Preface

Agricultural development has been on the agenda of many countries for quite some time now. While some countries have made progress, other still struggle. The consequences of not making sufficient progress are reflected in the lives of the millions of farmers in developing countries, the lives of farm workers and their families and the nutritional status of all persons particularly the more vulnerable young and the elderly.

Food security has been more recently added to the agenda of countries. Food security and agricultural development are in inextricably linked; there can be no claim to being food secure if your agricultural systems are not experiencing some level of development. In more recent times, the issue of food and nutrition security has risen to the top of developing countries’ agendas. It is not sufficient for a nation to be food secure; the nutritional status of its people must also be assured.

Developing nations can be described as those countries that are really seeking to improve the lives of its peoples in all regards. While economic development may be foremost, other development areas are increasingly being added. Many developing nations around the world can be regarded as emerging economies, and they represent at some estimates, approximately 80% of the global population. Developing nations are under some pressure to deliver a lot for its people. However, such development is not without risks in the political and social environments.

The title of this book reflects these three linked concepts. As such, the various chapters were well-chosen and sequenced so as to tell a story of experiences in selected countries worldwide.

Chapter 1 looks at the impacts of trade agreements in the African Caribbean and Pacific (ACP) nations on food production, food security and poverty. Many ACP countries can be described as developing countries and the author firstly reviews the situational content before moving on to present an analysis of the impact of trade liberalization on these economies. As such, poverty is discussed, followed by the importance of agriculture to these countries, then the impact of accelerated trade liberalization and agriculture protectionism. After these experiences are examined, the author concludes that while some benefits of trade liberalization have been achieved, the jury is still out on whether it has helped or hindered agricultural development and by extension the lives of people.

Chapter 2 focuses on the environmental and social impacts of agricultural development. This chapter builds on the first chapter which analyzed selected policy interventions. Sustaining the environment, as well enhancing the social fabric of countries, are being increasing pushed to the top of development agendas. Agriculture based economies no longer want development at any cost; their environment and people’s lives are just as important. Authors of this chapter present the world’s food need situation in 2050 and argue that while developed nations are making progress, developing nations face many challenges in trying to become food secure. The chapter details the environmental and social issues that
Preface

The advances in genetics and biotechnology have developed crops and plants that are resistant to disease, pests, and environmental stress. These crops can be modified and adapted to farmers’ needs. Smallholder farmers and farmers in developing countries can be maximized and a cohesive strategy to address challenges is presented. Readers in developing nations struggling with similar issues can find possible entry points to address their own situations.

Chapter 3 puts smallholder farmers under the microscope. Over 80% of the farming in developing nations is done by small holders operating on farms of less than 5 acres and in many of the smaller island nations production occurs on farms less than 2 acres. The challenges such small holders face are unique to each country. As such, a global perspective on this issue is not described, but rather authors focus on the small developing Caribbean nation of St. Kitts which has been actively seeking new methods and applying alternative technologies over the last few years in an attempt to hasten agricultural development and attain some measure of food security. Authors discuss various experiences and then offer a range of possible adoptive strategies, policy recommendations and future research areas. Readers have the opportunity to examine all recommendations and make their own judgment on what may be useful to explore in their own country situation.

The book’s deliberations then shift slightly from the wider content to examine the key areas of agricultural extension services to support countries in their food security initiatives, and the whole area of Information and Communication Technologies (ICTs) in knowledge exchange.

Chapter 4 focuses on agricultural extension services in African countries; mainly agriculture dependent and more so rain-fed agriculture. Readers are presented with an assessment of extension methodologies used over the years, their successes and short comings. The purpose was to present the case for developing nations not to simply accept extension methodologies developed elsewhere, but to fashion their own approaches to the education of small holders given the particularly acute situations under which such farmers are expected to contribute to the nation’s food security goals. Authors, in the final sections of the chapter, call for developing countries to create a sustainable extension system that is socially acceptable, culturally compatible, economically viable and environmentally friendly.

Chapter 5 builds on the previous chapter and focuses on the use of ICTs to provide information in a timely manner to rural populations. ICTs have grown tremendously over the last few years and their use as development tools in agriculture is now widely recognized. Authors show that providing correct and personalized information needs expert opinions and show how engagement with multi stakeholders makes the process more efficient with ICTs by providing a very unique platform for such collaborations. Tools and technologies they suggest can be tailored to meet the needs of end users and several are discussed in the chapter. Readers can then make their own assessment of what is appropriate and useful in other developing countries given their own technological and infrastructural development stage.

The book discussion swings again to address some specific production systems that are top of the agenda for developing economies. Organic agriculture as a potential food security action area, genetically modified crops as an alternative or complementary production system and the use of plant bio technology to speed up efforts using the latest scientific advances.

Chapter 6 deals with the topic of organic food production. The sustainable use of natural resources has come to the fore and sustainable agricultural systems are being pursued in developed countries. Developing countries are now increasing the use of organic production systems. In this chapter, the changes in organic production from both temporal and spatial perspectives are analyzed. Readers can evaluate the experiences of Turkey which has reported both successes and challenges. The challenges present opportunities for growth and authors discuss this issue towards the end of the chapter.
Chapter 7 reviews the status of Genetically Modified (GM) crops in Africa. It discusses the scope for expansion, possible impacts on food security and the validity of concerns about bio-safety. This is an all important topic for food security. GM crops have been promoted for some time now as the answer to hunger and malnutrition; mainly in poorer developing nations. While some have embraced this technology, others are skeptical. Particularly in Africa, where hunger is persistent, the issue of GM crops needs to be fully interrogated. Chapter authors do just that and presents information for readers to make their own decisions. No one can force a county to adopt GM crops. This has to be an informed decision and this chapter offers several discussion points for persons to ponder.

Chapter 8 focuses on the area of plant bio-technology applications. Bio-technology has the potential to deliver solutions to some of the short comings of the green revolution such as conventional breeding which often times result in poor quality and insufficient quantity of planting materials. Readers are exposed to some successful applications of plant bio-technology for sustainable food production. Such applications hold promise to bring about food security in a shorter time and with reduced negative environmental consequences. This chapter presents some to the most up to date techniques being reported and readers have the opportunity to evaluate the applicability of results to their own circumstances given that bio-technology may require support from institutions, particularly financial support for its development if it is to be successful.

The book continues to explore best practices for food security with a special focus on the Caribbean.

In Chapter 9, authors contend that best practices for food security must move beyond the traditional, known and well researched systems of cultivation. They broach the topic of using edible wild plants to complement other strategic crops that are currently being considered to overcome food security challenges. Can insects be used as another source of food? The authors, like others before them, once again raise the issue of local chickens, indigenous livestock and wildlife as sources of food, particularly to meet protein needs. Such systems, they argue have been pushed aside by highly commercialized systems of production and time has shown that developing countries cannot fully adopt many of the practices of developed countries wholesale. As such, they must explore and seek to develop local and indigenous sources of food and associated systems of production.

Chapter 10 presents the specific experiences of the development of the horticulture industry in the Andaman and Nicobar Islands, India. It is useful because its tropical nature is similar to many of the other developing countries in the tropical world. Details are provided for plantation crops, roots and tubers, vegetables, spices and medicinal plants. The development of these crops; successes and challenges, offer the case for active consideration by development planners as they seek to shift consumption patterns towards the use of more locally grown food and the increased utilization of spices and medicinal plants by its people. Farm incomes and the livelihoods of millions of people in emerging economies can be improved.

Following the Asian experiences, Chapter 11 presents an African experience. This chapter explores the factors, based on studies conducted, which impact productivity in the agricultural sector in Uganda. This is a developing country surrounded by many other similarly positioned African nations. As such, the determinants of agricultural productivity can be evaluated by such countries and appropriate actions can be taken. Authors not only describe the poor state of the agricultural sector, but also link it to development efforts which have not been pro-poor and inclusive of the main stakeholders. Several recommendations are made towards the end of the chapter to increase productivity and to make growth process more broad-based, pro-poor, and inclusive.
Preface

Chapter 12 is unique. The USA is a developed economy, no doubt about that. Yet, in many states, researchers find areas, cities and towns both urban and rural, with characteristics that bear striking resemblance to those of developing countries. One such place is South Bend, Indiana. It is included in the book because it details the unique experience of using spatial technologies to help develop stronger community networks, participatory planning and greater collaboration among stakeholders. These three issues are major concerns in many developing nations and are often significant limiting factors to the achievement of food security. Readers are presented with the use of Geographic Information Systems (GIS) and associated technologies to help organizations, communities and leaders, local organizations, planners and the urban poor, to work together to alleviate poverty and malnutrition. GIS and associated technologies are becoming more accessible and available for use by developing nations and its applicability to contribute to food security goals cannot be ignored.

The final chapter, Chapter 13, deals with a topic that is not much discussed in the literature, but is one that plagues farmers worldwide and many countries consider as a major threat to the achievement of food security. Farm theft or praedial larceny as it is called in the Caribbean, refers to the theft of agricultural produce and farm equipment. Because of inadequate accounting systems, it is hard to prove and perpetrators have almost a free license in the Caribbean. It is so important simply because the theft of even a small item of farm equipment can mean the end of a small farmer’s means of livelihood for a considerable time. Authors not only examine the current status of farm theft in the Caribbean but also explore some of the main drivers of such theft, review some of the current solutions applied and then go on to make several recommendations based on experiences elsewhere in the world to create a more secure food region.

After reading this book, one will appreciate the challenges faced by emerging economies as they seek to become food and nutrition secure. The book is rich in successful experiences that can be considered, innovations that could be embraced, technologies that if applied have the potential to hasten food security goals in developing nations.