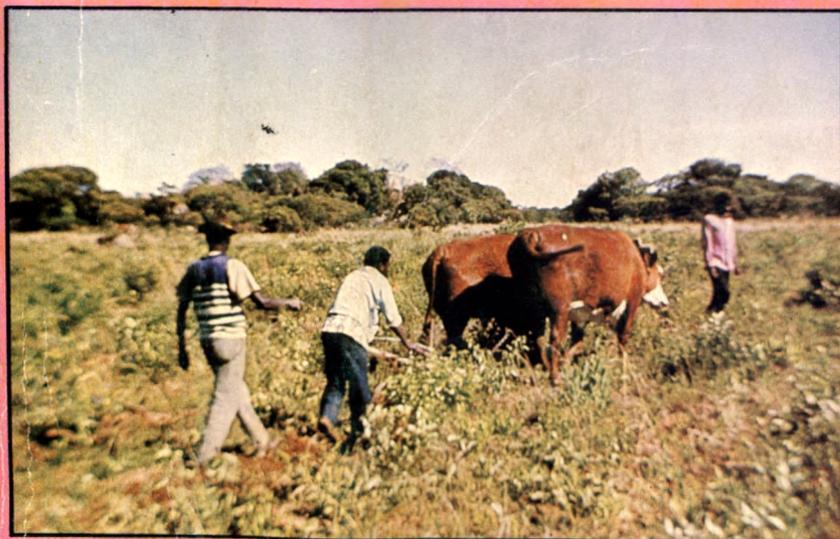

HOUSEHOLD AND NATIONAL FOOD SECURITY IN SOUTHERN AFRICA



Edited by

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**THE IMPACT OF BOTSWANA'S PULA FOR
WORK PROGRAMME ON FOOD ACCESS:
PRELIMINARY FINDINGS**

S. Asefa, A. Gyeke, and H. Siphambe 323

**SECTION 8: CONTRIBUTION OF SMALL-SCALE
RURAL ENTERPRISES TO EMPLOYMENT GENERATION
AND FOOD SECURITY**

**NONFARM INCOME AND FOOD SECURITY:
LESSONS FROM RWANDA**

D.C. Mead 331

**SMALL ENTERPRISE DEVELOPMENT IN RURAL
SWAZILAND: CURRENT STATUS AND RESEARCH
NEEDS**

P.M. Dlamini 339

**SMALL-SCALE RURAL ENTERPRISE DEVELOPMENT
IN TANZANIA: CURRENT STATUS AND RESEARCH
NEEDS**

I.J. Minde 345

**SECTION 9: IMPACT OF IRRIGATION ON FOOD
SECURITY**

**IRRIGATION RESEARCH PRIORITIES FOR
SOUTHERN AFRICA**

M. Rukuni 359

**IRRIGATION AND FOOD SECURITY IN
SWAZILAND: CURRENT STATUS AND RESEARCH
PRIORITIES**

V.M. Sithole and J. Testerink 369

**IRRIGATION AND FOOD SECURITY:
CURRENT STATUS AND RESEARCH PRIORITIES
IN TANZANIA**

S. Sisila 383

IRRIGATED AGRICULTURE IN BOTSWANA

H. Segwele 391

FOREWORD

In 1985 the University of Zimbabwe and Michigan State University initiated a Food Security Research Network for Southern Africa. The objectives of the network are to conduct research that informs policymakers about food security issues and to help strengthen the regional capacity for food policy analysis. The underlying premise of the network is that building excellence in research capacity for national policy analysis comes through experience. In practice, this requires a long-term commitment to analytical capacity building, consistency in funding, and constant interaction between researchers and policymakers.

The network has sponsored four annual conferences for network researchers, policymakers, SADCC officials, and representative of international and donor agencies. The aim of the conference is to share research findings, identify new research themes, and provide an opportunity for policy dialogue between regional researchers, policymakers, and government officials.

The 1988 conference brought together 110 participants who deliberated on 28 papers. In the Official Opening, Vice-Chancellor W.J. Kamba of the University of Zimbabwe highlighted the importance of including health related-issues as a component of food security; and Zimbabwe's Senior Minister of Finance, Economic Planning, and Development B.T.G. Chidzero outlined policy reform priorities for Southern Africa. Subsequent sessions focused on *SADCC's Food Security Programme, the Impact of Market Reform on Food Security, Food Security Policy Options, New Technology to Improve Food Security, Family Food Security Options in Low-Rainfall Areas, Expanding Agricultural Trade in the SADCC Region, Nutrition and Food Security, the Contribution of Small-Scale Rural Enterprises to Employment Generation and Food Security, and the Impact of Irrigation on Food Security.*

A highlight of the 1988 conference was the participation of five nutritionists from Zambia, Zimbabwe, Sweden, and the United States. The presence of the nutritionists stimulated formal and informal discussions on the food access side of the food security equation and drew attention to the need to initiate more research in this area.

A second highlight of the 1988 conference was the attention given to reducing barriers to expanded intraregional trade in the SADCC region. Results presented suggest that there appear to be substantial price and nonprice barriers to expanded trade. Nevertheless, there exist significant opportunities for expanding intraregional trade that can be realized through appropriate government initiatives.

This proceeding contains revised papers prepared under the sponsorship of the University of Zimbabwe/Michigan State University Food Security Research Project in Southern Africa and presented at the University of Zimbabwe's Fourth Annual Conference on Food Security Research in Southern Africa, held at the Holiday Inn, Harare, October 31-November 3, 1988.

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The Fourth Annual Conference on Food Security Research in Southern Africa provided an opportunity for regional researchers, policymakers, government officials, private sector participants, and donor representatives to share research results and experiences in improving food security in Southern Africa. The studies reported in the proceedings are part of a larger cooperative agreement project on food security in Sub-Saharan Africa that is directed by Michael Weber of Michigan State University's Department of Agricultural Economics. The UZ/MSU Food Security Research Programme is being carried out in conjunction with the Department of Agricultural Economics and Extension, University of Zimbabwe.

Many individuals and institutions have contributed to making the conference a success. We extend our gratitude to the authors of the research papers for their intellectual contributions to the debate on improving food security in Southern Africa; and to the policymakers, private sector participants, government officials, and donor representatives for attending the conference and sharing their insights on the critical issues raised.

The Food Security Research Project has benefitted from the generous support of Sam Muchena and John Dhliwayo, of the Ministry of Lands, Agriculture, and Rural Resettlement (Zimbabwe). In their roles as leaders of SADCC's Food Security Administrative and Technical Unit, they have been particularly helpful in planning the annual conference and identifying relevant research themes that complement SADCC's Food Security Programme.

The Food Security Research Project is financed by the U.S. Agency for International Development, Bureau of Science and Technology; Bureau for Africa; and the Southern Africa Regional Programme; under a *Food Security in Africa* cooperative agreement (DAN-1190-A-00-4092-00) with the Department of Agricultural Economics, Michigan State University and Memorandum of Understanding with the Department of Agricultural Economics and Extension, University of Zimbabwe. We are particularly appreciative of the support we have received from USAID officials, including Allison Herrick, Eric Witt, Joshua Mushuari, Doug Pickett, and Brad Wallach of USAID/Zimbabwe; and our Washington-based project managers, Michael Yates (Science and Technology) and Patricia O'Brien (Africa Bureau).

We convey our appreciation to Thembi Sibanda and Murie Hutchison for an excellent job in organizing the Fourth Annual Conference, and to the numerous individuals who helped to make the conference a success: Lovemore Nyabako, Maxwell Chiwashira, Sampson Maguhudze, George Nyamatemba, Ronald Sagwete, Pete Hopkins, and Andrew Barnes.

We are especially indebted to Corinne Smith for her patience, skill, and dedication in word processing the proceedings--and to her husband, Lionel, for his assistance in solving software problems. Their team effort has made this publication possible.

Finally, we thank Chris Wolf and Elizabeth Bartilson for providing software support.

**CONTRIBUTION OF SMALL-SCALE
RURAL ENTERPRISES TO EMPLOYMENT
GENERATION AND FOOD SECURITY**

NONFARM INCOME AND FOOD SECURITY: LESSONS FROM RWANDA

Donald C. Mead¹

INTRODUCTION

Among households most at risk, in terms of household food security in Southern Africa, a significant proportion face serious constraints in the area of agriculture. Often these are households with small farms, sometimes with poor soils and/or poor climatic conditions. For many such households, it seems unrealistic to think that they could attain satisfactory levels of income, and therefore of food, solely on the basis of their own agricultural production. Income and food security for many of these will require that crop and livestock production from their own farms be supplemented by *alternative employment activities*: either working for others in agriculture or in nonagricultural pursuits.

If this is true for the most disadvantaged households in the SADCC region, it is true to an even greater extent in densely populated countries like Rwanda, where most farms are already very small and high population growth rates impose continuing pressures for further land subdivision. In such circumstances, the challenge to find alternative sources of income and employment is particularly urgent. The present paper reviews information from Rwanda to explore the question whether it is realistic to think that nonfarm activities can provide answers to these pressures in that very heavily populated country.

The paper first provides a brief overview of the nature of nonagricultural employment sources in Rwanda: what are people currently doing? Secondly, it explores some of the characteristics of these enterprises, particularly the small nonfarm enterprises in rural areas, examining the prospects that they can help create new income-earning opportunities for rural farm households. Third, the paper reviews the policy context in which these enterprises operate, to determine the extent to which the policy environment currently hinders the growth of employment among these enterprises and to suggest areas needing change in this regard. The paper ends with a brief discussion of needed modifications in research design in the analysis of rural nonfarm enterprises to make this research more responsive to the needs of analysts in the area of food security.

ALTERNATIVE EMPLOYMENT OPPORTUNITIES

Productive activities in an economy can be categorized according to two different criteria: the location of the activity and the economic sector in which it takes place. This separation gives rise to the following classification (Table 1).

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Table 1. Typology of the location of economic activities.

		Location of economic activity	
		On-farm	Off-farm
Sector of economic activity	Farm	1	2
	Nonfarm	3	4

Table 2. Level of employment in principle economic activities, Rwanda, 1985.

Activity	People employed
Family agriculture (approximate) ^a	2,600,000
Wage labour in agriculture ^b	55,000
Non farm activities ^c	
Mining	10,000
Manufacturing	127,000
Electricity, water	1,200
Construction	32,000
Commerce, transport, finance	33,000
Government and personal services	76,000
Total nonfarm employment	279,000
Total economically active population	2,934,000

^aQuadrant 1 in Table 1.

^bQuadrant 2 in Table 1.

^cBoth on- and off-farm; quadrant 3 and 4 in Table 1.

Source: Khim, (1987)

Piecing together information from a variety of partial sources, the level of employment by principal economic activity in Rwanda in 1985 (Table 2).

Food security analysts will need to supplement their primary focus on quadrant 1 in Table 1 with an appraisal of the contributions to the farm household derived from income and employment in quadrants 2, 3 and 4. This paper limits its attention to nonfarm activities (quadrants 3 and 4).

The data in Table 2 reports only on principal economic activities, whereas people may in fact be engaged in multiple pursuits. Those who regard themselves as being primarily in family agriculture, for example, may be engaged in other activities for part of the year. With that caveat, the figures suggest that only about 11% of the

labour force was engaged in economic activities outside of family agriculture. Of this total, 38% was in manufacturing, 23% in governmental and personal services while nearly 20% worked as wage labour in agriculture. Of those engaged in manufacturing, over 90% were in small, informal establishments. The overwhelming majority of these are in rural areas of the country. The major activities of this type include brewing traditional beer, making bricks, tiles and pottery, tailoring and embroidery, basketry, and carpentry.

The magnitude of the employment challenge facing the country is made clear if one recognizes that the economically active population of the country is currently increasing at a rate of about 90,000 persons per year. With little potential for increasing productive employment in traditional agriculture, the need for new jobs in other sectors of the economy is overwhelming.

CHARACTERISTICS OF RURAL SMALL ENTERPRISES

An examination of the characteristics and potential for growth among small rural manufacturing enterprises reveals a number of common features:

- o Most are producing for highly localized markets. The overwhelming characteristic of these markets is their very small size. The average rural household in Rwanda has total consumption of about US\$725 per year². Of that amount, only about US\$270 was in cash (the rest being consumption of food produced on one's own farm). Cash expenditures on nonfood products amounted to only about US\$135 per household per year (just over US\$10 per household per month). Even with a million rural households in the country, the local markets for products of small industries are very limited. For virtually all small producers, demand constraints arising from limited markets constitute their most serious problem.
- o Most of these enterprises produce simple and standardized products using simple technologies, with low levels of skills and small amounts of capital.
- o The great majority of workers in small manufacturing enterprises are in family establishments, operated with no hired labour. This means that most income-earning opportunities of this type involve working for oneself or one's family, not hiring out as a paid labourer for others. But studies in other countries suggest that enterprises organized as purely family undertakings seem to have the least favourable prospects in terms of productivity, sustainability, and growth.
- o A basic characteristic of many (though not all) activities in this segment of the economy is that of minimal barriers to entry. Requirements in terms of managerial or technical skills or capital are minimal, while government controls and regulations are virtually nonexistent. With large numbers of people under

²54,000 francs, at US\$1 = FRw 75. These figures and those that follow in this paragraph are taken from Rwanda Government, (1988).

economy expanding too slowly to absorb all the new entrants to the labor force, the number of people seeking to work in these activities continues to expand at rates which exert a continuous downward pressure on returns (prices of goods and services produced as well as returns per week or per year through ensuing underemployment).

- o With low levels of technical and managerial skills, these small producers have only rarely succeeded in effecting a transformation whereby they could become modern small- or medium-sized producers. Most of the modern manufacturing firms in Rwanda were started as larger-scale enterprises, rather than evolving out of cottage or artisanal production. Research under way in a number of countries suggests that this is a common feature of African manufacturing enterprises.

This review suggests that the potential for productive growth in employment and income among rural nonagricultural enterprises is likely to be selective. There are a number of product lines where there are good opportunities for expansion, modernization, and growth of employment and income. But there are also substantial areas where employment is likely to continue to increase, but only because people cannot find jobs elsewhere. These can provide some income supplement, but very little prospects for significantly productive employment.

THE POLICY ENVIRONMENT

The question arises as to the extent to which this conclusion is a result of an unfavorable policy environment. With changes in the policy context, would it be possible to establish a more dynamic growth in employment among rural nonfarm enterprises? Analysis suggests that there are a number of areas of policy which currently discourage the modernization and growth of such enterprises.

Taxation policy

In the area of taxation, very small enterprises are generally not recognized by the government and pay virtually no taxes. But if a firm seeks to modernize and expand, it is subject to a variety of fees and charges which are disproportionate to its sales or profits. While there are now procedures which would permit such firms to gain exemption from such levies through the tax holidays permitted by the investment code, the procedures are complicated and have not yet been effective in helping such firms overcome the serious fiscal hurdles associated with this transition.

Credit policy

In the credit area, while most large firms say they are well served by the country's financial system, most small producers complain vigorously about their inability to obtain credit. Yet, the financial institutions insist that they are ready and anxious to make funds available to small borrowers who have financially viable projects. Extensive discussions are under way seeking to join these two positions. At least three dimensions are involved.

- o On the collateral question, there are a number of special guarantee funds designed to provide loan guarantees in cases where the borrower has inadequate resources. These help, although they have been of assistance to only a small fraction of those seeking loans.
- o There is talk of introducing alternative loan approval procedures: character-based (rather than project-based) evaluations, repeat lending starting with small amounts and short repayment periods but with opportunities for expansion, and lending to individuals in the context of a group, with group responsibilities for repayment.
- o It is recognized that small producers have an urgent need for direct assistance in developing viable investment projects.

In general, limitations in the credit area do not appear to be the binding constraint limiting the growth of small rural enterprises. Yet, a more effective credit system clearly could provide some encouragement to such producers.

Protection

The most powerful instrument of industrial promotion in Rwanda, as elsewhere in the third world, is that of protection. This protection is provided through a combination of tariffs, licences, and the exchange rate. In the Rwandan context, protection is effected primarily through import licensing, issued (or not issued) by officials of the National Bank in consultation with the Ministry of Finance and Economy, based on their appraisal of the country's needs as well as the capacity of local producers to supply those needs. When combined with the ready availability of imported inputs purchased on favourable terms as a result of a somewhat overvalued exchange rate, high levels of protection are afforded particularly for activities involving the transformation of imported inputs, often with only low levels of value added in world prices. The discretionary nature of this system of protection means that it works most powerfully for the benefit of large-scale producers; small enterprises have benefited only to a smaller extent.

Need for more effective assistance

While a number of changes have been made to reduce its discriminatory impacts, the policy context in Rwanda continues to be significantly more favourable to large enterprises than to small producers. A more size-neutral policy environment would remove some of the obstacles which still hinder this transition. Yet, a close examination of the problems facing small producers indicates that even a size-neutral policy environment would leave in place many obstacles to enterprise growth whose removal requires the provision of direct assistance to small producers. There is a need for more effective assistance in three areas:

- o technical: dissemination of information about alternative technologies, about appropriate machinery and equipment, as well as advising on a continuing basis on the use of such technologies;
- o economic: dissemination of information about products and product modifications which enterprises might introduce and markets which they might

seek to enter, based on a more comprehensive study of local, national, and regional markets in particular subsectors; and

- o improvements in enterprise management, in all of its dimensions.

Such interventions can be thought of as the rural nonfarm counterpart of agricultural research and extension. Both are equally justified and necessary for the promotion of a dynamic rural economy. In Rwanda, such project initiatives are urgently needed to help create an environment in which increasing numbers of small producers can escape the trap in which many of them are currently caught, where there are too many producers selling too limited a range of products in too restricted a market.

RESEARCH ISSUES

Much has been learned over the past decade in research on rural small enterprises. To address the needs of food security research, a number of additional issues need to be introduced into that analysis.

The locational dimension of rural enterprises

Small enterprise research has paid little attention to detailed locational issues within the rural sector. Food security research suggests that the greatest needs for income from off-farm and nonfarm activities may be in locations where agricultural conditions are particularly unfavourable. Yet, if small rural producers sell primarily in local markets and the limited size of such markets constitute the principle constraint on their growth, then the locations most in need of help from such nonagricultural employment may be precisely those areas where it is most difficult for nonfarm activities to expand. This type of linkage issue has not been addressed in the nonfarm enterprise research to date.

Timing issues

Rural markets are highly seasonal in terms of labour requirements, input supply needs, and product demands. A key issue relates to the ways in which nonagricultural activities can be made complementary rather than competitive with this inherent agricultural seasonality. One advantage often claimed for rural small enterprises is their ability to operate in ways which offset the seasonality of the agricultural cycle. Yet, limited evidence suggests that nonfarm enterprises which are run on such a counter-seasonal basis are poorly equipped to provide more than minimal returns to those who engage in them. Again, this is an issue which has received little attention in the rural nonfarm enterprise research, but which could be important in terms of its potential contribution to household food security.

Commerce, services, etc.

The primary focus of research on rural nonfarm enterprises in Rwanda, as in most other countries, has been on manufacturing enterprises (including, to be sure, enterprises of all sizes). Yet, studies in Rwanda indicate clearly the importance of construction, commerce, and repair services in rural labour use. A study of the

construction sector, for example, makes clear that as rural incomes rise, one of the first uses of additional income is in improving one's house, (Khiem, 1988). In the same vein, a study of the garment industry shows that a significant part of the employment in the subsector came from repairing, pressing, and selling used clothing (Haggblade, 1986). Limited information from other parts of Africa indicates that expenditure elasticities for services are substantially higher among rural African consumers than for nonfood manufactured goods (Haggblade, Hazell, and Brown, 1987). Commercial activities and other similar services must be produced locally since they cannot be imported. Furthermore, they often have a high labor content. Merchants can also play a significant role in opening up new markets for isolated producers, in supplying information about buyers' preferences, new products which could find markets, etc. The comparative neglect of such service activities in previous research needs to be rectified.

CONCLUSION

To date, research on food security and on rural nonfarm enterprises has run along two parallel, if generally separate, tracks:

Food security research, with the farm household as its unit of analysis and a primary focus on agricultural activities, has regularly documented the importance of off-farm employment and nonfarm income sources in the farm household. Yet, it has generally not set out to explore the prospects for expanding employment and income from these sources.

Small enterprise research, by contrast, with the rural nonfarm enterprise as its central focus of analysis, has frequently been concerned precisely with examining the prospects for growth of such enterprises, and with policies needed to promote such growth. While the approach has taken account of a variety of links with agriculture, it has not focused on the ability of nonfarm enterprises to provide income and employment to particular groups of households unable to provide acceptable levels of food security through their own on-farm agricultural production. Nor has it explored the nature of rural labor markets which determine the extent to which expanding nonfarm employment opportunities in one region will spread to other less-favoured locations. These are the challenges which face those who would seek to explore the ability of off-farm employment and nonfarm enterprises to contribute to the resolution of the food security problem.

REFERENCES

- Haggblade, S. 1986. *The textile garment subsector in Rwanda*. Investment Incentive Studies Working Paper No. 1. Government of Rwanda, Ministry of Finance and Economy.

Haggblade, S., P. Hazel, and Brown. 1987. Farm-nonfarm linkages in rural Sub-Saharan Africa. Discussion Paper Report No. ARU 67. Research Unit, Agriculture and Rural Development Department, Operational Policy Staff, World Bank, May 1987.

Khiem, Nguyen Huu. 1987. *Study of Employment in Rwanda*. Investment Studies Working Paper No. 6. Government of Rwanda and Ministry of Finance and Economy. pp. 9, 11 and 53.

-----, 1988. *A study of the construction subsector in Rwanda*. Investment Studies Working Paper No. 8. Government of Rwanda and Ministry of Finance and Economy.

Rwanda Government, Ministry of Plan, Director General of Statistics. 1988. *National budget and consumption survey in rural areas: final consumption and sources of revenue of rural households*. May. p. 15. Government Printer, Kigali.



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