

NON-FARM INCOME AND FOOD SECURITY:

LESSONS FROM RWANDA

By

Donald C. Mead  
Visiting Professor  
Department of Agricultural Economics  
Michigan State University

Paper presented at the Food Security in Southern Africa Fourth Annual University of Zimbabwe/Michigan State University Conference, Harare Holiday Inn, 31 October-4 November, 1988

This paper reports on research undertaken in the framework of a project entitled Policy Reform Initiatives in Manufacturing and Employment (PRIME), funded by the United States Agency for International Development through the Bureau of Science and Technology, Office of Rural and Institutional Development. The work in Rwanda was a component of the Employment and Enterprise Policy Analysis Project (EEPA) (Contract No. DAN-5426-C-00-4098-00), and was undertaken through an EEPA subcontract with Michigan State University. The support of the U. S. Agency for International Development is gratefully acknowledged.

## 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 non-agricultural 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 non-farm activities can provide answers to these pressures in that very heavily populated country.

The paper first provides a brief overview of the nature of non-agricultural employment sources in Rwanda: what are people currently doing? Secondly, it explores some of the characteristics of these enterprises, particularly the small non-farm 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 non-farm 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 diagram:

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

Piecing together information from a variety of partial sources, the level of employment by principal economic activity in Rwanda in 1985 was as follows:

Family agriculture (quadrant 1): approximately 2,600,000  
Wage labor in agriculture (quadrant 2): 55,000

Non-farm activities, both on and off the farm (quadrants 3 + 4):

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 non-farm employment 279,000

Total economically active population 2,934,000

Source: Khiem, Nguyen Huu, Study of Employment in Rwanda, Working Paper No. 6, pp. 9, 11, 53.

Food security analysts will need to supplement their primary focus on quadrant 1 in the diagram above 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 non-farm activities (quadrants 3 and 4).

The data in the table above report 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 labor 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 labor 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 the brewing of traditional beer, the making of 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:

-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 \$725 per year<sup>1</sup>. Of that amount, only about \$270 was in cash (the rest being consumption of food produced on one's own farm). Cash expenditures on non-food products amounted to only about \$135 per household per year (just over \$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.

-Most of these enterprises produce simple and standardized products using simple technologies, with low levels of skills and small amounts of capital.

-The great majority of workers in small manufacturing enterprises are in family establishments, operated with no hired labor. This means that most income-earning opportunities of this type involve working for oneself or one's family, not hiring out as a paid laborer for others. But studies in other countries suggest that enterprises organized as purely family undertakings seem to have the least favorable prospects in terms of productivity, sustainability and growth.

---

<sup>1</sup> 54,000 francs, at \$ 1 = FRw 75. These figures and those that follow in this paragraph are taken from Government of Rwanda, Ministry of Plan, Direction General of Statistics, National Budget and Consumption Survey in the Rural Area: Final Consumption and Sources of Revenue of Rural Households, (May, 1988), p. 15.

-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 non-existent. With large numbers of people under pressure to find income-earning opportunities and with other segments of the 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 under-employment).

-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 non-agricultural 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 non-farm enterprises?

Analysis suggests that there are a number of areas of policy which currently discourage the modernization and growth of such enterprises.

-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.

-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.

i) 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.

ii) 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.

iii) 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.

-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, licenses 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 favorable 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 benefitted only to a smaller extent.

While a number of changes have been made to reduce its discriminatory impacts, the policy context in Rwanda continues to be significantly more favorable 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:

-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;

-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

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

Such interventions can be thought of as the rural non-farm 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 non-farm activities may be in locations where agricultural conditions are particularly unfavorable. 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 non-agricultural employment may be precisely those areas where it is most difficult for non-farm activities to expand. This type of linkage issue has not been addressed in the non-farm enterprise research to date.

-Timing issues. Rural markets are highly seasonal in terms of labor requirements, input supply needs and product demands. A key issue relates to the ways in which non-agricultural 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 non-farm 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 non-farm 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 non-farm 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 labor 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.<sup>2</sup> 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.<sup>3</sup> Limited information from other parts of Africa indicates that expenditure elasticities for services are substantially higher among rural African consumers than for non-food manufactured goods.<sup>4</sup> Commercial activities and other similar services must be produced

---

<sup>2</sup> Nguyen Huu Khiem, A Study of the Construction Subsector in Rwanda, Government of Rwanda, Ministry of Finance and Economy, Investment Incentives Studies Working Paper No. 8, June, 1988.

<sup>3</sup> Steve Haggblade, The Textile Garment Subsector in Rwanda, Government of Rwanda, Ministry of Finance and Economy, Investment Incentives Studies Working Paper No. 1, September, 1986.

<sup>4</sup> See, in particular, Haggblade, Hazell and Brown, "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.

locally (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.

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

i) 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 non-farm 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.

ii) Small enterprise research, by contrast, with the rural non-farm enterprise as its central focus of analysis, has frequently been concerned precisely with an examination of 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 non-farm 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 non-farm employment opportunities in one region will spread to other less favored locations. These are the challenges which face those who would seek to explore the ability of off-farm employment and non-farm enterprises to contribute to the resolution of the food security problem.