

# Rebuilding after War

## Micro-level Determinants of Poverty Reduction in Mozambique

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A devastating war that lasted from the 1970s to 1992 left the people of Mozambique among the poorest in the world. Since the peace agreement was signed, the government has endeavored to rebuild the country's infrastructure and to improve living standards. Poverty reduction is the primary goal of the government, as well as of nongovernmental organizations and donors operating in Mozambique. Toward this effort, the International Food Policy Research Institute, the Mozambique Ministry of Planning and Finance, and the Eduardo Mondlane University in Maputo, Mozambique, have jointly undertaken a large research project on the state of poverty in Mozambique. To provide a statistical basis for the research, a National Household Survey of Living Conditions, covering 8,289 households, was conducted in 1996–97 and a report was published in 1998, covering a broad range of topics including poverty, food security, education, nutrition, health, and safety nets. The present report zeroes in on the key question of what determines living standards and poverty in Mozambique, with the aim of identifying those public policy interventions that are likely to reduce poverty the most.

### MEASURING POVERTY IN MOZAMBIQUE

Rather than looking at the association between poverty and various household and individual characteristics on a one-to-one basis (bivariate analysis), which often oversimplifies complex relationships and can lead to erroneous conclusions, this report uses multiple regression to analyze poverty and living standards econometrically. As methodological choices can have a strong influence on the results, much of the report is given over to a detailed discussion of the methodology used to conduct the analysis and sensitivity analysis to assess the robustness of the findings to alternative methodological choices. These include the construction of region-specific poverty lines

and the empirical model of poverty determinants used. Estimates of poverty levels and the results of the model are presented, followed by simulations that indicate the impact on poverty of specific policy interventions.

Although the goal is to determine the extent of absolute poverty—a fixed standard of living—in the country as a whole, prices, demographics, and consumption patterns differ from one area to another. Therefore, regional poverty lines are drawn (rather than a single line) in order to approximate a uniform standard of living. By grouping together provinces with similar patterns, 13 regions and 13 food and nonfood poverty lines are devised. The 13 poverty lines reflect regional differences in the cost of attaining the same minimum standard of living.

Per capita consumption (total household consumption divided by the number of household members), rather than income, is used as the basic measure of individual welfare in this report. The consumption measure includes food and nonfood goods and services, whether purchased, home-produced, or received as a gift or payment in kind. Employing a two-step approach, the authors model the determinants of household consumption and then use standard poverty indexes—such as the head-count ratio and the poverty gap—to measure poverty as a function of the household's consumption level and the relevant poverty line.

When the poverty lines are applied to the 1996–97 survey data, it appears that 10.9 million people—two-thirds of the population at that time—lived in a state of absolute poverty, with the incidence of poverty higher in rural than in urban areas. The incidence of poverty is highest in the central part of the country, with poverty rates about the same in the north and the south. At the provincial level, poverty rates varied widely, with slightly less than one-half of the population in Maputo City below the poverty line, rising to 88 percent in Sofala province.

The econometric model of poverty determinants includes demographic data such as age and sex of household members, education levels, employment, landholding, use of agricultural inputs, type of crops cultivated, community characteristics and access to services, and seasonal variations in welfare. As a test of sensitivity to underlying assumptions, alternative models that allowed for different definitions of the poverty lines and the dependent and independent variables were also examined; these produced similar results.

## POLICY IMPLICATIONS

The analysis identifies five principal elements of a poverty reduction strategy for Mozambique. These are (1) increased investment in education, (2) sustained economic growth, (3) adoption of measures to raise agricultural productivity, (4) improved rural infrastructure, and (5) reduced numbers of dependents in households.

The research shows that education is a key determinant of living standards. Even one person in a household with education beyond the primary level tends to boost a family out of poverty. Therefore, high priority should be given to increasing school enrollment and achievement, while also addressing the gender, urban and rural, and regional disparities that currently exist.

During the prolonged period of strife and economic decline, 1987–96, per capita GDP grew at only 0.6 percent a year. With peace, the prospects for economic growth and poverty reduction are promising. A sustained annual growth rate in per capita consumption of 4 percent in real terms over the next five years could reduce the incidence

of poverty by as much as 20 percent, if the growth rate is equal across all income levels.

Much of this success in reducing poverty depends on increasing agricultural productivity by promoting the use of modern agricultural inputs such as improved seed varieties, fertilizer, and mechanization. At the time of the survey only a small percentage of Mozambican farmers used improved inputs. In a setting where land availability is not a binding constraint over much of the country, increasing the size of smallholders' land is not likely to reduce poverty significantly. Wider provision of roads, markets, banks, and extension and communication services to rural villages would also go a long way toward stimulating agriculture and reducing poverty.

The research indicates that the larger the number of dependents supported by a working adult, the more likely the household is to fall beneath the poverty line. Family planning programs will not only alleviate poverty but also improve women's health, labor force participation, and productivity. The importance of women's education in this context cannot be overemphasized.

It may not be surprising that the priority areas for development are among those that were most adversely affected by the war: roads, bridges, schools, and teachers were all frequent targets of antigovernment rebels. Nevertheless, even at the low levels found in post-war Mozambique, education, infrastructure, and agricultural technology are key factors that distinguish poorer households from richer households and also point the way to poverty reduction in the future.

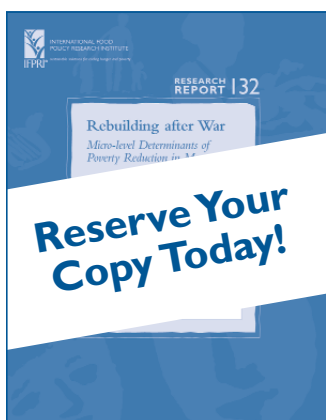
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