.8
Nairobi	26.5	25.9	22.30	50.2
Rural	46.3	46.8	39.70	52.9
Urban	29.3	28.9	28.63	49.2
National	46.3	43.84	38.80	52.3

Note: Data for 1994a and 1997 are based on calculations by the Central Bureau of Statistics, and those for 1994b and 1992 are based on calculations by Mwabu et al. (2000) and Mukui (1993).

Source: Economic Survey (1994, 1997); Mwabu et al. (2000).

According to Kenyan poverty assessment studies, the leading manifestations of poverty include begging; dependence on external assistance especially for food; poor shelter, clothing, and health; engagement in odd jobs; dropping out of school; child labour; and idleness. Most of the households participating in the poverty-assessment studies felt that poverty had worsened over time.

9 Poverty Estimates for 2000–2001

9.1 Methodological issues

The great difficulty in estimating poverty rates for the current period (2000–2001) lies in the fact that survey data are not available on which the methods used to derive the estimates for 1992, 1994 and 1997 could be applied. For this reason, a method was developed for projecting estimates for 1997 (the most recent data) to 2000. The method is simple and robust. It is based on the idea that changes in income poverty over time are determined mainly by changes in economic growth and distribution (see Ravallion 1994; Ali and Thorbecke 2000; Oyugi 2000). As economic growth increases, poverty decreases, and as inequality in income increases, the incidence of poverty increases.

To update the 1997 poverty rates computed by the Central Bureau of Statistics (see GoK 2000a), we require information on changes in economic growth and income distribution over the period 1997–2000, and data on responsiveness of poverty to changes in growth and income distribution. The data on changes in economic growth for the period 1997–2000 are available from published government documents (see table 1). The information on income distribution (in the form of Gini coefficients) for the same period is available from the National Poverty Eradication Plan (GoK 1999) and Human Development Reports (see UNDP 1997). Information on the responsiveness (elasticity) of poverty to growth and distribution is

available from Ali and Thorbecke (2000). With data on changes in economic growth and Gini coefficients for 1997–2000 and on responsiveness of poverty to growth and distribution, the change in a given poverty measure over 1997–2000 can be obtained using the following formula:

$$P = \alpha + \beta Y + \gamma D + \nu \qquad \qquad \textbf{(2)}$$

where

P is the change in poverty over 1997–2000,

Y and D are natural logarithms of changes in growth and distribution over the same period,

β and γ are elasticities of poverty with respect to growth and distribution, respectively,

α is a constant term, reflecting the change in poverty when both Y and D are zero, and

ν is the error term.

Once the values of parameters α, β and γ are known, information on Y and D can be used to obtain P. With P at hand, the values of the poverty measures for 1997 are updated to those for 2000 using the formula:

$$\text{Poverty2000} = \text{Poverty1997} + P \qquad \qquad (3)$$

Equation (3) was used to obtain national, rural and urban FGT poverty indices. From equation (3), it is also straightforward to compute the percentage change (τ) in a given poverty rate over the period 1997–2000. The provincial and district poverty rates were adjusted assuming that each rate changed by a percentage τ over the period 1997–2000. Thus, denoting a given province or district with

Ri, the provincial and district poverty rates were updated using the equation:

$$Poverty2000Ri = Poverty1997Ri*(1 + \tau) \qquad (4)$$

In implementing the updates, coefficients for equation (2) were borrowed from regression estimates of these parameters using data from sub-Saharan Africa (Ali and Thorbecke 2000). Since Kenya was in the sample of the countries used to obtain these estimates, the response of poverty in Kenya to changes in growth and distribution can be reasonably assumed to be similar to those computed for Africa.

The parameters in equation (2) are available for rural and urban areas. To obtain national-level parameters, simple averages of the two sets of coefficients were calculated from the estimation results of equation (2) (see appendix table A4.1 and A4.2 for details). For the national, rural and urban areas, a unique value for P was obtained in each. Thus, there is no need to apply equation (4), since that equation is needed only where the same percentage change in a poverty index is assumed to apply repeatedly. For example, the percentage change in rural poverty indices was applied in adjusting district and provincial poverty rates. Note, however, that if rural poverty increased by 20%, from 40% in 1997 to 60% in 2000, it would be incorrect to adjust district and provincial poverty rates by adding 20% on the 1997 poverty estimates. The correct thing to do would be to adjust such rates upwards by 50% (that is, 20/40*100). This adjustment takes into account the fact that the poverty measures change from different bases.

9.2   Adjusted poverty rates

The poverty estimates for 2000 were obtained by adjusting the 1997 estimates using the method described above. We used growth in gross domestic product as a proxy of economic growth. The growth of the

Kenyan economy has been declining since 1995. In 1997, the growth rate was 2.4%, but it declined to –0.3% in 2000 (see table 4). The Gini index increased from 0.445 in 1994 to 0.57 in 1997 (UNDP 1997). The coefficients for growth and distribution in equation (2) were borrowed from Ali and Thorbecke (2000).

Our estimates show that the national headcount index increased from 52.32% in 1997 to 56.78% in 2000. This can partly be attributed to the decline in economic growth and to the worsening income distribution over the period, as well as to other factors, such as drought and external shocks. During the same period, rural poverty increased by 6.63 percentage points, from 52.93% 1997 to 59.56% in 2000. Of the total urban population, 51.48% were living below the poverty line by 2000. Table 5 shows the changes in poverty measures over 1997–2000.

Table 4. GDP growth rates and Gini coefficients for Kenya

Year	GDP growth rate	Gini coefficient estimates
1997	2.4	0.570
1998	1.8	0.612*
1999	1.4	0.653*
2000	–0.3	0.695*

*Predicted values of Gini coefficient.

Source: GoK (2000); World Bank (2000); Economic Survey (various issues).

Table 5. Changes in absolute poverty, 1997–2000

Province	Rural poverty line = Ksh 978.27, and for urban = Ksh. 1489.63			Rural poverty line = Ksh 1238.86, and for urban = Ksh 2648.04			Poverty estimates for 2000		
	1994*			1997					
	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$
Central (rural)	31.93	9.78	4.38	31.39	9.25	3.94	35.32	11.52	5.29
Coast (rural)	55.63	23.79	13.10	62.10	24.40	11.87	69.88	30.39	15.93
Eastern (rural)	57.75	24.29	13.49	58.56	22.37	10.71	65.90	27.86	14.37
North Eastern (rural)	58.00	23.77	13.10	65.48	28.83	15.85	73.06	34.77	19.67
Nyanza (rural)	42.21	14.39	7.06	63.05	23.43	11.43	70.95	29.19	15.34
Rift Valley (rural)	42.87	16.35	8.46	50.10	17.58	8.17	56.38	21.90	10.96
Western (rural)	53.83	22.05	12.11	58.75	22.81	11.16	66.11	28.41	14.97
Total (rural)	46.75	18.01	9.49	52.93	19.33	9.19	59.56	24.08	12.33
Nairobi	25.90	8.80	4.14	50.24	14.07	5.47	52.56	17.87	10.27
Urban poverty	28.95	9.69	4.63	49.20	15.67	6.86	51.48	19.90	12.88
National	43.84	14.93	7.69	52.32	18.74	8.81	56.78	23.23	13.39

Note: *Included for comparison purposes.

Source: Values for 1994 and 1997 are from GoK (1997, 2000a), except for the 1997 poverty estimates for North Eastern Province, which were predicted using 1994 as base year.

The data show great regional variations in poverty rates, with North Eastern Province having the highest of its rural population (73.06%) living below the poverty line, compared with 35.32% for Central Province. Kiambu District has the lowest poverty levels, with only 28.22% of its population living below the poverty line in 2000. Homa Bay, with 87.20% of its population living below the poverty line, had the highest poverty level, followed by Mandera District. The poverty rate for North Eastern Province for 2000 was estimated from the predicted poverty rate for 1997, as this province was not covered in the 1997 survey.

We have also estimated the absolute poverty levels for 1997 and 2000 using 1994 as the base year, and the results are shown in appendices 2 and 3. The estimates show little variation from the 1997 welfare monitoring survey, except for data for urban and national poverty for Nyanza and Nairobi provinces. Our 1997 estimate for rural poverty was 52.33%, which was comparable to 52.93% obtained by the 1997 welfare monitoring survey.

Table 6 presents poverty profiles by various dimensions. It also compares headcount ratios and poverty levels for 1997 and 2000. The 2000 estimates have been projected using poverty profiles for 1997 (see GoK 2000a) and regression results (see Ali and Thorbecke 2000). Our results suggest that education is the most important indicator of poverty. Table 6 presents the results in terms of poverty levels and their relationship with the level of education of the household head. Year 2000 poverty levels of households whose heads had no education stand at 72.02% and 69.05% for rural and urban areas, respectively, which are the highest levels among the social groups. This is a clear indication of the inverse relationship between poverty and the level of education of the household head.

As regards gender aspects of poverty, on average, women are the worst hit by poverty in both rural and urban areas (table 6). One explanation for this is that women household heads, especially in the rural areas, do not receive much support from absent spouses for the upkeep of the families.

Table 6. Poverty measures by socioeconomic group

Variable and social group	1997				2000			
	Rural P_α= 0	Urban $P\alpha$ = 0	Rural P_α = 1	Urban $P\alpha$ = 1	Rural P_α = 0	Urban $P\alpha$ = 0	Rural P_α = 1	Urban $P\alpha$ = 1
Overall rural	52.93	49.20	19.33	15.67	59.56	51.48	24.08	19.90
Gender of household head								
Male	52.50	45.90	19.00	15.20	59.08	48.02	23.67	19.30
Female	54.10	63.00	20.20	17.90	60.88	65.92	25.16	22.73
Marital status								
Male married	52.70	46.20	19.10	15.50	59.31	48.34	23.79	19.68
Male other	48.40	42.40	17.00	10.60	54.47	44.36	21.18	13.46
Female married	52.30	56.00	19.40	19.70	58.86	58.59	24.17	25.02
Female other	56.10	64.90	21.10	17.40	63.13	67.90	26.28	22.10
Education								
None	64.00	66.00	25.00	28.90	72.02	69.05	31.14	36.70
Primary	53.60	63.90	19.30	19.50	60.32	66.86	24.04	24.76
Secondary	33.40	38.80	10.20	11.70	37.59	40.60	12.71	14.86
Higher (form 5–university)	6.80	14.30	2.60	1.60	7.65	14.96	3.24	2.03
Higher (technical/informal)	38.90	42.40	14.90	14.00	43.78	44.36	18.56	17.78
Household size								
1–3 persons	35.50	37.80	12.60	11.00	39.95	39.55	15.69	13.97
4–6 persons	49.60	53.70	17.40	16.30	55.82	56.18	21.67	20.70
7+ persons	61.70	56.70	23.20	21.10	69.43	59.32	28.90	26.79
Age of head								
15–29	37.90	53.60	12.90	11.00	42.65	56.08	16.07	13.97
30–44	49.10	49.60	17.50	15.20	55.25	51.90	21.80	19.30
45–55	58.10	47.00	21.10	15.10	65.38	49.17	26.28	19.18
56+	57.70	37.80	22.10	17.00	64.93	39.55	27.53	21.59

Note: The measures for 1997 are from GoK (2000).

The mean household size was grouped into three categories for ease of analysis. The results for 2000 (table 6) indicate that households with more than seven members were the poorest with poverty levels of 69.43% and 59.32% for rural and urban areas, respectively. Households with four to six members had poverty rates of 55.82% and 56.18% for rural and urban areas, respectively.

The data for 2000 show that poverty levels increase with age in the rural areas, but in urban areas poverty is lower among the elderly (those over 56 years of age). In rural areas, households whose head is in the age group of 45 years and above experience higher levels of poverty than other rural age groups. Only 39.55% of the urban households with heads whose age is within the age group of 56 years and above are poor, compared with nearly 64.93% in the rural areas.

10   Conclusion

This paper has synthesized poverty literature and developed a methodology for updating existing poverty rates. In particular, it has established baseline poverty rates for 2000. These rates can be used to assess progress in reducing poverty over the period 2001–2003. However, to make such an assessment, information would be needed on the change in growth and income distribution that can be attributable to antipoverty measures. It is assumed that certain changes in economic conditions and distribution over the period 2001–2003 would be identified with investments to reduce poverty. As long as the growth and distribution elasticities we have used remain valid over the relevant period, they can be applied to assess the effectiveness of reforms in reducing poverty. This report is also valuable for purposes of policy formulation and implementation, because it identifies factors that need to be modified to reduce poverty.

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Appendix 1. Projected Poverty Measures by District and Province, 1997–2000

Appendix Table A1. Absolute poverty measures by district

District	Rural poverty line Ksh 978.27; and urban = Ksh 1489.63			Rural poverty line = Ksh 1238.86; and urban = Ksh 2648.04			Rural poverty line Ksh and urban Ksh		
	1994			1997			2000		
	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$
Central (rural)	31.93	9.78	4.38	31.39	9.25	3.94	35.32	11.52	5.29
Kiambu	29.32	8.89	3.78	25.08	6.08	2.46	28.22	7.57	3.30
Kirinyaga	35.41	11.78	5.94	35.70	12.43	5.62	40.18	15.48	7.54
Muranga	37.11	12.56	6.04	38.62	11.02	4.47	43.46	13.73	6.00
Nyandarua	33.34	9.99	4.41	26.95	8.51	3.44	30.33	10.60	4.62
Nyeri	25.62	5.80	1.90	31.05	10.35	4.81	34.94	12.89	6.45
Coast (rural)	55.63	23.79	13.10	62.10	24.40	11.87	69.88	30.39	15.93
Kilifi	66.88	28.22	13.02	66.30	26.14	12.40	74.61	32.56	16.64
Kwale	40.23	15.49	7.71	60.55	25.25	13.14	68.14	31.45	17.63
Lamu	29.53	10.99	5.00	39.35	11.04	4.09	44.28	13.75	5.49
Taita-Taveta	50.65	22.33	12.82	65.82	24.88	11.82	74.07	30.99	15.86
Tana River	71.76	37.20	24.86	34.22	8.97	3.77	38.51	11.17	5.06
Eastern (rural)	57.75	24.29	13.49	58.56	22.37	10.71	65.90	27.86	14.37
Mbeere	–	–	–	51.36	21.14	10.50	57.80	26.33	14.09
Embu	62.86	23.60	12.70	55.76	23.47	11.69	62.75	29.23	15.69
Isiolo	82.18	46.19	29.06	–	–	–	–	–	–
Kitui	55.09	23.73	12.86	64.91	25.80	12.48	73.05	31.14	16.75
Machakos	68.72	28.85	16.03	62.96	22.85	10.53	70.85	28.46	14.13
Marsabit	88.18	56.20	39.96	–	–	–	–	–	–
Meru	30.64	11.60	6.11	40.96	13.37	6.20	46.09	16.65	8.35
Makueni	76.06	31.54	16.88	73.51	32.24	16.94	82.72	40.16	22.73
Tharaka Nithi	46.15	15.74	7.98	55.58	18.92	8.52	62.55	23.57	11.43
Nyambene	–	–	–	47.29	16.13	6.90	53.22	20.09	9.26
North Eastern (rural)*	58.00	23.77	13.10	65.48	28.83	15.85	73.06	34.77	19.67
Garissa	48.21	21.88	12.85	54.43	26.53	15.55	60.73	32.02	19.29
Mandera	68.03	28.92	16.40	76.81	35.07	19.84	85.69	42.31	24.62
Wajir	57.04	20.63	10.28	64.40	25.02	12.44	71.85	30.18	15.43
Nyanza (rural)	42.21	14.39	7.06	63.05	23.43	11.43	70.95	29.19	15.34
Kisii	31.58	8.32	3.10	57.22	22.50	11.65	64.39	28.03	15.63
Kisumu	46.91	18.12	9.94	65.44	26.70	13.87	73.64	33.26	18.61
Siaya	46.90	17.30	9.14	58.02	20.92	9.78	65.29	26.06	13.12
Homa Bay	47.74	15.65	7.25	77.49	29.54	14.63	87.20	36.80	19.63
Migori	34.08	10.88	5.18	57.63	16.57	6.74	64.85	20.64	9.04

District	Rural poverty line Ksh 978.27; and urban = Ksh 1489.63			Rural poverty line = Ksh 1238.86; and urban = Ksh 2648.04			Rural poverty line Ksh and urban Ksh		
	1994			1997			2000		
	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$	$P\alpha = 0$	$P\alpha = 1$	$P\alpha = 2$
Nyamira	51.57	19.36	9.91	66.74	26.92	13.52	75.11	33.53	18.14
Rift Valley (rural)	42.87	16.35	8.46	50.10	17.58	8.17	56.38	21.90	10.96
Kajiado	22.49	8.31	4.21	27.87	10.41	4.91	31.36	12.97	6.59
Kericho	59.56	22.30	10.77	52.42	18.11	8.50	58.99	22.56	11.41
Laikipia	45.55	18.44	10.12	33.88	8.33	3.36	38.13	10.38	4.51
Nakuru	36.61	13.82	6.73	45.08	14.75	6.25	50.73	18.37	8.39
Nandi	41.73	14.67	7.39	64.15	23.08	11.12	72.19	28.75	14.92
Narok	27.33	8.33	3.76	52.17	17.12	6.95	58.71	21.33	9.33
Bomet	46.53	16.90	7.89	61.80	24.80	12.54	69.55	30.89	16.83
Transmara	–	–	–	56.59	19.26	8.77	63.68	23.99	11.77
Baringo	40.77	12.79	5.58	36.95	12.49	5.69	41.58	15.56	7.63
Elgeyo Marakwet	27.23	7.47	3.36	47.82	13.83	5.37	53.81	17.23	7.21
Samburu	84.13	46.85	30.74	–	–	–	–	–	–
Trans Nzoia	48.57	17.18	8.24	54.83	19.53	9.11	61.70	24.33	12.22
Turkana	73.76	42.41	29.17	–	–	–	–	–	–
Uasin Gishu	33.54	12.62	6.61	42.22	12.05	4.92	47.51	15.01	6.60
Western (rural)	53.83	22.05	12.11	58.75	22.81	11.16	66.11	28.41	14.97
Bungoma	56.00	27.04	16.74	55.21	20.42	9.49	62.13	25.44	12.73
Busia	56.90	25.01	14.38	65.99	27.90	14.30	74.26	34.75	19.19
Kakamega	51.34	18.22	8.78	56.69	23.15	11.68	63.80	28.84	15.67
Vihiga	53.00	19.97	10.15	61.97	21.91	10.33	69.74	27.29	13.86
Total (rural)	**46.75**	**18.01**	**9.49**	**52.93**	**19.33**	**9.19**	**59.56**	**24.08**	**12.33**
Urban	**28.95**	**9.69**	**4.63**	**49.20**	**15.67**	**6.86**	**51.48**	**19.90**	**12.88**
Nairobi	25.90	8.80	4.14	50.24	14.07	5.47	52.56	17.87	10.27
Mombasa	33.14	9.46	4.21	38.32	14.29	6.96	40.09	18.15	13.07
Kisumu	47.75	16.38	7.83	63.73	23.09	11.42	66.68	29.32	21.44
Nakuru	30.01	8.86	3.31	40.58	10.58	3.84	42.46	13.44	7.21
Other urban	28.73	10.21	5.25	52.38	19.20	9.22	54.65	24.07	16.84
National	**43.84**	**14.93**	**7.69**	**52.32**	**18.74**	**8.81**	**56.78**	**23.23**	**13.39**

Note: *1997 poverty estimates for North Eastern Province are predicted using 1994 as a base year.

Source: GoK (1998, 2000).

Appendix 2. Projected Poverty Measures by Province, 1994–1997

Appendix Table A2. Projected poverty indices by province

Province	Rural poverty line Ksh 978.27, and urban Ksh 1489.63			Rural poverty line Ksh 1238.86, and urban Ksh 2648.04			Predicted poverty indices with 1994 as base year		
	1994 (base year, known)			1997 (known)			1997* (predicted)		
	Pα = 0	Pα = 1	Pα = 2	Pα = 0	Pα = 1	Pα = 2	Pα = 0	Pα = 1	Pα = 2
Central (rural)	31.93	9.78	4.38	31.39	9.25	3.94	35.74	11.49	4.90
Coast (rural)	55.63	23.79	13.10	62.10	24.40	11.87	62.27	27.94	14.66
Eastern (rural)	57.75	24.29	13.49	58.56	22.37	10.71	64.64	28.53	15.09
North Eastern (rural)	58.00	23.77	13.10	na	na	na	64.92	27.92	14.66
Nyanza (rural)	42.21	14.39	7.06	63.05	23.43	11.43	47.25	16.90	7.90
Rift Valley (rural)	42.87	16.35	8.46	50.10	17.58	8.17	47.99	19.20	9.47
Western (rural)	53.83	22.05	12.11	58.75	22.81	11.16	60.25	25.90	13.55
Total (rural)	46.75	18.01	9.49	52.93	19.33	9.19	52.33	21.15	10.62
Nairobi (urban)	25.90	8.80	4.14	50.24	14.07	5.47	27.49	11.83	8.42
Urban poverty	28.95	9.69	4.63	49.20	15.67	6.86	30.73	13.02	9.42
National poverty	43.84	14.93	7.69	52.32	18.74	8.81	47.52	18.17	10.65

Source: GoK (1998, 2000) and own calculations.

Appendix 3. Projected Poverty Measures by Province, 1994–2000

Appendix Table A3. Projected rural poverty using 1994 and 1997 as base years

Province	Rural poverty line Ksh 978.20, and urban Ksh 1489.63			Rural poverty line Ksh 1238.86; and urban Ksh 2648.04			Projected poverty using 1997 as base year			Projected poverty using 1994 as base year		
	1994			1997			2000*			2000**		
	Pα = 0	Pα = 1	Pα = 2	Pα = 0	Pα = 1	Pα = 2	Pα = 0	Pα = 1	Pα = 2	Pα = 0	Pα = 1	Pα = 2
Central (rural)	31.93	9.78	4.38	31.39	9.25	3.94	35.32	11.52	5.29	36.71	12.70	6.22
Coast (rural)	55.63	23.79	13.10	62.10	24.40	11.87	69.88	30.39	15.93	63.96	30.90	18.59
Eastern (rural)	57.75	24.29	13.49	58.56	22.37	10.71	65.90	27.86	14.37	66.39	31.55	19.15
North Eastern (rural)[†]	58.00	23.77	13.10	65.48	28.83	15.85	73.06	34.77	19.67	66.68	30.87	18.59
Nyanza (rural)	42.21	14.39	7.06	63.05	23.43	11.43	70.95	29.19	15.34	48.53	18.69	10.02
Rift Valley (rural)	42.87	16.35	8.46	50.10	17.58	8.17	56.38	21.90	10.96	49.29	21.23	12.01
Western (rural)	53.83	22.05	12.11	58.75	22.81	11.16	66.11	28.41	14.97	61.89	28.64	17.19
Nairobi	25.90	8.80	4.14	50.24	14.07	5.47	52.56	17.87	10.27	28.17	13.11	10.19
Total (rural)	46.75	18.01	9.49	52.93	19.33	9.19	59.56	24.08	12.33	53.75	23.39	13.47
Urban poverty	28.95	9.69	4.63	49.20	15.67	6.86	51.48	19.90	12.88	31.48	14.44	11.40
National	43.84	14.93	7.69	52.32	18.74	8.81	56.78	23.23	13.39	48.60	19.99	13.06

Notes: * Estimates base year, 1997

        ** Estimates base year, 1994

        [†]1997 estimates base year, 1994

Source: GoK (1998, 2000) and own calculations.

Appendix 4. Sensitivity of Rural and Urban Poverty to Growth and Distribution, sub-Saharan Africa, 1990s

Appendix Table A4.1. Sensitivity of sub-Saharan Africa rural poverty to growth and distribution

Dependent variable	Constant	Log income	Log Gini coefficient	R^2
Log headcount ratio	5.2175	−0.5028	0.4792	0.93
	(14.33)	(−10.75)	(7.61)	
Log poverty-gap ratio	2.5105	−0.7648	1.3801	0.96
	(4.6)	(10.92)	(14.63)	
Log squared poverty-gap ratio	0.2894	−0.9585	2.1116	0.96
	(0.35)	(−9.0)	(14.72)	

Source: Ali and Thorbecke (2000).

Appendix Table A4.2. Sensitivity of sub-Saharan African urban poverty to growth and distribution

Dependent variable	Constant	Log income	Log Gini coefficient	R^2
Log headcount ratio	1.5195	−0.2389	0.8977	0.76
	(3.563)	(−4.419)	(6.048)	
Log poverty-gap ratio	2.8133	−0.4264	2.1186	0.85
	(3.933)	(−4.703)	(8.534)	
Log squared poverty-gap ratio	4.0465	−0.585	3.1553	0.79
	(3.121)	(−3.559)	(7.0109)	

Source: Ali and Thorbecke (2000).

Appendix 5. Additional Indicators of Poverty

Appendix Table A5.1. Percentage of HIV positive mothers in urban sentinel testing centres

District	1990	1993	1996	1998
Busia	17	22	28	29
Garissa	5	4	5	8
Kakamega	5	9	10	16
Kisii	2	2	16	16
Kisumu	19	20	27	29
Kitale	3	7	2	18
Kitui	1	7	4	10
Meru	3	2	15	23
Mombasa	10	16	12	17
Nairobi	6	16	16	16
Nakuru	6	22	27	26
Nyeri	3	3	9	17
Thika	2	27	13	34

Source: National AIDS/STDS Control Programme, Ministry of Health, Kenya

Appendix Table A5.2. Percentage of HIV-positive mothers in rural sentinel testing centres

District	1994	1995	1997
Kisumu	49	22	27
Bomet	–	4	6
Embu	2	10	27
Uasin Gishu	2	12	9
Kitui	–	5	6
Kwale	12	24	–
Nyeri	–	–	4

Source: National AIDS/STDS Control Programme, Ministry of Health, Kenya

Notes on tables A5.1 and A5.2

The national HIV prevalence in Kenya in 1998 was 13.9%, but it declined to 13.5% in 2000 (Government of Kenya, Economic Survey 2001). According to sentinel data, by 1998 about 800,000 cases of AIDS were diagnosed and 1.9 million people aged 15–49 were estimated to be HIV positive, of whom 1.4 million lived in rural areas. Thus, although HIV prevalence is higher in urban areas, the burden of HIV/AIDS is greatest in rural areas. As can be seen from appendix tables A5.1. and A5.2, in districts such as Kisumu, the urban and rural prevalence rates are similar. It is also evident from these tables that HIV prevalence is higher in smaller towns (Busia, Kisumu, Nakuru, Meru and Thika) than in the two largest towns (Nairobi and Mombasa). Differentials in the availability of information about methods of control and the methods themselves are the likely sources of variations in prevalence rates across towns.

Appendix Table A5.3. Estimated years of schooling for Kenya in 1994

Age group	Total		Urban		Rural	
	Female	Male	Female	Male	Female	Male
14	5.19	5.26	6.20	6.32	5.11	5.18
15	5.44	5.26	7.53	7.11	5.19	5.08
16	5.80	5.84	7.53	7.56	5.63	5.68
17	6.48	6.35	8.20	8.47	6.26	6.16
18	6.64	6.55	7.32	8.67	6.57	6.32
19	7.43	7.34	9.47	9.10	7.16	7.17
20	7.10	7.07	8.97	9.14	6.93	6.85
21	8.28	7.97	11.2	8.52	7.90	7.90
22	7.71	7.31	9.05	8.63	7.53	7.23
23	7.88	7.98	7.50	10.00	9.67	7.74
24	7.55	7.89	10.00	9.67	7.23	7.71
25–29	6.33	7.61	8.72	9.39	5.83	7.13
30–34	5.44	7.34	8.14	9.27	4.96	6.87
35–39	4.32	7.15	7.48	9.72	3.84	6.49
40–44	3.06	5.79	6.91	9.07	2.67	5.18
45–49	2.63	5.73	4.37	8.62	2.46	5.29
50–54	1.39	4.21	3.90	7.04	1.25	3.87
55–59	1.16	3.72	1.77	6.56	1.12	3.47
60–64	0.658	2.46	2.86	5.90	0.577	2.27
65–69	0.514	1.96	0	3.50	0.534	1.91
70–74	0.224	1.60	2.80	3.17	0.141	1.51
Over 75	0.267	1.24	2.71	4.40	0.060	1.11

Source: Background material prepared for a research proposal (see Schultz et al. 2000).

Notes on table A5.3

By 1994, gender disparity in education achievement had narrowed considerably. Controlling for region of residence, young adults (male and female) had similar levels of education. However, in rural areas, the levels of schooling for both men and women were lower than for people in urban areas.

There is a large disparity in education achievement among people aged more than 60 years. These are persons went to school between the 1920s and 1940s. For this group, men's academic achievements were nearly fives times higher than women's, and in rural areas, men's education levels were nearly 19 times greater than women's.

Simple indicators of health and education, such as those shown in these tables can be valuable in monitoring achievements in the fields of health and education.

Appendix Table A6. Poverty in a sample of African countries in the early 1990s

Country	Headcount index (%)	Poverty gap ratio (%)	Poverty gap ratio squared (%)	Gini coefficient (%)
Egypt	21.53	4.17	1.10	32.03
Ghana	19.26	4.21	1.40	34.08
Kenya	49.37	21.69	12.22	58.31
Nigeria	38.82	16.85	9.55	44.83
South Africa	44.17	18.28	9.41	58.46
Tanzania	66.66	27.28	14.09	36.02
Uganda	51.84	17.83	7.93	40.74
Zambia	60.13	31.29	19.87	46.21
Zimbabwe	55.40	24.29	12.93	56.75

Source: ECA (1999).

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