

SOUTHERN AFRICA: FOOD SECURITY POLICY OPTIONS

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SECTION 2: MARKET LIBERALISATION AND FOOD SECURITY

EFFECTS OF MARKET LIBERALISATION ON FOOD SECURITY IN TANZANIA

H.K.R. Amani, S.M. Kapunda, N.H.I. Lipumba,
and B.J. Ndulu

MARKET LIBERALISATION AND FOOD SECURITY IN MALAWI

B. Kandoole, B. Kaluwa, and S. Buccola

MARKET LIBERALISATION IN ZIMBABWE: THE CASE OF SUBSIDIES, 1980 - 1987

R. Davies

MARKET LIBERALIZATION AND FOOD SECURITY IN MALI

J. Dione and J. Staatz

SECTION 3: HOUSEHOLD FOOD INSECURITY IN SORGHUM BASED FARMING SYSTEMS IN THE SADCC REGION

MAJOR ISSUES IN DESIGNING A RESEACH PROGRAMME ON HOUSEHOLD FOOD INSECURITY

M. Pukuni and R.H. Bernsten

TRADITIONAL HOUSEHOLD STRATEGIES TO COPE WITH FOOD INSECURITY IN THE SADCC REGION

L.M. Zinyama, D.J. Campbell, and T. Matiza

THE STATE OF THE ART OF SORGHUM RESEARCH FOR COMMUNAL FARMERS IN ZIMBABWE

J.N. Mushonga

HOUSEHOLD FOOD INSECURITY IN LOW-RAINFALL AREAS OF ZIMBABWE: INITIAL FINDINGS IN MUDZI, MUTOKO, AND BUHERA COMMUNAL AREAS.

G. Mudimu, C. Mbwanda, S. Chigume, and J. Govere

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HOUSEHOLD FOOD INSECURITY IN LOW-RAINFALL AREAS OF ZIMBABWE: INITIAL FINDINGS IN MUDZI, MUTOKO AND BUHERA COMMUNAL AREAS

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INTRODUCTION

1987-4

The drought years of ~~1981-82~~, 1982-83, ~~1983-84~~ and 1986-87 have highlighted the problem of food insecurity for households in the low-rainfall areas of Zimbabwe. These areas, classified as Natural Regions III, IV, and V, encompass 91% of the communal lands and provide an economic base for approximately 55% of Zimbabwe's population--900,000 farm households (CSO, 1987).

Natural Regions III, IV, and V have infertile soil, low-rainfall (below 700 mm per annum), severe dry spells during the rainy season, and periodic seasonal droughts. Consequently, food and cash crop production are risky. Many households face chronic food insecurity year-after-year. Larger numbers experience transitory food insecurity following the frequent poor seasons.

Since 1980, drought has caused widespread crop failures. The majority of communal households have experienced reduced incomes and food shortages, requiring them to rely on food transfers from the government. Approximately 350,000 households have received government support through commodity food aid or food-for-work programmes. Since 1981-82, the government has spent an estimated Z\$800 million on these programmes, excluding costs borne by non-governmental organisations (Mhiribidi, 1987). In addition, households themselves have been forced to divert remittances from production investment to consumption, dispose of production assets, and migrate in search of alternative income sources. *

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A household is food secure when it is able to acquire--through transfers, production or purchase--food in qualities and quantities that meet the nutritional requirements of its members (Eicher and Staatz, 1984). Increased production of yield-stable food and cash crops will contribute towards improving household food security. Food crop production directly contributes to meeting food needs, while cash generated from crop sales gives purchasing power to households to acquire food sold in the market. Shortfalls in food production and purchasing power that threaten food security are, as a last resort, met through government transfer programmes.

As a long term solution, the government has advocated two strategies to improve the food security and incomes of households in the low-rainfall areas. First, the government is encouraging increased production of high value crops adapted to low rainfall areas to improve cash incomes such as oilseed crops (particularly sunflowers and groundnuts) and cotton.

Second, in the more drought-prone areas, government is encouraging the production of drought-tolerant food grains. Emphasis is on small grains--sorghum, pearl millet (*mhunga*), and finger millet (*rapoko*) with the objective of reducing dependence on maize productions. Maize varieties currently available are highly susceptible to drought and mid-season dry spells.

This paper describes research in progress designed to analyse the nature of household food insecurity in low-rainfall areas, and the potential role of small grains and oilseeds in reducing household food insecurity. This paper develops the research issues to be examined in the study, drawing from both the results of a preliminary (rapid appraisal) survey conducted in the study areas--Buhera, Mudzi, and Mutoko Communal Lands--and presents preliminary analysis of secondary data on production, marketing, and interventions strategies currently in place in the three communal areas.

IMPORTANCE OF THE SMALL GRAINS AND OILSEEDS SUBSECTORS IN HOUSEHOLD FOOD SECURITY

Small grains and oilseeds are alternative crops for farmers in the low-rainfall areas that present an opportunity for increasing household food security and cash income. Important oilseeds in low-rainfall farming systems are sunflowers and groundnuts. Sunflowers are grown solely as a cash crop, but groundnuts are a household source of protein, edible oil, and cash.

At the national level, increased oilseed production would contribute toward reducing Zimbabwe's dependence on imported edible oils. Over the last five years, Zimbabwe has become a deficit producer of vegetable oils and fats. Oilseed production has declined in both the commercial and communal farm sectors, partly because oilseed prices declined relative to

those for maize. Recently, the government has sought to stimulate production of oilseeds by reversing this relative price decline.

Small grains in Zimbabwe include sorghum, pearl millet, and finger millet. Small grains are important as alternative crops for the low-rainfall communal areas because they are drought tolerant, and are staple crops in these areas. In recent years, small grain production has declined as communal farmers adopted improved maize technologies which increased yields and net returns. Comparable improved technologies have not been available for small grains. In addition, farmers have shifted out of small grains production due to the high labour requirement of traditional home-processing methods and the absence of labour-saving processing techniques.

Nevertheless, Zimbabwe currently has a national surplus of small grains. To reduce this stock, government could reduce the producer price for small grains. Yet, this would make small grains even less profitable—thereby reinforcing the shift toward the production of crops such as maize which are less suited to low-rainfall regions. This would have a negative impact on household food security.

A major problem facing the small grain subsector is low utilisation. At the household level, small grain consumption is affected by the availability of maize substitutes, the lower net returns to small grains compared to maize production, high processing costs, and the lack of efficient processing technology. At the industrial level, the Grain Marketing Board's (GMB) selling price ratio between small grains and maize is often cited as the major constraint to increased utilisation. Government policy has concentrated on increasing supply through price incentives to the producer. Yet, the rise in small grain producer prices has placed a further constraint on industrial demand. The pursuit of improved income distribution through higher product prices conflicts with the objective of increasing small grain utilisation. Against this background, research is needed to identify appropriate institutional and price policies to improve producers' net returns, stimulate household demand, and promote industrial utilization.

RESEARCH SITE CHARACTERISTICS

Criteria for research sites selection

The study is sited in three communal lands located in three administrative districts in Natural Regions III, IV, and V. Mutoko District is in Natural Regions III and IV. Mudzi District, adjacent to Mutoko, is wholly in Region IV. Buhera District is divided, roughly equally, between Region III, Region IV, and Region V. The survey research component of the study covers six villages in Natural Region IV and six villages in Natural Region V, with a total of 300 households.

The main criterion for choosing the villages and households is that they be located in Regions IV and V where small grains and oilseeds are widely produced. As described earlier, Natural Regions IV and V are characterized by factors that make crop based farming systems very risky, including:

- o low rainfall (below 700 mm per annum) which is unevenly distributed throughout the season;
- o high temperatures, reducing the effectiveness of rainfall;
- o mid-season severe dry spells; and
- o seasonal droughts.

About 74% of Zimbabwe's communal area is in Natural Regions IV and V (65% of the whole country) and about 65% of the communal lands' population live there. Improving household food security in these areas presents a significant challenge not only for residents in these regions, but also for the whole country.

Natural Regions IV and V are ideal sites for research on oilseeds and small grains. About 66% of the country's small grain area is in communal lands in Regions IV and V, making these crops important sources of food and cash incomes for these households. Furthermore, oilseeds (sunflowers and groundnuts) are possible alternative cash crops, given that they do well in low-rainfall areas.

Demographic and household characteristics

The population densities of Buhera and Mutoko Districts, are above the national average of 22 persons per square kilometre (Table 1). In Buhera, the population is heavily concentrated in the northern and central parts which are in Natural Regions III and IV, respectively. Southern Buhera is wholly in Natural Region V and is sparsely populated (Zimbabwe Government, 1986). Northern Mudzi District is also sparsely populated, partly because of tsetse infestation. Yet, it is experiencing in-migration from other parts of Mashonaland East Province.

Up to 60% of male household heads reside outside Mutoko, performing wage employment, compared with around 30% in Buhera. Thus, remittances are an important income source in Mutoko. A substantial amount of the remittances are in-kind such as agricultural inputs.

In Mutoko District, nearly 98% of the arable land is cultivated, with an average holding of 3.67 ha per household. In sharp contrast, in Mudzi only about 25% of the arable land is cultivated. The average households plant 1.5 ha, although an average of 9.0 ha of arable land are available. This reflects both the sparse population distribution and farmers' inability to cultivate more land because of a draft animal shortage due to tsetse infestation.

Table 1. Characteristics of the household food security research study areas, Zimbabwe.

	Communal Area		
	Buhera	Mudzi ^a	Mutoko
Land area (000 ha)	557	487	149
Land in Natural Region (%):			
Ib			
III	30	0	35
IV	32	100	65
V	38	0	0
Average annual rainfall (mm)	600	650	677
Population (000 people):			
1969	74	31	74
1982	131	67	71
1987	165	73	107
Number of households in 1987 (000)	33	12	13
Population density (people/sq.km)	30	15	71
Household heads away (%)	30-40	40-50	50-60
Households with no land (%)	20-30	5	15-20
Land use in 1985-86 (000 ha):			
Maize	60	15	18
Groundnuts	10	2	3
Sorghum	5	2	1
Millets	130	22	15
Sunflowers	4	2	2
Vegetables	2	2	2
Cotton	0	0	1
Other	20	4	13

^a.Mudzi District includes four communal areas: Chikwizo, Ngarwe, Mukota and Mudzi

Source: Zimbabwe Government (1986).

Northern and central Buhera are under extreme land pressure with nearly 100% of the arable land cultivated. Arable land holdings average 3.0 ha per household (Zimbabwe Government, 1986). These demographic characteristics of Buhera and Mutoko suggest that there is pressure on the economic bases on which households depend for food security.

Cropping patterns

In Mutokō District, the major crops are maize, groundnuts, sunflowers, cotton, sorghum, pearl millet, and finger millets, although maize occupies the largest share of area planted. In Mudzi, farmers grow the same crops as in Mutoko, with cotton and sunflowers grown in pockets with heavy-textured red soils.

Throughout Buhera District, the prevalent crops are maize, groundnuts, pearl millet, sorghum, sunflowers, and finger millet. Small grains are predominantly grown in the south (Natural Region V) and are the dominant crop in terms of land allocation. Groundnuts and sunflowers are more widely grown in northern and central Buhera, while maize is grown throughout, although it is more suited to the north (Natural Region III).

Food preferences

The prevalence of maize and the large share of the land allocated to maize suggests that maize is the preferred grain in Mutoko, Mudzi, and north and central Buhera. However, it is difficult to ascertain household food preference as a number of factors come into play. Maize may be preferred above other grains because of its texture, colour, taste quality, and ease of home processing. Key informants reported that maize is the staple grain that is consumed following harvest. Small grains are stored in reserve and consumed when maize is in short supply. Also small grains can be stored for two to three years, compared with only one year for maize. In production deficient years, households prefer maize over small grains as food aid. Finally, it appears that the lack of a small grains processing technology contributes to the limited consumption of these grains, since home processing of small grains is very time consuming.

Production and marketing statistics

In Mutoko District, the major marketed crops are maize, pearl millet, sorghum, sunflowers, finger millet, and groundnuts. Mudzi's sales pattern is similar to that of Mutoko. In Buhera District, the major marketed crops are maize, sorghum, finger millet, pearl millet, sunflowers, and groundnuts (Table 2).

When deciding which crops to grow for sale, farmers appear to place pri-

Table 2. Crop sales to the GMB by communal area, 1976-77 to 1986-87, Zimbabwe (000 mt)^a.

GMB Intake Year	Buhera						Mudzi						Mutoko											
	Gn		Mz		PM		FM		Sor		Sf		Gn		Mz		PM		FM		Sor		Sf	
1976-77	895	851	b	b	b	b	b	b	b	10	4	b	b	b	b	b	b	b	b	b	b	b	b	b
1977-78	643	986	b	b	127	b	b	b	b	4	6	b	b	b	b	b	b	b	b	b	b	b	b	b
1978-79	2117	137	b	b	190	b	b	b	b	36	103	b	b	b	b	b	b	b	b	b	b	b	b	b
1979-80	286	6	b	b	65	b	b	b	b	NA	NA	b	b	b	b	b	b	b	b	b	b	b	b	b
1980-81	1107	581	b	b	213	b	b	b	b	17	1796	b	b	b	NA	b	b	b	b	b	b	b	b	b
1981-82	496	9244	b	b	128	b	b	b	b	91	3773	b	b	b	14	b	b	b	b	b	b	b	b	b
1982-83	107	3800	b	b	174	b	b	b	b	142	7086	b	b	b	85	b	b	b	b	b	b	b	b	b
1983-84	1	21	b	b	2	b	b	b	b	2	26	b	b	b	18	b	b	b	b	b	b	b	b	b
1984-85	1	864	71	12	161	59	21	3931	69	4	115	133	10	390	24	<1	32	35						
1985-86	31	6818	257	560	982	284	94	3035	753	98	544	346	32	6817	466	167	33	122						
1986-87	249	4411	NA	<1	152	480	369	3300	457	171	197	529	142	6829	55	3	74	138						

^a Gn = groundnuts

Mz = maize

PM = pearl millet (munga)

FM = finger millet (rapoko)

Sor = sorghum

SF = sunflowers

^b No GMB purchases, because this was not a controlled crop in this year.

Source: Grain Marketing Board, from data made available by J. Stanning, Department of Agricultural Economics and Extension, University of Zimbabwe.

ority on planting crops with favourable returns--preferred food crops--and crops with an assured market and price. Changes in groundnut and sunflower production and marketing have resulted from shifts in their relative profitability, relative prices, and marketing policies.

Sources of income

In all three study areas, households depend on marketed cash and food crop surpluses to generate most of their income. The GMB crop intake data indicates that in Mudzi and Mutoko, maize, sorghum, pearl millet, and oilseeds generate the most income. In Buhera, maize, sorghum, and pearl millet are the major cash income generators, respectively. In southern Buhera, cattle and goat sales are also important income sources.

Horticultural crops and fruits provide a sizeable proportion of household income in Mutoko and, to some extent, in Mudzi. Vegetables are grown intensively in wet lands (valleys, river banks, etc.) and are marketed mainly in Harare. Buhera has several irrigation schemes where horticultural production is the most profitable venture.

Remittances constitute a major source of household income in Mutoko. Up to 60% of male household heads engage in wage employment on surrounding commercial farms and in distant urban centres, particularly Harare. In Buhera, where up to 70% of household heads are resident, households have limited access to remittances. In addition, since there are no large-scale commercial farms near Buhera, households do not have an opportunity for farm-wage employment as in Mutoko and Mudzi.

Access to markets

In Mutoko District there is a GMB depot at Mutoko Growth Centre. In addition, several GMB approved buyers operate at the growth centre, one within metres of the GMB depot. About 35-40% of the Mutoko GMB's intake comes through approved buyers. Farmers prefer to market through approved buyers, partly because they are paid upon delivery of their produce. In contrast, the GMB credits the farmer and pays them two-to-three months later. The GMB may prefer farmers to deliver their grain through approved buyers so as to reduce the number of transactions it must conduct. There are two additional collection points in Mutoko, located 20-30 km from the growth point. In contrast, there is no GMB depot in Mudzi communal land, which is 70-90 km away from Mutoko Growth Centre. Therefore, farmers transport their produce directly to Mutoko. Cotton grown in Mutoko and Mudzi is marketed about 200 km away at Shamva because there is no Cotton Marketing Board depot in Mutoko. Mutoko and Mudzi are well serviced by input dealers who have established market outlets at Mutoko Growth Centre.

Buhera is a large district, about 200 km from north-to-south. The GMB

depot is at Buhera Growth Centre, about 150 km from our study area in southern Buhera. The main sources of inputs are in Harare, 223 km away, Rusape about 120 km away or Chivhu about 90 km away--which is poorly stocked with agricultural inputs. The southern part of the district is far from the major retail outlets which are located in the central and northern Buhera.

Improving household food security

Small grains are a major food source in the three communal lands, particularly in Buhera. Inferring from the GMB intake of small grains and oilseeds, these crops constitute a major source of cash income in the study areas.

However, several interventions are needed to enhance the role of small grains and oilseeds in meeting food security and cash needs. Yields are low and severely affected by intra and interseasonal rainfall variability. Therefore, stable and high-yielding varieties are needed. In general, farmers have not adopted recommended management practices. Hence, there is a need to better understand farmers' crop management strategies, reasons for not adopting recommended practices, and the economic viability of available technology under low-rainfall conditions. Particularly in southern Buhera, improved infrastructure may be required to provide farmers greater access to input and product markets.

Currently, there are limited opportunities for off-farm employment within the districts. Creation of alternative income-generating projects would contribute to a long term strategy for improving food security for households without adequate land or those experiencing seasonal food shortages.

HISTORY AND NATURE OF FOOD INSECURITY

History and extent of food insecurity

During the period 1980 to 1987, food insecurity has repeatedly threatened households in the study area. At least 70% of all households received government assistance following the 1986-87 drought (Table 3).

Yet, statistics on households participating in food transfer programmes may give a misleading picture of the magnitude of the food insecurity situation in each district for the following reasons:

- o Recipients of food transfers are selected by ward councillors after making a visual or "spy" assessment of their current production status. This assessment is open to discrepancies. Households with adequate food supplies from past production may be selected on the basis of their current poor performance. Also, it is possible that households

Table 3. Households receiving drought relief in Buhhera, Mudzi, and Mutoko Districts, 1987, Zimbabwe.

District	Total No. of households	<u>Drought relief programme recipients</u>				Total Costs (Z\$ mill)
		Food Aid		Food-for-Work		
		No.	%	No.	%	
Buhera	32,762	15,000	46	10,000	31	4.3
Mudzi	12,760	10,000	78	NA	NA	NA
Mutoko	12,753	4,000	31	5,000	39	1.5

NA Indicates data not available

Source: District administration officials in Buhhera, Mudzi, and Mutoko Districts.

with adequate production and food supplies may be selected due to their influence in the ward.

- o Households with one or more members of the family engaged in wage employment outside the village or ward are automatically disqualified from receiving food aid. However, not all such households receive adequate food transfers from relatives in wage employment. Furthermore, households generally believe that they are entitled to food transfers, irrespective of having access to other means of support. Thus there is no water-tight mechanism for targeting aid to only the truly needy households.
- o Some households engaged in food-for-work are interested in the cash income to purchase other household requirements, not food. Such households may not need food support.
- o Councillors feel that they should share equally all the money earmarked for a district, so they inflate the number of households needing help. Councillors anxious to get their local development projects funded may also do the same to get a larger share of the food-for-work money.

For the above reasons, the actual food insecurity situation could be better or worse than the statistics show. However, no other data are available.

Nature and causes of food insecurity

While Table 3 highlights the incidence of transitory food insecurity caused by interseasonal rainfall variability, no information is available on the incidence and extent of chronic food insecurity in Buhera, Mudzi, and Mutoko districts. The existence and magnitude of chronic food insecurity could be inferred from indicators such as the extent of malnutrition in the population's vulnerable groups percent of households that are landless or without adequate land, and household consumption requirements as a percent of grain produced.

Vulnerability to both chronic and transitory food insecurity may arise from the failure of a household to produce enough grain to meet their needs (supply deficiency); inadequate cash income (purchasing power deficiencies); and the non-availability of food transfers (food transfer deficiencies), due to a number of interrelated factors (Figure 1).

The low crop yield and income levels, which are intrinsic to low-rainfall areas, coupled with inefficient or non-functioning labour and food markets, exacerbate food insecurity caused by interseasonal fluctuations in household food production. Furthermore, the exogenous and endogenous determinants of household food insecurity reinforce each other. Purchasing power deficiency is also a contributor to supply deficiency in that without adequate incomes, households are not in a position to purchase production inputs (e.g., draft power, fertilisers, agricultural labour) needed to increase productivity and output.

Current interventions to alleviate food insecurity

Interventions to alleviate food insecurity include direct relief, supplemental food production programmes, household coping strategies, and technological strategies.

Drought relief

The government's two drought relief programmes aimed at alleviating food insecurity in the short-run are:

- o Direct food aid. Free food is provided to households that have experienced crop failure and have no access to other means of support such as wage employment by any household member.

Figure 1. Factors contributing to food household insecurity

Rural economy	Nature of problem	Contributing Factor
		EXOGENOUS:
	SUPPLY DEFICIENCIES	<u>Technical</u>
PRODUCT MARKETS	o Food produced does not last all year	o Crop varieties
o Inefficient	>	o Cropping system
o Non-functioning	o Food produced inadequate for family size	o Soil type and fertility
o Fluctuations in supply	o Large portion marketed with inadequate left for home use	o Climatic conditions
o High prices		o Rainfall pattern
		<u>Institutional</u>
		o Extension coverage
		o Credit availability
		o Marketing infrastructure
		o Land tenure
EMPLOYMENT MARKETS	PURCHASING POWER DEFICIENCY	<u>Policy</u>
o Few cash income opportunities	>	o Price policy for inputs and outputs
o Inadequate remittances	o Cash generated does not last all year	o Development strategies
o High prices	<	o Non-agricultural wage policies
o Fluctuations in employment		o Consumer price policy
	FOOD TRANSFER DEFICIENCY	ENDOGENOUS
	o Food-for-work	o Household composition
	o Food aid	o Food preferences
		o Resource endowment
		o Income levels and access to income

- o Public Works Project. Food-for-work is designed to increase the purchasing power of households, thereby enabling them to purchase food that is either locally available or made available from the government; and to improve rural infrastructure by employing individuals on rural development projects (e.g., school, dam and road construction, land conservation and/or reclamation, tree planting, water and sanitation projects, and other projects identified at both local and district levels).

A possible criticism of the current free food aid programme is that only maize is provided, even in areas where small grains are the historical staple crop. However, all the key informants interviewed reported that households prefer to receive maize over small grains. Participants in public works projects are selected from households identified as needing assistance (one person per household). They are paid Z\$2 per person per day. Public works projects are better than free food distribution programmes because they avoid creating a dependency, screen households that may not find it attractive to work-for-food, and foster popular participation in development projects (Mbiribidi, 1987). Of the 55 districts in Zimbabwe, Buhera receives the largest amount of money for food-for-work projects (District Administrator, Buhera District, personal communication).

Concern has been raised that some of the food-for-work projects may not contribute to the creation of a stable or improved agricultural base, which would help to reduce the future impact of interseasonal rainfall variability. In Buhera, public works projects emphasise irrigation development, while Mutoko District Administration officials are planning on emphasising income-generating projects (Mutoko District Administrator, personal communication).

Supplementary food production programme

This intervention is aimed at improving the nutritional status of households. It is undertaken by the Ministry of Womens Affairs and Community Development, in conjunction with the Ministry of Health and AGRITEX. Villages are assisted to establish agricultural micro-projects which produce food products with high nutritional value, such as vegetable gardens and rabbit and poultry projects for protein production. These interventions were only observed in Mutoko and Mudzi.

Household coping strategies

Households adopt their own strategies to minimise the undesirable effects of food insecurity. These strategies are a function of the opportunities available to the household and its ability to take advantage of these opportunities. One strategy is to seek local wage employment to obtain cash income. Other strategies include out-migration from affected areas and

disposal of durable assets. The preliminary survey did not investigate household coping strategies in the study areas. To date, there had been little empirical work in Zimbabwe to investigate neither household coping strategies for dealing with recurring food shortages in low-rainfall areas nor the contribution of employment generation in providing food security.

Technological strategies

Long term strategies for improving food security in low-rainfall areas include developing sustainable farming systems for these environments. One component of this strategy is the development of yield-stable and drought-tolerant crop varieties or hybrids. Currently, the Department of Research and Specialist Services (DR&SS) is conducting on-farm trials in Mudzi to evaluate sorghum varieties adapted to low-rainfall conditions which meet household food preferences (i.e., hard white grain).

In Buhera, Mudzi, and Mutoko, AGRITEX is using demonstration plots and field days to encourage farmers to adopt yield-increasing management practices, (i.e., tillage conservation, fertiliser application, appropriate plant population, and appropriate planting time).

PROPOSED RESEARCH FOCUS

The information obtained during the initial assessment of the food security situation in Mudzi, Mutoko, and Buhera Districts helped to establish future research priority in these areas.

The general objectives of the study are to examine the constraints and opportunities to increasing household food security in low-rainfall regions of Zimbabwe through the introduction of new oilseed and small grains technology with special attention on the interdependence between technology, institutions and policy.

The specific objectives of the study are to:

- o describe and analyze the historical and current role of the oilseed and small grains subsectors in the agricultural economy; including aggregate supply (total production and marketings, imports; and interregional distribution of production and marketings); aggregate demand (end uses, including exports); technology development; institutional environment; and government policies (pricing, extension, credit);
- o assess the historical and current role of oilseeds and small grains in the household production system;
- o assess the food security status of households and identify factors associated with interhousehold variability in food security, with

- particular emphasis on the role of government transfer programme in reducing household vulnerability to food insecurity;
- o identify strategies used by households to cope with production instability and the characteristics of households using alternative strategies, with particular emphasis placed on analyzing the role of non-farm employment and remittances as coping strategies;
 - o assess the biological and economic performance of oilseeds and small grains in the historical and current production system in terms of returns to cash and labour inputs;
 - o assess the potential of new oilseed and small grain technology for increasing household food security and the impact of the technology on interhousehold variability in food security;
 - o assess the social, technical, economic, institutional, and policy constraints to introducing both improved oilseed and small grain production technology and the small grain dehulling technology;
 - o assess the potential household and off-farm demand for small grains and small grain products--particularly blending with wheat--as an animal feed source and industrial uses; and constraints to capturing this potential demand;
 - o identify alternative policy recommendations to facilitate the diffusion of new oilseed and small grain technology; including institutional, pricing, marketing, extension, credit, and research interventions.

Five parallel studies, using the same data set, will be carried out in Mutoko, Mudzi, and Buhera Districts to meet the objectives outlined above. Researchers will analyse components of the data set relevant to their specific research objectives. The five studies and their specific foci are:

- o **The Contribution of Oilseed Production to Increasing Cash Income and Improving Household Food Security of in Low Rainfall Communal Lands.** This study focuses on the role of oilseeds in household food security and their contribution to household cash incomes, economics of production technology potential, and constraints and opportunities for expanding production. The principal researcher is Godfrey Mudimu.
- o **Determinants of Household Food Security in Low-rainfall areas of Zimbabwe.** This study focuses on the role of different sources of income and expenditure; the impact of agricultural commercialization; and the impact of alternative policy interventions on household food security. The principle researcher is Charles Chopak.
- o **Household and Industrial Demand for Small Grains: Implications for the Small Grain Subsector.** This study focuses on assessing the demand for small grains; including historical, current, and potential future consumption patterns; and constraints and opportunities to

increasing on and off-farm demand/utilisation of both smallgrains and smallgrain products. The principal researcher is Charles Mbwanda.

- o The Impact of Market Development on Household Food Security in Low-Rainfall Areas of Zimbabwe. This study focuses on describing the marketing institutions (input supply, credit, output marketing, and transportation), assessing their effectiveness, and identifying policy interventions to strengthen their performance. The principal researcher is Solomon Chigume.
- o The Economics of Food Crop Production in Low-Rainfall Communal Lands. This study focuses on identifying technology adoption patterns, crop management strategies, farmer's assessment of technology options, and constraints and opportunities to increasing food crop production. The principal researcher is Jones Govere.

It is anticipated that these studies will provide an in-depth understanding of food insecurity in the research areas; identify the structure of income and expenditure flows; and identify technologies, institutional changes, and policies that will improve household food security in communal areas--particularly production of oilseeds and small grains, as well as greater household and industrial utilization of small grains.

CONCLUSION

The preliminary survey and the secondary data provided an insights into the household food security problems in Mutoko, Mudzi, and Buhera Communal Lands. The proposed studies will extend the depth and breadth of the analysis. It is anticipated that the insights gained will help policy makers, district and local administration organs, extension and research services, and households to reduce the threat of food insecurity.

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