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The Economics of Migration in the Volta Basin of Ghana

Household and District-level Analysis

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CHAPTER 1 INTRODUCTION

1.1 Background

The unparalleled movement of people within the borders of their own countries is one of the greatest transformations witnessed in the 20th century. There is currently a growing recognition that migration can offer an important route out of poverty for many people from developing countries. Thus policy makers in many developing countries view migration as one of the most important factors affecting the path of development. It is within this perspective that the Globaler Wandel des Wasserkreislaufes (GLOWA-Volta) project¹ launched this sub-project dealing with migration studies in the Volta Basin (VB) of Ghana.

Sub-Saharan Africa (SSA) has one of the world's fastest growing populations. This rapid population growth has led to increased pressure on available farmland and environmental deterioration, in which both problems affect the capacity of the farm households to carry out sustainable and sufficient production activities. The environmental deterioration additionally increases the costs of agricultural production and hence contributes to poverty and environmentally induced migration.² Given this environmental deterioration, farming rarely provides a sufficient means of survival in rural areas of SSA countries. Consequently, most households are found to depend on a diverse portfolio of activities and income sources.

According to Carney (1998) and Ellis (1998), poor rural households in West Africa have three principal options to improve their livelihoods: agricultural expansion/intensification or 'natural resource-based activities'; diversification into non-agricultural sources of income or 'non-natural resource-based activities'; and/or migration to other agricultural areas or to urban areas. These are not

¹ The GLOWA-Volta Project is an interdisciplinary project that strives to support sustainable water resource management in the Volta Basin. The primary goal is the development of a Decision Support System (DSS) that will help the authorities in Ghana, Burkina Faso and the other riparian countries to optimize water allocation within the basin. This study is one of the sub-projects in the context of the whole GLOWA-Volta project.

² Some authors, however, are against drawing a linear deterministic relationship between environmental degradation and population migration (Berger, 2002). Kliot (2001) (cited in Berger, 2002) mentioned, for example, that immediate causation between environmental degradation and migration is usually taken for granted but lacks documented evidence.

separate, mutually exclusive paths: the vast majority of rural households or families in SSA follow at least two of the three strategies simultaneously. These activities readily help farm households achieve production-consumption goals that are consistent with their resource levels and allows continuous farm production. For example, empirical studies show that in southern Africa, 80-90% of rural household incomes are derived from non-farm income sources (Ellis, 1998).

Important among the diverse portfolio of activities available to a farm household is migration. Migration, unlike other off-farm and non-farm self-employment activities, apparently makes a household member unavailable for farm activities for an extended period of time and thus reducing the existing farm labour force. Thus migration may reduce farm output; however, the migrant may send remittance which serves as compensation to the farm household. Additionally, migration of a farm household member, in spite of a possible loss of productive labour, reduces the size of the farm household relative to the family farmland, which subsequently reduces the pressure or demand upon the farmland. Therefore, this study tries to understand the combined effect of migration upon farm households.

In Ghana, migration comprises a large proportion of people's livelihood strategies and thus definitely shapes the national economy. The rural Ghana is no longer confined to its economic role of food production but it is at present a source of labour for urban areas. Accordingly, much policy attention has been directed to the issue of rural-urban migration, where the urgency in policy has to do with the perceived consequences of a fast city growth. As a leading cause for population distribution, migration is not only a reaction to changing patterns of resource availability and utilization but also the outcome of an individual, family, or group decision making process.

1.2 Problem Statement

Ghana has devoted much attention in the size, composition, distribution and activities of its population. The principal manifestation of this has been the highly structured census in 1960, 1970, 1984 and 2000 as well as the successive publication volumes documenting the results. The actual concern of Ghana's population, however, is not so much its size, which is about 19 million, but its annual population growth rate. The growth rate is currently estimated at 3%, which yields a doubling time of about 23 years (Boadu, 1999). This high population growth presents a big challenge to

Ghana's development and has far reaching implications. The resulting increased pressure on agricultural land and the continuous undertaking of the extensive-shifting cultivation by farm households affects and will continue to affect Ghana's development for years to come.

Thus, in Ghana, population dynamics and population growth in particular drives the intensification of agricultural production which places undue pressure on land, subsequently leading to rural-urban migration. Van de Giessen et al. (2001) mentioned that poverty and increasing population pressure have led to extensive migration and over exploitation of the natural resource in the VB of Ghana. This high population growth rate coupled with the extremely low incomes of much of the population, results in over-exploitation of natural resources of the basin, which seriously affects the region's sustainable development.

In view of the effects of high population growth, there are two contradictory approaches: the Malthusian and Boserup approaches. Malthus believed that human population increases geometrically while food supplies can only grow arithmetically since they are limited by available land and technological development. Boserup (1990), however has stressed the notion that population growth will stimulate the search for and adoption of new technologies of production, thus providing a positive impact. According to Boserup (1990) this is true not only of investment in traditional food production but also in the production of special export crops. In addition to the intensification option proposed by Boserup, this study considers that an individual may migrate as a coping strategy for poverty and as a means of diversifying income sources.

Large flows of migrants from relatively dry climatic areas to more humid zones are prevalent in the Sahelian zone of Africa. This flow of migrants reduces the soil depletion that would occur in the absence of such migration, whereas migration leads to environmental damage in the destination areas as forest is turned into cultivated land. Apart from its resource related influences, migration, if unmanaged or poorly managed, can have immense socio-economic costs for governments, societies and the migrants themselves.

As Stark (1993) has noted, research on developing countries which seeks to analyse the impact of out-migration from rural areas upon economic development and/or living standards in the area of origin must acknowledge that people's livelihoods are principally characterized by 'risk spreading'

behaviour. This is especially true for rural households in West Africa. The low returns to labour and the risk-proneness of the natural and economic environment in West Africa have implications for the study of migration. Causes, patterns and consequences of migration cannot be studied in isolation from people's other livelihood strategies nor their level of livelihood security.

This study applies migration modelling to different district characteristics, allowing an endogenous view on migration dynamics. This study additionally aims to characterize the determinants and effects of migration at the household-level. Knowledge about the correlations between migration flows and socio-economic development in Ghana is to date insufficient. There are many studies on seasonal migration to the cocoa plantations in Ghana and many more on rural-urban migration. But there is no regional-level migration studies in Ghana. Thus this research on district-level migration flows in the VB of Ghana represents a new frontier in migration studies in Ghana. This study concentrates on discovering the determinants of migration and developing a spatial migration model for the forecast of migration flows and ultimately investigating the possible relationship between migration and other socio-economic and environmental factors.

The research results will be relevant to policy makers, development planners and researchers. Investigating migration flows and decisions can be of principal interest to government and business planning. It helps governments formulate policies capable of enhancing, ameliorating or otherwise altering future internal migration flows, as well as responding to past migration by providing quantifiable rationalizations for the distribution of public goods. The optimal allocation of resources and services, matching the supply to the future demand of these resources and services to demand necessitates an accurate forecast of individuals' long term movements over spatial and temporal scales.

1.3 Objectives and Research Questions

In migration research it is important to discover why certain destinations attract large number of migrants than others. What attributes of a place make it attractive to a migrant and how sensitive are migrants to changes in these attributes? The answers to these questions can be used in forecasting migration patterns.

Many factors in the VB of Ghana affect the availability and usage of household resources, such as land conversion, shifts in land use, and developments in infrastructure: all actions which tie into and affect migration. These factors are, in turn, related to economic development, population dynamics, education, public health, security and governance, issues which also affect migration and migration decisions. Thus this research has the overall objective of analysing the determinants and effects of migration decisions at household and investigating district-level migration flows in the VB of Ghana.³

The specific aims of the research can be articulated as follows:

1. To examine the determinants of migration decisions at household-level, thus evaluating the income difference of migrant and non-migrant households; and, to explain and estimate a model of returns to migration which explicitly accounts for the self-selection of migrant households from the sample.
2. To investigate the direct and indirect effects of migration from the rural areas on the income sources of the households that send out-migrants; and, to measure the various and sometimes competing effects of migration on the sending households and discuss policy implications.
3. To identify the main factors shaping migration flows at the district-level and to consider the spatial flows of people by examining the net-sending and net-receiving districts in the VB of Ghana.

Accordingly, the particular research questions addressed in this study are the following:

1. What are the determinants of the household-level migration decision making process in Ghana's VB; what is the importance of income differentials in explaining the migration decision of households; and, are there significant differences between incomes of migrant and non-migrant households?

³ This work is part of the over all integrated model in the GLOWA-Volta project. Therefore, at a later stage, the spatial migration flows results will be combined to water allocation, land-use and atmospheric models of other sub-projects in the project.

2. How does sending out a migrant from a household, which implies reduction in available labour, affect the farm and non-farm income in the short-term; and, what are the effects of remittances on income generated by the rural household in both its farm and non-farm self-employment enterprises?
3. What is the picture of inter-district migration flows in the VB of Ghana; and which district attributes (socio-economic and environmental factors) affect these migration flows within the basin?

1.4 Outline of the Study

The entire thesis is organized into eight chapters. Chapter 2 describes the history, dynamics and features of migration in Ghana. The stream of migration as well as the causes and impacts of migration in Ghana are observed in some detail in this chapter. Chapter 3 focuses on theoretical framework of migration modelling. Syntheses of selected theories of migration as well as the economic derivation of the gravity model and the theoretical relationship between in- and out-migration models are discussed. Chapter 4 is a descriptive chapter that helps to acquaint readers with the VB of Ghana. It includes an overview of the basin's environmental, and socio-economic conditions. This chapter also explains the sampling procedure and describes the census and survey data used in the study.

Chapter 5 explains the determinants of the household migration decision with a special emphasis on the role of income differential between migrant and non-migrant households in determining household migration decisions. The chapter builds upon the New Economics of Labour Migration (NELM), a theory which considers the role of intra-household exchange of information for the migration decision of household members. As migrants are non-random part of the population, the issue of self-selection is considered to estimate consistent migration incomes. Subsequently, the migration equation is corrected for selectivity bias using the Heckman procedure.

Chapter 6 examines the impacts of rural out-migration upon the source community. Explicitly, this chapter addresses the direct and indirect effects of migration from the rural areas on the income sources of the households that send out-migrants. In this chapter, the various effects of migration

upon the sending households are measured and subsequently policy implications are discussed. The Zero Inflated Poisson (ZIP) model is used to get the predicted number of migrants per household. The Iterated Three Stages Least Squares (3 SLS) method followed by a bootstrapping procedure is employed to determine and measure the net effect of migration on the households' income sources.

Chapter 7 analyzes the internal migration patterns at district-level and illuminates important district-level characteristics that explain the in- and out-flows. This is carried out by testing the influence of the conventional economic, environmental, infrastructural, and human capital factors on the direction of migration flows. We improve on previous studies of migration by analyzing gross flows rather than net flows in order to properly distinguish the determinants of in- and out-migration rates separately. Our major data source is the Ghana 2000 census data. The complete matrix of inter-district migration flows, which shows district-level changes of residence between 1995 and 2000, is the basis of the analysis. Using GIS mapping, chapter 7 identifies the net-sending and net-receiving districts.

Chapter 8 concludes the whole study by presenting a summary of the main findings of the dissertation, addressing program and policy implications and finally providing suggestions for future research.

CHAPTER 2 HISTORY, DYNAMICS, AND FEATURES OF MIGRATION IN GHANA

The aim of this chapter is to present historical and descriptive overview of the general migration phenomenon in Ghana. The first section is an introduction into the chapter. The second section deals with the historical perspective of migration in Ghana. The features of migration in Ghana, specifying the structure of migration stream, the reasons for migration and the migrant characteristics is described in the third section. The fourth section presents the impacts of migration in the economy of households with special reference to the agricultural areas. Section five summarizes.

2.1 Introduction

Much of the land in Africa is too infertile to allow sedentary farming to be carried on indefinitely in one place (Caldwell, 1969). Consequently, shifting cultivation and nomadic herding, which may range over hundreds of miles, have been longstanding characteristics of African's lives. Due to the ecological limitations of the land and other economic reasons, the people of Africa are perpetually on the move perhaps more so than people of other regions of the world (Ammassari et al., 2001). Migration has long been a key element of people's survival and advancement strategies in Africa.

Within Africa, West Africa is one of the few regions of the world where relatively large-scale free movement of people takes place (Zachariah and Conde, 1981) in which internal migration accounts for most of the migratory movements (Adepoju, 2003). Traditionally, population movement has been a characteristic of the social and economic life of the people of West Africa. Studies (Russell et al., 1990 cited in Ammassari et al., 2001) indicate that the highest concentration of migrants and refugees are registered in West Africa, a region that is well known for its extensive migration systems that reach beyond the African continent. In West Africa, international migration remains predominantly intra-regional⁴ and occurs mainly between neighbouring countries due to the artificial boundaries demarcating socially homogeneous people of West Africa into separate states.

⁴ According to Adepoju (2003), most cross-border movements, involve female traders, farm labourers, unskilled workers, and nomads who pay little attention to arbitrary national borders are essentially intra-regional.

Within West Africa, Ghana and Côte d'Ivoire⁵ used to be the major traditional migrant receiving countries in the sub-region while Burkina Faso, Guinea, Mali and Togo are the major labour-exporting countries (Adepoju, 2003). In Ghana, as in other West African countries, migration is not a recent phenomenon. It has been a way of life even before the advent of the market economy. That may be the reason for Caldwell (1969) to conclude that 'there cannot be many countries in the world in which migrant labour is as important as it is in the Ghanaian economy'.

2.2 Historical Perspective of Migration in Ghana

In the pre-colonial period, most of the population movements were unavoidable and were associated with war, slave trade disasters, the search for fertile farmland and the colonization of new areas (Adepoju, 1981). Hill (1970) mentioned that as far back as 1890s there were reports of migrant farmers in the Eastern Region, who moved out of their homes in search of fertile lands for cocoa cultivation. Migration in Ghana during the pre-colonial period was more of forced than voluntary.

During the colonial period, Ghana served as a destination for migrants from other parts of West Africa, namely, Côte d'Ivoire, Sierra Leone, Burkina Faso, Nigeria, Mali and Niger. Such substantial numbers of people immigrated to Ghana, that in 1960, 8.3% of the total population was classified as born outside Ghana (Nabila, 1974). The main reason was the job opportunities at the mines, cocoa farms and urban areas. Additionally, a few foreign immigrants from the Middle East (especially Lebanese and Syrians), India, Europe and North America were living in Ghana. These movements continued until the 1960s. However, in November 1969, the Government of Ghana ordered all aliens without valid residence permits to leave the country. As a result, many aliens (mostly African) left Ghana at such a rate that the proportion of people born outside Ghana fell from 8.3% in 1960 to only 4.1% in 1970 (Nabila, 1974).

The history of migration in Ghana is rich in accounts of various forms of movements within national boundaries for purposes of trade and as a consequence of natural disasters and warfare (Mabogunje, 1972; Addo, 1980; Adepoju, 1981). Though there was evidence of forced labour during the early colonial period (Zachariah and Conde, 1981), with the introduction of colonial rule and the

⁵ Côte d'Ivoire is no longer a net migrant receiving country (World Fact Book, 2003).