

SOUTHERN AFRICA: FOOD SECURITY POLICY OPTIONS

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FOREWORD

Throughout the SADCC region, policy makers require research results that can be used to design and implement policies that will improve food security in their countries. The objectives of the food security research project is to contribute to strengthening the regional knowledge base by conducting policy relevant research. In implementing this research, the project provides training for young researchers to strengthen their research skills; holds seminars and workshops; and publishes working papers reporting initial findings.

The annual conference provides an opportunity for the collaborating researchers to present their findings, receive feedback from policy makers and government official as a basis for identifying future research priorities, and to stimulate debate on food security policy issues. This proceedings contains revised versions of research papers prepared under the sponsorship of University of Zimbabwe/Michigan State University (UZ/MSU) Food Security Research Project in Southern Africa and presented at the University of Zimbabwe's Third Annual Conference on Food Security Research in Southern Africa, held at the Holiday Inn, Harare, November 1-5, 1987.

The papers included in this volume address critical food security issues in Southern Africa, organised around six themes. In the *Official Opening*, Professor W.J. Kamba, Vice-Chancellor of the University of Zimbabwe, highlights issues in building research capacity in SADCC universities. Representing the Ministry of Lands, Agriculture, and Rural Resettlement, Dr. Sam Muchena provides an overview of the challenges and accomplishments of SADCC's Food Security Programme.

The second section of the proceedings--*SADCC'S Food Security Programme*--presents an update on the current activities of the regional Food Security Programme; including papers on the early warning system, the inventory of agricultural resource bases, postproduction activities, and the regional grain reserve.

The third section--*Market Liberalisation and Food Security*--reports on research that analyses the history and impact of market liberalisation in Tanzania, Malawi, Zimbabwe, and Mali.

The fourth section--*Household Food Security in Sorghum Based Farming Systems in the SADCC Region*--includes papers by social and biological scientists that report on issues in designing household level food security research, traditional strategies for coping with food security, the state of the art for sorghum research in communal areas, the history and characteristics of food insecurity in two communal areas in Zimbabwe, and the implications of farming systems research in Botswana and Northern Nigeria for household food insecurity.

The fifth section--*Access to Food*--includes papers that analyse the role of the Government of Botswana in increasing rural and urban access to food, and the role of nonfarm activities in the rural economy.

The sixth section--*Communal Maize Production, Storage, and Marketing in Zimbabwe*--reports on analysis of the factors responsible for the rapid increase in maize production since independence, and the policy implication of household grain marketing and storage decisions.

The seventh section--*Wheat Production and Imports in the SADCC Region, What are the Tradeoffs?*--includes papers that provide insights into the political economy of wheat production and consumption in Sub-Saharan Africa, the economics of expanding wheat production in Zimbabwe, and the comparative advantage and policy incentives for wheat production in Zimbabwe.

The final section--*Food Trade and Food Aid in the SADCC Region*--includes papers that give an overview of grain trade, barter and triangular trade in the SADCC region; and agricultural marketing and trade policies with a potential to promote food security. In addition, these papers propose research needed to better understand trade policy issues and constraints to expanding intraregional trade.

As the breath of the papers presented at the conference suggests, the Food Security Research Project views food security as much more than simply expanding food production. Food security will only be achieved when all households have the ability to acquire a calorie-adequate diet throughout the year. Improving food security involves two interrelated components: increasing the national availability of food through production, storage, and trade; and increasing household access to food through greater access to production resources, income (from the sale of agricultural products, off-farm work, and nonfarm activities) and government transfers. Therefore, to improve household food security, research needs to address not only micro level issues, but also to evaluate the overall policy environment to determine its impact on producer incentives and the distribution of the benefits of development.

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In the Ministry of Lands, Agriculture, and Rural Resettlement, we acknowledge the generous support provided by Sam Muchena and John Dhliwayo who are responsible for the close collaboration between the food security research project and the SADCC Food Security Technical and Administrative Unit--responsible for developing and managing SADCC's Food Security Programme. They have been particularly helpful in identifying relevant research themes that complement the SADCC programme.

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SADCC'S FOOD SECURITY PROGRAMME: FOOD PROCESSING AND PRESERVATION

A.C. Mosh¹

INTRODUCTION

The Post-Production Food Industry Advisory Unit (PFLAU) was set up in 1984 to spearhead the implementation of projects under the SADCC Food Security Programme on food storage, processing, and preservation. In terms of the SADCC Food Security Programme, the projects examine various methods used in SADCC countries for reducing postproduction losses in major food crops; mainly cereals, grain legumes, vegetables, fruits, oilseeds, roots and tubers, livestock, and fish. Furthermore, existing food industry technologies are being studied with a view to promoting widespread adoption of those that are most appropriate within the SADCC region.

OBJECTIVES, CONSTRAINTS, STRATEGY, AND TACTICS

Objectives

The PFLAU has two main objectives:

- o to improve the efficiency and effectiveness of existing postproduction systems, food-processing industries, and technologies; and
- o to identify and recommend additional research, development and training facilities, and programmes to improve postproduction systems and food preservation processes.

Constraints

As a prerequisite for the PFLAU to assist member states in achieving the above objectives, the following constraints need to be addressed.

- o Policy makers in member states do not clearly perceive the benefits which will accrue to member states through their adoption of improved postproduction techniques and practices.
- o Agricultural policies must be broadened to embrace postproduction activities to compliment their present concentration on production.

¹Team leader and food technologist, Post-Production Food Industry Advisory Unit, SADCC.

- o Inadequate numbers of suitably trained staff are assigned to postproduction research, development, and extension.

Strategy

The fundamental strategy of the PFIAU team has been to act as a catalyst in the postproduction sector of each SADCC member state and regionally.

Depending on the situation and experience in each country (which dictate operational priorities), the team acts to:

- o focus national attention on postproduction problems, improvements, and opportunities so policy makers will initiate positive actions in the postproduction sector;
- o strengthen existing formal training programmes for postproduction professionals and practitioners in the region;
- o strengthen national postproduction programmes aimed at improving postproduction activities; and
- o strengthen national and regional research approaches and on the ground development efforts aimed at improving the postproduction systems.

Tactics

To achieve the objectives detailed for each of the four strategies, the team has worked to establish a national postproduction systems committee in each member country and assist them to develop an effective action program.

Priority has been placed on strengthening postproduction systems of staple food crops--particularly those for which a national or regional improvement programme already exists; including food-processing industry components and preservation and processing at the rural, community, and farm-levels--often through existing national and regional institutions.

The team has contacted donors to gain their support for national postproduction training, research, and development activities. This tactic is necessary as present PFIAU funding only supports core activities. To have a significant and region-wide impact, considerably additional resources are needed. Consequently, the unit assists member states to prepare project proposals and solicit assistance from donors for their implementation.

ACTIVITIES OF THE UNIT

The PFIAU's strategy emphasises initiating catalyse action in the postproduction sector of each SADCC member state and regionally. Circumstances in each country has affected the number and type of actions initiated. In some cases, the project acted in areas markedly divergent from its intended focus on staple foods.

Focusing national attention on postproduction

Our principal activity in this area has been to establish national post-production systems committees in all member states, except Mozambique and Angola. These two countries have chosen to establish a widely based working group under the aegis of a carrier organisation other than the ministry of agriculture or the ministry of internal trade. While these committees have been established and people have been nominated to serve as chairmen and members, they have mainly acted to arrange three national workshops on postproduction systems.

In the face of this situation, the unit established programme events in most countries such as trials, demonstrations, and training workshops. While these activities are catalytic, they will also gradually involve the committees.

The team has demonstrated the value of more extension orientated interventions for mobilising member state public services and other organisations, and will continue to use these methods.

Strengthening existing formal training

Specific interventions have involved training five silo depot managers from Swaziland and several food storage depot managers in Botswana.

The unit reviewed the Winrock report (1985) on training agricultural scientists for Southern Africa and the Gomez report (1983) on the food science training needs in the region. Subsequently, the unit proposed a manpower consultancy designed to measure the effective demand for postproduction skills in the region and the ability of training institutions to provide those skills. Due to circumstances beyond our control, the consultancy team cannot undertake this until 1988.

In addition, the team has established working relations with the University of Zimbabwe, Bunda College of Agriculture (Malawi), Sokoine University (Tanzania), University of Dar es Salaam, University of Botswana, University of Mozambique, University of Lesotho, and University of Swaziland.

Strengthening existing national postproduction activities

Most of our efforts have involved disseminating information, through personal contacts and publications. The PFIAU document collection includes over 1,500 publications. The unit has produced and distributed five newsletter editions. Unit staff have observed the initial rehabilitation of several large-scale food-handling plants in Tanzania, Zambia, Malawi, and Mozambique and is assisting those states, especially in training staff. The unit has established working relationships with the Commonwealth Agricultural Bureau International, ASEAN Food-Handling Bureau, IDRC's Information Sciences Division, and the National Free Library of Zimbabwe.

Strengthening national and regional approaches

Originally ranked last in our scheme, this fourth arena has become increasingly prominent. With the NPPS committees, we have identified intervention which are generating programmes for member nations and their committees.

The unit has developed good working relations with ENDA Zimbabwe, both in their grain storage enterprise and their sorghum-dehulling programme.

A cassava-processing development programme is underway in Angola and recently a similar proposal from Malawi was initiated.

A programme to improve sorghum and other small grains utilisation is being pursued in Tanzania, Zambia, Zimbabwe, Lesotho, Swaziland, and Malawi. This includes investigating traditional technologies to germinate and ferment weaning foods.

Soybean utilisation and processing are active features of our catalytic work in Zambia, Lesotho, and Malawi. Both oil extraction and flour production are involved, as well as the development of rich weaning foods.

Oil extraction from various oilseeds is being promoted in Malawi, Zambia, Tanzania, Angola, and Lesotho. A regional consultation will be held in November 1987 to map out a regional promotion strategy.

The unit is promoting the investigation of methods used by small-farmers to harvest, thresh, dry, store, and handle grain after harvest to identify appropriate existing technology or to develop suitable new technologies.

VISITS TO MEMBER STATES

Team members made 80 visits to SADCC states during 1985 and 1986. The visits demonstrated the value of specifying precise objectives before undertaking trips, without ignoring the value of serendipitous contacts and meetings. Team members found that visits to the hinterland of member states, away from capital cities and head offices, are particularly useful, although a blend must be maintained. Direct outcomes from these visits include the cassava-processing project being developed with Angola and projects on home level weaning food production in Zambia, Botswana, Tanzania, and Lesotho which are in various stages of implementation.

MAJOR RECOMMENDATIONS

The PFAU held its first Broadening the Food Base Workshop in Botswana from April 13-17 April, 1987 which generated several recommendations.

Sorghum and other small grain dehulling

Participants identified promoting the wider utilisation of small grains, especially in the semiarid areas, as an important means of broadening the food

base and improving food security. This could be achieved by promoting mechanical-dehulling of small grains.

Composite flours

Participants agreed to investigate constraints to the commercial adoption of composite flours and recommend means whereby they can be overcome.

Weaning Foods

While improved weaning foods are technically available, they are not widely used. Participants agreed to test the acceptability of weaning foods made from germinated and fermented grains and promote their wider use.

In addition, they agreed to test the technical and economic viability of available small-scale oil expressing machinery and recommend suitable equipment for use in the region; assess the potential uses of oil expression by-products; and make suitable recommendations for each member state.

Training

Delegates requested PFLAU to assist national institutions with training in food science, either directly or through mobilising external assistance.

Coordination

Delegates insisted that making recommendations must go further than committing them to paper. They also recommended that PFLAU must undertake a brokerage role in the exchange of information amongst member states. Delegates agreed to provide information to the unit for this purpose and to contribute articles for the newsletter.

Consultancies

Professor Lee Fletcher was commissioned to undertake a study of the pricing systems of member states as a precursor to the marketing workshop held in November 1986. After he presented the report at our workshop and delegates made constructive criticism, it was accepted and distributed to member states. A follow-up of his recommendations is underway.

Our experience with consultants has led us to take far greater care in devising the objectives and terms of reference for future consultancies. As policy, we now require all consultants to submit their curriculum vitae and a selection of their publications or reports in support of their bid. In the future, preference will be given to qualified regional personnel for consultancies, including commissioning resources people for workshops and seminars.

PUBLICATIONS

PFLAU has published numerous documents, including:

- o five issues of the *Post-Production Systems Newsletter*;
- o an *Annual Report* for 1985 and 1986;
- o a brochure describing the structure and functions of the unit;
- o proceedings of the 1986 and 1987 (in press) RTAC meeting;
- o the proceedings of the five workshops;
- o technical information sheets, prepared by our food-processing technologist, for inclusion in the forthcoming issues of the *Post-Production Systems Newsletter* and planned science and technology features.

The majority of these publications have emanated from the unit's staff, although some of the workshop papers have been further disseminated.

FUTURE PLANS

In the future, the units plans to complete the catalytic work on small grain-processing and products; and concentrate on soliciting funds to implement projects in the region.

The project will place priority on postproduction legumes and oilseeds systems since, together with cereals, they constitute the regional staple whose improvement will most enhance the populations' nutritional status.

In addition, the unit will give priority to processing and preservation of fruit and vegetables during the glut season. This will increase the dry season availability of these produce, providing access to more vitamins and minerals in the diet.

Eventually, the project will address processing and preservation of animal products--especially fish--using technologies applicable in rural areas.

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