

# AGRO-INDUSTRIES FOR DEVELOPMENT



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# AGRO-INDUSTRIES FOR DEVELOPMENT

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# Foreword

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Developing competitive agro-industries is crucial for generating employment and income opportunities. It also contributes to enhancing the quality of, and the demand for, farm products. Agro-industries have the potential to provide employment for the rural population not only in farming, but also in off-farm activities such as handling, packaging, processing, transporting and marketing of food and agricultural products. There are clear indications that agro-industries are having a significant global impact on economic development and poverty reduction, in both urban and rural communities. However, the full potential of agro-industries as an engine for economic development has not yet been realized in many developing countries, especially in Africa.

To address these issues, the Food and Agriculture Organization of the United Nations (FAO), the United Nations Industrial Development Organization (UNIDO) and the International Fund for Agricultural Development (IFAD) organized the first Global Agro-Industries Forum (GAIF) in New Delhi, India, from 8 to 11 April 2008. The Forum developed a shared vision on the factors critical to the future development of agro-industries, the key factors affecting their competitiveness, and potential priority action areas. The objectives of the Forum were threefold: to learn lessons from previous efforts and successes to develop competitive agro-industries in the developing world; to ensure stronger collaboration and joint activities among multi-lateral organizations working on agro-industrialization; and to clarify the distinctive roles of the public sector, multi-lateral organizations and the private sector in agro-industrial development. A related objective was to engage international organizations and financial institutions into launching initiatives at national and regional levels to foster agro-industrial development.

FAO, UNIDO and IFAD are committed partners for the development of a shared vision to maximize the impact of the agro-industrial sector on the livelihoods of those in the developing world. Our agencies are working together to assist their Member States in creating enabling environments for the develop-

ment of agribusiness, agro-industries and agro-based value chains. We are doing this through the formulation and implementation of strategies for improving policies, regulatory frameworks, institutions and services. We are also promoting the incorporation of agro-industrial development strategies into country level programme frameworks and strategic action plans to assist the poor and small farmers.

This publication is an outcome of the Global Agro-Industries Forum. It has evolved through contributions from scholars and development practitioners aimed at highlighting the current status and future course of agro-industries and bringing further attention to the valuable contribution that the agro-industrial sector can make to international development. FAO, UNIDO and IFAD expect that the materials presented here will help advance the knowledge and enrich the debate on the role of agro-industries in generating employment, creating income, and fighting poverty in the developing world.

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Rome and Vienna,  
May 2009  
The Editors

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# 1

## Introduction

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The demand for food and agricultural products is changing in unprecedented ways. Increases in per capita incomes, higher urbanization and the growing numbers of women in the workforce engender greater demand for high-value commodities, processed products and ready-prepared foods. A clear trend exists towards diets that include more animal products such as fish, meat and dairy products, which in turn increases the demand for feed grains (FAO, 2007). There is also a growing use of agricultural products, particularly grains and oil crops, as bioenergy production feedstock. International trade and communications are accelerating changes in demand, leading to convergence of dietary patterns as well as growing interest in ethnic foods from specific geographical locations.

The nature and extent of the changing structure of agrifood demand offer unprecedented opportunities for diversification and value addition in agriculture, particularly in developing countries. As a reflection of changing consumer demand, the 1990s witnessed a diversification of production in developing countries into non-traditional fruits and vegetables. The share of developing countries in world trade of non-traditional fruits and vegetables has increased rapidly in the recent past (FAO, 2007). According to Rabobank, global processed foods sales per year are estimated at well over US\$3 trillion, or approximately three-quarters of the total food sales internationally (Rabobank, 2008). While most of these sales are in high-income countries, the percentages of global manufacturing value addition for the main agro-industry manufacturing product categories generated by developing countries have nearly doubled in the last 25 years (FAO, 2007).

The prospects for continued growth in demand for value-added food and agricultural products constitute an incentive for increased attention to agro-industries development within the context of economic growth, food security and poverty-fighting strategies. Agro-industries, here understood as a component of the manufacturing sector where value is added to agricultural raw

materials through processing and handling operations, are known to be efficient engines of growth and development. With their forward and backward linkages, agro-industries have high multiplier effects in terms of job creation and value addition. A new dairy processing plant, for instance, creates jobs not only at its own transformation facilities, but also at dairy farms and in milk collection, farm input supply and product distribution. The demand pull created by an agro-industrial enterprise stimulates businesses well beyond the closest links with its direct input suppliers and product buyers; a whole range of ancillary services and supporting activities in the secondary and tertiary sectors of the economy are also positively impacted. Because of the generally perishable and bulky characteristics of agricultural products, many agro-industrial plants and smaller-scale agro-processing enterprises tend to be located close to their major sources of raw materials. Consequently, their immediate socio-economic impacts tend to be exerted in rural areas.

The World Development Report 2008 (World Bank, 2007) called attention to the fact that some 800 million people are considered poor, subsisting with incomes of less than US\$1 per day. Among the world's poor, 75% live in rural areas, having agriculture as a major source of livelihood. Fighting poverty will require that economic growth and development are brought to rural areas. Agro-industries, as will be argued in the ensuing chapters of this book, are part of the answer to this challenge.

The accelerated growth of agro-industries in developing countries also poses risks in terms of equity, sustainability and inclusiveness. Where there is unbalanced market power in agrifood chains, value addition and capture can be concentrated among one or a few chain participants, to the detriment of the others. Agro-industries will be sustainable only if they are competitive in terms of costs, prices, operational efficiencies, product offers and other associated parameters and only if the prices they are able to pay farmers are remunerative for those farmers. Establishing and maintaining competitiveness constitute a particular challenge for small- and medium-scale agro-industrial enterprises and smaller-scale farmers. Although agro-industries have the potential to provide a reliable and stable outlet for farm products, the need to ensure competitiveness favours farmers who are better able to deliver larger quantities and better quality of products. To the extent that smaller, resource-poor farmers are left out of supply chains, the socio-economic benefits of agro-industries are potentially reduced. A need thus exists for policies and strategies that, while promoting agro-industries, take into account issues of competitiveness, equity and inclusiveness.

The rapid rise in food prices witnessed in 2007 and 2008 was a stark reminder that the changing nature of agrifood systems, and how policy makers respond to the changes, can have immediate humanitarian and political consequences. Agricultural sector and agro-industry adjustments in the 1990s and the early 2000s contributed to reductions in the supply and international reserves of staple foods. The global food system did not have the capacity to respond to a 'perfect storm' of events that impacted on both short-term supply and demand. As political consequences of food price spikes and shortages mounted, policy responses that included export bans further worsened an already unbalanced

market situation. The food prices crisis, though it has already subsided, points to the importance of the recent trends in agrifood systems, as well as the need for sound policies and strategies that enhance the competitiveness and developmental impact of agro-industries.

This book consists of a collection of readings that explore different elements of the broad issues associated with the development of agro-industries that are competitive, equitable and inclusive, with a focus on developing countries. The chapters were commissioned from a number of renowned scholars and development practitioners by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Industrial Development Organization (UNIDO) and the International Fund for Agricultural Development (IFAD) to form the core of the technical programme of the Global Agro-Industries Forum, organized by these three agencies in April 2008 in New Delhi, India. The Global Agro-Industries Forum (GAIF) aimed to develop a shared vision of the factors critical to future developments of agro-industries, to learn from success stories in promoting competitive agro-industries in the developing world, to ensure stronger collaboration and joint activities among multilateral organizations working on agro-industrialization and to clarify the roles of the private sector, public sector and multilateral organizations in agro-industrial development. A further objective included the engagement of multilateral organizations and financial institutions in launching initiatives at national and regional levels to foster agro-industrial development.

The themes covered in this book were subjects for the Forum's plenary addresses. The plenary addresses were instrumental in calling attention to the status of agro-industries in the world, providing analytical insights on key trends and issues, considering future developments and assessing agro-industry policy issues and priorities. Following the Global Forum, the plenary addresses were further developed and are presented here as a sequence of six chapters. In addition, the keynote address of Professor Alain de Janvry, from the University of California at Berkeley, is presented as a special annex highlighting aspects of agribusiness and agro-industry development that were considered in the recent World Development Report 2008 (World Bank, 2007).

The three chapters following this introduction together provide an overview of the main trends, characteristics and impacts of agro-industries in developing countries. A cross-cutting theme in these chapters is the importance of viewing agro-industries within the context of the wider restructuring of agrifood systems. Agro-industrialization is not so much promoted as being seen as a consequence of external drivers. While there are marked differences among countries and regions with respect to the degree of structural and organizational transformation, the processes of agro-industrialization have widespread and profound impacts. The potential impacts are so significant that the processes must be understood and sound policy responses put in place to optimize potential benefits while mitigating risks. All three chapters provide insights into the challenges that policy responses need to address.

In Chapter 2, Spencer Henson and John Cranfield, from the University of Guelph in Canada, characterize the processes of agro-industrialization in developing countries and build a political case for agro-industries as a driver of

growth and development. Henson and Cranfield develop their case around two main arguments. One cornerstone of their argument is that rapid changes in agrifood systems are shifting the basis for competitiveness. Increasingly, competitiveness is being determined by factors such as economies of scale, efficiencies in logistics, compliance with stringent grades and standards, and capacity to reach global markets with differentiated products. Henson and Cranfield observe that countries that have achieved higher integration with global markets with high-value products, or countries with large high-value domestic markets, seem to have advanced the most in terms of the contribution of agriculture to economic development. Their second argument relates to the pervasiveness of the impacts of agro-industries. They point to the key distributional consequences and discuss potential environmental consequences.

The main message of Henson and Cranfield is that countries must think and act strategically in order to cope with the challenges, starting with the important strategic choice on how countries and firms position themselves with respect to market competition. They stress that policy makers need to define their roles vis-à-vis the private sector and need to establish effective public-private working relations. Chapter 2 makes it clear that Henson and Cranfield believe that a key role for the public sector is to create conditions that allow the development of cost-competitive agro-industries. Some of the key challenges identified by the authors include improved infrastructure and access to finance, as well as macro-economic and trade policies that are conducive to investment and innovation.

The case for agro-industries development is reinforced in Chapter 3, written by John Wilkinson and Rudi Rocha, researchers from, respectively, the Federal Rural University of Rio de Janeiro and the Pontifical Catholic University of Rio de Janeiro, Brazil. Drawing from an extensive range of statistical data and empirical research sources, the chapter characterizes the contributions of agro-industries to economic development worldwide. Wilkinson and Rocha particularly emphasize contributions to manufacturing value addition and employment generation. They point out, however, that it is not possible to fully appreciate the importance and impacts of agro-industries because much of the value addition and employment is in the informal sector.

Chapter 3 identifies several structural factors in domestic and global markets that reinforce the importance of promoting agro-industries in developing countries. Wilkinson and Rocha present data showing the increasing importance of processed agricultural products in agricultural trade, including in South-South trade and as a percentage of the food imports by developing countries. The authors also discuss the recent expansion in markets for differentiated food products, including fair trade, organic and origin-based products. They acknowledge that focus on these and other non-traditional exports as a strategy for driving agro-industrial development seems appealing, but is likely to be hampered by market access restrictions, tariff escalation and compliance costs for meeting increasingly stringent standards established by private organizations and large-scale buyers.

Wilkinson and Rocha conclude that policies for agro-industry development should occupy a central position in government strategies. They caution though

that government strategies must be oriented to market sustainability and be a component of broader social policies that also aim at food and nutritional security.

In Chapter 4, the last of the chapters that focus on trends, characteristics and impacts of agro-industries, Colin Dennis (Campden BRI, UK), José Aguilera (Catholic University of Chile) and Morton Satin (Salt Institute, USA) discuss technology developments and their implications for agro-industries. Dennis and colleagues recall several of the trends identified in the preceding chapters and explain how these are driving technological development. The main premise of their chapter is that organized food industries and chains are needed to meet changing consumer requirements and feed expanding urban populations, and that performance of agricultural and food industries in turn will be highly dependent on the increased and cost-effective application of existing technologies, as well as exploitation of new and innovative technologies.

The analysis by Dennis, Aguilera and Satin highlights two overarching challenges in technology development. First, driven by the changes in consumer demand and market requirements, technologies are needed that can ensure specific food traits (safety, quality, nutritional value, etc.) at all stages through the life cycle of the end product. Second, because food is moving over long distances, including internationally, there is a need for technologies and practices to ensure the safety and quality of products for long periods. The authors argue that there will be an increasing need to meet sanitary and phytosanitary standards, and to complement technology development with development of effective food safety management systems.

The last three chapters turn to the critically important issue of the roles, responsibilities and actions of public and private sector actors in agro-industries development. A consistent theme in these chapters, indeed throughout the book, is that governments have an essential and legitimate role to play. At the same time, the message of these chapters is that agro-industries development is essentially a private sector activity. In the light of the developmental trends, challenges, benefits and risks highlighted in the first set of chapters, governments cannot be passive observers but they also should not attempt to control all aspects of agro-industries. Clarification of the roles and responsibilities of the public and private sectors in agro-industries development is one of the keys to achieving improved competitiveness and developmental impacts.

Enabling environments for competitive agro-industries are discussed in Chapter 5, written by Professor Ralph Christy of Cornell University and a team of collaborators. They argue that fostering competitive agro-industries requires that conducive business climates, or enabling environments, are in place. They recall recent efforts to promote reform processes through business climate assessments, but conclude that these approaches were not designed for the evaluation of business climates for agro-industrial enterprises.

To provide guidance on agro-industry-focused analyses of business climates, Christy and co-authors propose a hierarchy of state actions for characterizing and assessing enabling environments for agro-industrial enterprises, classifying actions as essential enablers, important enablers and useful enablers.

The hierarchy, however, is just a starting point. Christy and colleagues argue that, for effective reform to emerge, a nuanced appreciation of the roles that public policy makers can play in sustaining competitiveness is needed. The authors introduce and illustrate an analytical framework for reform processes framed by two key dimensions, namely the level of risk and uncertainty agro-industries face when conducting business and the capacity of the state in shaping the environment for business. The authors propose that the framework can be used to identify suitable policy options for different enabling environment reform contexts.

The issue of inclusiveness in agro-industries is the focus of Chapter 6, 'Business Models That Are Inclusive of Small Farmers', prepared by Bill Vorley, from the International Institute for the Environment and Development (IIED, UK), Mark Lundy, from the International Center for Tropical Agriculture (CIAT, Colombia) and James MacGregor, also from IIED. The authors define 'business model' as the way by which a business creates and captures value within a market network of producers, suppliers and consumers. The chapter describes a range of business models that improve the inclusiveness, fairness, durability and financial sustainability of trading relationships between small farmers and downstream agribusiness (processors, exporters and retailers).

Vorley and co-authors argue that the chief challenge for modern agrifood businesses in working with small-scale farmers is the difficulty of organizing supply chains so as to ensure that the benefits of logistics, economies of scale, traceability and compliance with private sector standards are achieved. They also contend that despite the difficulties faced, there are sound business reasons for agro-processors, retailers, exporters and other buyers to include small farmers in the farm-to-consumer value chain. The authors then introduce and illustrate a typology of organizational models, covering models organized by the producers themselves, by the end-customer companies or by an intermediary such as a trader, wholesaler or exporter. They argue that evidence on benefits and impacts of the different models is still weak, and that no single modality is inherently superior for smallholders.

Vorley and co-authors point out that despite the recent trends towards increased inclusiveness, the participation of smallholders and SMEs in modern markets is still more of an exception than the rule. They identify three priorities for enhancing competitiveness and inclusiveness of smaller-scale suppliers. The first is skills development to prepare farmers to be reliable partners and suppliers. The second, returning to the theme addressed by Christy and co-authors, is business-enabling environments. Vorley and colleagues emphasize the provision of key infrastructure services, public investments in services such as agricultural research, education and extension, and policies to maintain competitive markets. The third is for private sector actors to ensure that their procurement practices work to the benefit, rather than the detriment, of small-scale producers and suppliers. Vorley and co-authors give several examples of responsible business practices that can work to the benefit of small-scale suppliers.

The issue of responsible business practices is the subject of Chapter 7, prepared by Claudia Genier, Mike Stamp and Marc Pfitzer, from FSG Social

Impact Advisors, Switzerland. The chapter focuses on the concept of corporate social responsibility (CSR): what CSR means and how it has evolved over the past decade. The main theme of the chapter is that CSR has become for many a core business strategy oriented towards competitive advantage, partnerships along the supply chain, institution building and long-term sustainability. Under this new perspective, CSR strategies have the potential to increase the inclusiveness and competitiveness of agro-industries, creating a more equitable distribution of benefits along the value chain.

The authors characterize and assess various CSR codes and standards operating in agricultural value chains. They argue that standards and codes have helped to improve the quality, safety and traceability of food, but there is insufficient information to conclude that codes have improved environmental, social and economic conditions for producers. To the contrary, Genier and co-authors express concern that the proliferation of standards and codes, as well as high implementation costs, can lead to the marginalization of small producers.

One of the main contributions of Genier and co-authors is to expand the scope of what is generally considered to be corporate responsibility. They point out that more visionary agrifood companies – recognizing the drawbacks of reliance on standards and codes – have adopted value chain innovations that seek to expand economic opportunities along entire chains. The authors review several cases of value chain innovations and conclude that evidence of impact can be found in the various initiatives in terms of quality, health and safety improvements, better environmental indicators, higher productivity and development impacts. However, they caution that the cases they appraised remain a minor exception in comparison with the core business practices of many agrifood industries, and argue that governments and civil society have an important role to play in scaling up and replicating value chain innovations.

All six chapters address in one way or another the fundamental policy dilemma of agro-industries development: the need to establish and maintain competitiveness while also addressing the risks to smaller-scale economic actors. The authors of these chapters do not view policy support to agro-industries as a choice between competitiveness and developmental impacts, but rather see it as essential for enhancing both. One of the important contributions of the following chapters is to clarify the challenges being faced and identify strategies and practical actions to address them.

There are several messages about agro-industries development that cut across the chapters of this book. One is that governments clearly do have an important role to play. To enhance competitiveness, enabling policies and institutions must be put in place and infrastructure must be improved, particularly rural infrastructure. Recommendations on other specific priorities for establishing enabling environments are made by most of the authors.

Another theme found in all the chapters is that agro-industry firms and value chain stakeholders must be ready to meet the challenges of changing consumer requirements and market competition. Priority attention should be given

to consumer concerns and interests regarding quality, safety, health benefits, product origin and other attributes. To access higher-valued markets, capacity is needed to develop, distinguish and certify specific product traits. There is also a need to improve productivity and efficiency. Systematic attention is required to build capacity for acquiring and utilizing productivity-enhancing technologies. The capacity to introduce and apply advanced techniques for supply chain management and logistics will increasingly become a requirement for competitiveness of agro-industries targeting global and regional markets.

An important theme, particularly stressed by Vorley and co-authors and Genier and co-authors, is that value chains that include smaller-scale producers and processors can make good business sense. There nevertheless are many reasons why firms choose not to work with smaller-scale suppliers. To achieve objectives relating to economic growth and rural development, public and private sector initiatives are needed to strengthen business linkages and support the development of business models that include smaller-scale producers and processors. The development of inclusive business models requires, in turn, concerted efforts to organize smallholders and build the capacities of farmers to be reliable suppliers. Financial services and products that fit the specific conditions of producers, processors and others in the supply chain are also critical for achieving widespread developmental impacts.

While the authors present a consistent and coherent overview of agro-industry drivers, trends, challenges and responses, all are careful to point out that there is great diversity in circumstances. There is a corresponding need to ensure that policies and strategies to improve competitiveness and developmental impacts are based on a solid understanding of broader market, consumer and technological trends, as well as the specific conditions of each country, agro-industry and agricultural value chain.

Finally, it is worth recalling that agro-industries development is such an all-inclusive and complex process that not all issues could be comprehensively addressed adequately in a single book or during the GAIF. Several such issues are briefly touched on in the following chapters, even if not central to the message of any single chapter. One issue is the growing urgency to consider whether and how to work towards the harmonization of national and international regulatory frameworks. Another issue is the importance of the informal sector in agro-processing. Environmental consequences of agro-industries are discussed by Henson and Cranfield but, overall, this volume does not emphasize this important topic. The chapters do present a convincing case on the importance of agro-industries in developing countries, and point to some of the policy priorities for enhancing competitiveness and developmental impacts. However, this is just a starting point. Issues such as those just identified make it clear that there remains a great need for additional analysis of trends and policy responses. FAO, UNIDO and IFAD, the United Nations agencies that organized the GAIF and the contributions to the present book, are working to fill these gaps, and are committed to promoting international agro-industrial development that is sustainable, inclusive and equitable.

## References

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