



POLICY SYNTHESIS

*for USAID - Bureau for Africa
Office of Sustainable Development*

Number 5

September 1995

EFFECTS OF MARKET REFORM ON ACCESS TO FOOD BY LOW-INCOME HOUSEHOLDS: EVIDENCE FROM FOUR COUNTRIES IN EASTERN AND SOUTHERN AFRICA

By

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SYNOPSIS:

- Basic changes in market regulation can provide an opportunity for low-income consumers to improve their diets and real incomes; and
- Information on variations in consumer preferences among income groups can be used to improve the cost-effectiveness of food aid programs, through use of "self-targeted" commodities.

BACKGROUND: Virtually all governments are confronted with the conflicting goals of maintaining food prices that are profitable for producers and affordable to consumers. In much of Africa, these goals have been historically pursued through controlled marketing systems in which food prices could be artificially raised for producers and lowered for consumers through subsidies. However, this practice became fiscally unsustainable in many countries, and has recently led to food market reform in over 20 African countries.

Food market reform in Eastern and Southern Africa has been particularly slow. Serious concerns have been raised over the effects of market reform and the elimination of food subsidies, particularly on the ability of low-income consumers to maintain access to maize meal, the

dominant staple in the region. There has been a widespread perception that urban consumers strongly preferred the highly refined maize meal distributed and often subsidized through the official marketing channel in contrast to less expensive whole maize meal, produced by small-scale hammer mills through the often illegal informal marketing systems. Prior to the reforms, over 90% of the maize meal consumed in urban areas was in the form of refined meal. The perception of low demand for whole maize meal made many policy makers reluctant to eliminate the subsidies on refined maize meal or to jeopardize the controlled marketing system that ensured its availability. However, under pressure from donors and international lenders, many governments eliminated the subsidies on refined maize meal in the early 1990s. In the short run, the elimination of food subsidies has raised the specter of sharp food price surges, falling real incomes for the poor, and political unrest.

OBJECTIVES: This report analyzes the effects of grain market reform and food subsidy elimination in Eastern and Southern Africa on access to food for low-income consumers. The report also assesses the potential to use "self-targeted commodities" (i.e., commodities purchased primarily by the poor) to improve vulnerable groups' access to food through market development strategies and food aid programs.



While much research has been devoted to understanding how producers and traders would respond to reform of staple food markets, relatively little is known about the potential or actual responses by consumers. The report presents recent findings from six household-level surveys in urban areas of Zimbabwe, Kenya, Zambia, and Mozambique between 1991 and 1994. Secondary data from South Africa and Malawi are also presented where available.

FINDINGS: The report highlights seven conclusions with broader implications for targeting vulnerable groups:

1. Consumer subsidies on refined maize meal in Kenya, Zambia, Zimbabwe, Mozambique, and South Africa have not necessarily promoted food security, because they (and associated controls on maize marketing) have entrenched a relatively high-cost marketing system and impeded the development of lower-cost channels from developing.

The negative effects of eliminating subsidies on refined maize meal have been partially or wholly compensated by relaxing controls on private grain trade, which has raised consumers' access to less expensive whole maize meal distributed through the emerging informal markets. A 53% rise in the price of refined meal in Kenya (due to subsidy removal) has been estimated to raise household expenditures by less than 1% of total income for low-income groups, due to the widespread availability of cheaper whole meal since the reforms were initiated and low-income groups' tendency to substitute whole meal for refined meal at a price discount.

2. The conventional wisdom of rigid urban preferences for refined maize meal was greatly exaggerated by policy restrictions under the controlled marketing systems and subsidies on refined maize meal. The proportion of urban consumers in Nairobi, Lusaka, and Harare consuming whole meal has risen from pre-market reform levels of about 5% to 10%, to about 40% to 55% within a period of several years.

3. Since the removal of refined meal subsidies and controls on maize movement, retail prices of hammer-milled whole meal have ranged from 55% to 80% those of refined meal manufactured by large-scale millers. At observed purchase price levels, the availability of whole meal has allowed cost savings to consumers equal to 4%-13% of household income among the lowest income-quintile in the capital cities of Harare and Nairobi. In Maputo, hammer-milled maize meals, whether white or yellow, are at least 15% less expensive than roller-miller products of the same color. These are significant cost saving for lower income consumers.

4. In all countries surveyed, there is an inverse relationship between whole meal consumption and household income, and a positive relationship between refined meal consumption and household income (see Table 1). These findings indicate that whole maize meal is a "self-targeted" commodity.

These results also indicate that the former refined meal subsidies were untargeted and that their benefits were actually inversely related to household incomes. In Nairobi, the 53% increase in the price of refined meal after the removal of subsidies in January 1994, other factors constant, was estimated to increase maize meal expenditures by 7% for the lowest household income-quartile, compared with 25% for the highest income-quartile.

5. New investment in hammer milling has increased rapidly since market reform. This corroborates household survey data indicating that consumption of hammer-milled whole meal has risen rapidly after market reforms. In Zambia, hammer mills have increased from an estimated 4,156 to around 6,000 between 1992 and 1994. The number of hammer mills operating in Nairobi has increased 80% between 1987 and 1993. Hammer mills operating in Harare have increased from 57 to 85 in 18 months between 1992 and 1994. In Maputo, at the begin-

Table 1: Percentage of Households by Income Group Consuming Refined and Whole Maize Meal, Selected Urban Surveys in Eastern and Southern Africa.

Income groups	Kenya 1993 (a)		Zambia 1994 (b)		Zimbabwe 1991 (c)		Zimbabwe 1993 (d)		Zimbabwe 1994 (e)		Mozambique 1994 (f)	
	Refined	Whole	Refined	Whole	Refined	Whole	Refined	Whole	Refined	Whole	Refined	Whole
1 (lowest 20%)	38	59	74	26	92	8	68	32	45	55	13	40
2	53	44					67	33	47	53	12	37
3	74	25	77	23	94	6	75	25	58	41	16	41
4	76	22					81	21	61	38	14	28
5 (highest 20%)	80	18	99	1	97	3	83	18	67	33	7	23
Total Sample	64	33	83	17	94	6	72	27	56	44	12	34

----- % of households consuming -----

Sources: (a) Mukumbu and Jayne 1994; (b) Diskin and Sipula 1994; (c) Jayne et al 1991; (d) Rubey 1993; (e) Chisvo and Jayne 1995; (f) Tschirley and Santos 1995.

Notes: (a) 51% subsidy on refined meal in effect during survey period; (b) white maize grain shortages experienced during survey period due to drought; (b) data reported from the Zambia and 1991 Zimbabwe surveys refer to income terciles rather than quintiles; (c) 7% refined meal subsidy and controls on maize grain availability in effect during survey period; (d) survey conducted immediately after partially-decontrol of the maize marketing system and during continued distribution of yellow refined meal through the official marketing system due to unused yellow maize from the 1992 drought; (e) survey conducted 9 months after most grain marketing restrictions were eliminated; (f) figures are for refined meal and whole yellow meal.



ning of the 1970's, official statistics list only 3 hammer mills in the city. In 1995, there are 155 licensed hammer mills operating, and over 90 percent of these came into operation since the inception of the governments' economic reform program.

6. Small-scale mills have a higher labor-to-investment cost ratio and labor-to-output ratio than large-scale milling. Evidence also suggests that small-scale milling technology has lower start-up costs and would promote greater growth linkages with other local sectors. Increased small-scale milling is expected to have positive effects on employment growth and income distribution.

7. Yellow maize, which is typically available at a price discount relative to white maize, also appears to be a "self-targeted" food. Consumption of yellow maize at the household level is negatively related to income in Mozambique. Contingent valuation surveys in Zimbabwe also suggest that yellow maize consumption would be consumed disproportionately by the poor, if available.

Yellow maize benefits from a well-functioning international commodity exchange, typically costs 10% to 20% less than the limited supplies of white maize on world markets, and is subject to much smaller price fluctuations. Yellow maize may provide the potential both to stabilize prices paid by consumers in the market during poor harvests and to increase the cost-effectiveness of food aid programs in the region through yellow maize's "self-targeted" character.

IMPLICATIONS FOR GOVERNMENTS AND DONORS: There appear to be major opportunities to promote household food security through the use of self-targeted commodities. By further promoting the performance of private production, distribution and processing systems featuring self-targeted commodities, low-income consumers can rely to a greater extent on the market for their food needs, thereby reducing the magnitude of resources required for targeting the needy through administrative food assistance programs. And food aid donors can increase the effectiveness and reduce leakage of their programs

by maximizing the use of self-targeted commodities. These findings are especially relevant in the current environment of fewer food aid resources available from major donor countries.

Inappropriate choice of commodities or distribution systems for relief and/or development purposes, in addition to transferring scarce donor resources to less-needy households, also depresses demand for food in local markets and exacerbates price unpredictability. This has been shown to adversely affect the development of local food markets. For example, the monetization and subsidization of maize food aid processed into refined maize meal through the official marketing channel during the 1992/93 drought in Zimbabwe created serious setbacks for the development of a competitive and low-cost private grain marketing system that donors were trying to encourage.

Governments and food aid donors can increase the benefits of limited food aid resources and market-oriented strategies to promote food security through the use of accurate information on how the demand for various foodstuffs varies by income group, especially the poor.

*Funding for this research was provided by the Food Security and Productivity Unit of the Productive Sector Growth and Environment Division, Office of Sustainable Development, Bureau for Africa, USAID (AFR/SD/PSGE/FSP). The research was conducted under the Food Security II Cooperative Agreement Between AID/Global Bureau, Office of Agriculture and Food Security, and the Department of Agricultural Economics at Michigan State University. The views expressed in this document are exclusively those of the authors.

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This paper is a summary of a report entitled: "Effects of Market Reform on Access to Food by Low-Income Households: Evidence from Four Countries in Eastern and Southern Africa," International Development Paper No. 19. It can be obtained by writing to:

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This paper is also forthcoming as an SD Publication Series technical paper. It can be obtained through USAID's development information system (CDIE) (catalogue number forthcoming).