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INTRODUCTION TO ECONOMICS OF AGRICULTURAL DEVELOPMENT

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INTRODUCTION TO ECONOMICS OF AGRICULTURAL DEVELOPMENT

McGraw-Hill Series in Agricultural Economics

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Norton and Alwang: Introduction to Economics of Agricultural Development

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PREFACE

Hunger, massive population growth, and poverty are among the most critical problems of our time, and many solutions to them have been suggested. It is now generally agreed that agricultural development has a key role to play, that economic interactions among nations are increasingly important, and that agricultural development requires both improved technologies and improved institutions. However, the complex development process must be tailored to each country's resource base and stage of development. The challenge in studying the economics of agricultural development is to build a broad view of the problem, and to bring economic theory to bear on both the development of agriculture and on the means for utilizing agricultural surpluses to further overall economic development. The goal of this book is to help students and other interested practitioners understand agricultural development and acquire the analytical skills that will enhance their capability to solve development problems.

This book interprets for undergraduates the economic theory found in graduate-level development texts. It also illustrates the importance of modifying that theory to account for imperfect information and for the willingness of people to exploit others. These modifications provide important insights for development policy and help explain why some countries develop while others are left behind. This book stresses the importance in agricultural development of enhanced information flows. It covers such topics as sustainability of the natural resource environment, macroeconomic policies, causes of and solutions to external debt problems, the roles of women in agricultural development, and the effects of foreign aid—topics not found in less comprehensive agricultural development text books.

INTENDED AUDIENCE

Introduction to Economics of Agricultural Development is designed as a comprehensive text for a first course in the economics of agricultural development. We were motivated to write it after having taught undergraduate students for several years the economics of agricultural development without a readily

accessible textbook targeted at that audience. Hence, this book is aimed at undergraduate students who have only a course in introductory economics as prerequisite. Because such students frequently represent a wide variety of disciplines, economic jargon is kept to a minimum and is explained where necessary. A second audience for the book is those who work for public and private international development organizations.

ORGANIZATION OF THE BOOK

Introduction to Economics of Agricultural Development contains five major sections. Part One considers the many dimensions of the world food-income-population problem in both a human and an economic context. Chapter 1 summarizes key dimensions of the world food situation, describes the interrelationships among poverty, food production, and hunger, and discusses the meaning of economic development. Chapter 2 examines forms of, causes of, and solutions to hunger and malnutrition. Chapter 3 reviews basic economic principles and relates them to the demand for and supply of food in developing countries. Chapter 4 explores basic facts and issues related to population growth and to rural-to-urban migration.

With the severity and dimensions of the food-income-population problem identified, Part Two describes theories of economic development that have been suggested as potential solutions as well as the role of agriculture in those theories. Chapter 5 both presents economic concepts related to agricultural production and discusses the six basic sources of economic growth and the economic transformation that occurs as development proceeds. Chapter 6 reviews economic development theories and stresses the importance of tailoring a development strategy to the resource base and stage of development of a particular country. Chapter 7 describes the food and fiber, labor, capital, foreign exchange, market demand, and rural welfare contributions of agriculture.

Although Part Two establishes the importance of agriculture, it is difficult to design means for improving agriculture without first having a basic understanding of existing agricultural systems. Hence, Part Three provides students with an overview of traditional farming and agricultural systems in less-developed countries. Chapter 8 describes common characteristics of traditional agriculture and presents two case studies that illustrate these characteristics. Chapter 9 explores differences in agricultural systems, factors that influence the types of systems, and the crucial roles of women in agriculture.

With the importance of agriculture established in Part Two and the nature of existing agriculture considered in Part Three, Part Four then examines agricultural development theories and the elements, both technical and institutional, required for improving the agricultural sector. In Chap. 10, alternative agricultural development theories are summarized, with emphasis on the theory of induced innovation. However, the implications for that theory of transactions costs and collective action are explored. The need to build on, but also

to modify, our current agricultural development theories is stressed. Means for enhancing information flows and for generating enlightened self-interest are discussed. Chapter 11 considers the meaning of land tenure and the need for land reform; Chap. 12 examines the nature of, causes of, and solutions to environmental problems related to agriculture; Chap. 13 focuses on the importance of access to inputs and credit. Rural money-markets and government credit policies are discussed. Chapter 14 considers how and why governments intervene in agricultural markets and stresses the role of government in providing marketing infrastructure and information. Chapter 15 discusses the critical role of agricultural research in generating improved technologies and institutions, the organization and transfer of agricultural research, and the roles of education and agricultural extension.

Part Five moves beyond the agricultural sector and considers international trade, foreign aid, and macroeconomic forces and policies that feed back on agricultural development. Chapter 16 explores why countries trade and explores trade problems and potential solutions. Chapter 17 examines macroeconomic policies in developing countries and their relationships to agriculture. Causes of, effects of, and solutions to external debt problems are addressed. Chapter 18 identifies the rationale for and types of foreign assistance to agriculture. Positive and negative effects of food aid are considered. Finally, Chap. 19 summarizes and integrates various components of the book. Future prospects for agricultural development are assessed, and ways that individuals can help solve the food-poverty-population problem are suggested.

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George W. Norton

Jeffrey Alwang

CONTENTS

PART ONE

DIMENSIONS OF WORLD FOOD AND DEVELOPMENT PROBLEMS

Rural family in Colombia.

CHAPTER 1

INTRODUCTION

Most hunger is caused by a failure to gain access to the locally available food or to the means to produce food directly.

Timmer, Falcon, and Pearson[1]

THIS CHAPTER

1 Examines the basic dimensions of the world food situation
2 Discusses the meaning and purpose of economic development
3 Identifies the key role of agriculture in economic development

OVERVIEW OF THE FOOD-POVERTY-POPULATION PROBLEM

One of the greatest challenges facing the world is to find solutions to problems of hunger and poverty in less-developed countries. Despite concerted development efforts since World War II, millions of people remain ill-fed, poorly housed, underemployed, and afflicted by a variety of illnesses. These people must regularly endure the pain of watching their loved ones die prematurely, often from preventable causes. Also, in many countries the natural resource base is being rapidly degraded, with potentially serious implications for the well-being of future generations.

[1] C. Peter Timmer, Walter P. Falcon, and Scott R. Pearson, *Food Policy Analysis* (Baltimore: Johns Hopkins University Press, 1983), p. 7.

Why do these problems continue, how severe are they, and what are their fundamental causes? What can agriculture do to help solve the problems and how might agriculture itself be improved? To what extent do relatively rich nations influence agriculture, the environment, and economic conditions in relatively poor nations and vice versa? These are some of the questions addressed in this book.

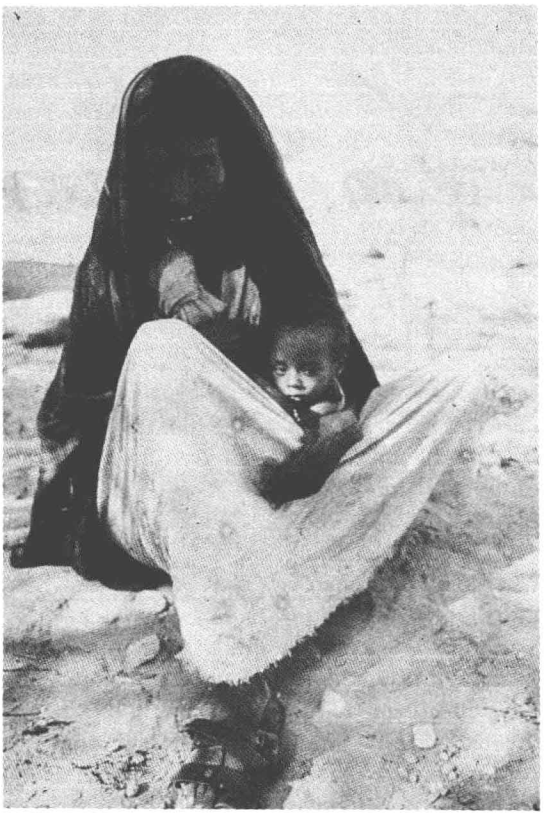
Much has been learned over the past four decades about the roles of improved technologies, rural infrastructure, education, agricultural policies, macroeconomic policies, and international trade and aid in agricultural development. These lessons and other potential solutions to development problems are examined herein from an economic perspective. The need to modify standard economic theory to incorporate the key role of enhanced information flows in guiding institutional change is stressed. Such modification is made necessary by the social, cultural, and political changes that accompany the development process. This modified economic model can provide insights into why some economies develop while others are left behind. The current chapter begins with an overview of the world *food-poverty-population problem.*

World Food and Income Situation

Are people hungry because the world does not produce enough food? No. In the aggregate, the world produces a surplus of food. If the world's food supply were evenly divided among the world's population, each person would receive substantially more than the minimum amount of nutrients required for survival. The world is not on the brink of starvation. Population has increased roughly 50 percent over the past 20 years, but food production has grown even faster.

If total food supplies are plentiful, why do people die from hunger-related causes every year? At its most basic level, hunger is a poverty problem. Only the poor go hungry. They go hungry because they cannot afford food or cannot produce enough of it themselves. The very poorest groups tend to include: families of the unemployed or underemployed landless laborers; the elderly, handicapped, and orphans; and persons experiencing temporary misfortune due to weather, agricultural pests, or political upheaval. Thus, hunger is for some people a chronic problem and for others a periodic or temporary problem. Many of the poorest people live in rural areas.

Hunger is both an individual problem related to the distribution of income and food within countries and a national and regional problem related to the geographic distribution of food, income, and population. Approximately half of the world's population lives in nations in which annual per capita incomes (total income divided by the number of people) average less than $500. These nations are found primarily in Asia and Africa. Most of the world's poor and hungry live in Asia. However, severe hunger and poverty problems exist in many Sub-Saharan African and some Latin American countries.



Woman and child in Ethiopia.

While hunger and poverty are found in every region of the world, Sub-Saharan Africa is the only major region where per capita food production has experienced a downward trend for the past 20 years. As Fig. 1-1 shows, per capita food production in Africa has fallen since 1970. Over the same period, the Latin American and Asian regions have experienced relatively steady increases. Per capita calorie availability is below minimum nutritional standards in many Sub-Saharan countries. Low agricultural productivity (farm output divided by farm inputs), wide variations in yields due to natural, economic, and political causes, and rapid population growth have combined to create a very precarious food situation in these countries.

Annual variation in food production has been a serious problem as well, particularly in Sub-Saharan Africa (Fig. 1-1). This variation has caused periodic famines in individual countries, particularly when the production problems have been compounded by political upheaval or wars that have hindered international relief efforts. Production variability causes wide price swings that reduce food security for millions who are on the margin of being able to purchase food. If the world is to eliminate hunger, it must distinguish among