International Food and Agribusiness Management Review, 2(3/4): 277–288
ISSN: 1096-7508

Michael L. Cook
University of Missouri

Thomas Reardon
Michigan State University

Christopher Barrett
Cornell University

Joyce Cacho
Rabobank International

Agroindustrialization in Emerging Markets: Overview and Strategic Context

ABSTRACT: This article offers an overview for a special issue on agroindustrialization. It reviews eleven articles analyzing the agroindustrialization process in Latin America and Asia. It sets out a conceptual framework from the organizational economics and strategic management literature to enhance the understanding of the process of agroindustrialization from a competitive strategy point of view.

INTRODUCTION

Agroindustrialization is the general theme of this two-volume special issue of IFAMR. The premise behind this special issue of the *International Food and Agribusiness Management Review* and of the conference from which this selection of papers is drawn[1] is that fostering closer contact between development economists and agribusiness scholars will enhance the quantity and quality of

Direct all correspondence to: Michael L. Cook, Dept. of Agricultural Economics, University of Missouri, Columbia, MO 65211-7200.

intellectual exchange. Contributions from development economists as well as agricultural and agribusiness economists are included.

The food and agribusiness sectors, once primarily domestic or at most regional in scope, are rapidly globalizing and industrializing. As development and agribusiness scholars analyze the causes and implications of these phenomena, informed and complementary joint output is emerging. Consequently, agribusiness-oriented readers of this special edition issue will benefit from analysis of factors driving economic growth, institutional reform, and socio-economic activity in emerging economies—topics emanating primarily from development economic studies. Additionally, contributing agribusiness and development scholars examine relationships between liberalization policies and regional food trade, between labor migration policies and "make or buy" decisions, between institutional environment and governance structures, between business unit globalization strategies and grades and standards regimes, and between path dependence and capital/labor productivity, all of which affect the magnitude of success in firm and industry strategy.

We assume the readers of this journal generally view agroindustrialization as a subject of strategic interest—"what does this phenomenon mean for my sector, industry, firm, division, or business unit?"[2] The objective of this introductory article is to create a framework of "strategic context" when analyzing agroindustrialization research. We initiate our discussion by adopting the Reardon and Barrett (2000) definition of agroindustrialization: "(1) The growth of agroprocessing, distribution, and farm input provisions off-farm; (2) institutional and organizational change in the relation between agrifood firms and farms such as marked increase in vertical coordination; (3) concomitant changes in the farm sector, such as the changes in product composition, technology, and sector and market structures." This definition encompasses both a macro analytic perspective—analysis of political and legal rules of the game—and a micro analytical view—analysis of firm and market modes of contract and organization (Williamson, 1994). It is from this latter perspective that we introduce this special issue.

STRATEGIC CONTEXT FRAMEWORK

During the past 20 years, the field of "strategy" has evolved toward two complementary theoretical directions. The "governance perspective" consists of the subfields entitled transaction cost economics, agency theory, incomplete contract theory, and the measurement cost approach. Simultaneously the "competence perspective" has evolved into and from well known subfields such as "evolutionary," "capabilities," "core competence," "knowledge-based," "resource-based," and "dynamic capabilities."[3]

Both perspectives or schools claim they are en route to developing a "strategic theory of the firm," which not only informs the traditional questions of the theory of the firm (why firms exist, boundaries, internal organization) but also informs strategy issues such as "strategic content, sources of competitive advantage, and market and industry positioning." In general, the minimum requirement for a "strategic theory of the firm" is one that addresses the following four issues: (1) the existence of the firm, (2) the boundaries of the firm, (3) internal organization of the firm, and (4) sustainability or competitive advantage. This Introduction concentrates mostly on the fourth issue—sustaining competitive advantage—as it is the issue most informed by the following contributions.

The competitive strategy literature has its origins in the late 1970s-early 1980s, closely associated with the reverse industrial organization concepts and work of Michael Porter (1980; 1985). This "positioning" school of strategy posits that competitive strategy is the search for a favorable competitive position in an industry, the fundamental arena in which competition occurs. Competitive strategy aims to establish a profitable and sustainable position against forces that determine industry competition. The two fundamental questions underlying the choice of competitive strategy are: (1) how attractive is the industry for long-term profitability and what factors determine the industry's attractiveness, and (2) what determines the relative competitive position of firms within an industry?

Even though strategic management theoretical and empirical literature evolved in the late 1990s-early 2000s toward a more cooperative strategy approach—strategic alliances, view of relationships as complements, not necessarily substitutes—(Nalebuff and Brandenburger, Koza, and Lewin), the articles in this issue are more productively viewed from a competitive strategy rather than the cooperative strategy point of view. The competitive strategy view at the broadest level involves analyzing four key factors hypothesized to determine the limits of what a firm or organization can successfully accomplish. These four factors include two internal and two external sets of characteristics. The characteristics internal to the firm encompass the companies' strengths and weaknesses regarding its profile of assets and skills relative to competitors, such as human, physical, technological, and financial resources. The second internal set of factors includes values, beliefs, and organizational architecture attributes (decision rules, incentives, and performance systems) which make up and influence human behavior.

The competitive school of strategy hypothesizes the external constraints to a firm's success are determined by industry factors and socio-economic macro elements. Accordingly, industry opportunities and threats define the competitive environment with its attendant risks and potential rewards. Consequently, competitive strategy evolves from a sophisticated understanding of the structure of the industry and how it is changing.[4] Porter's paradigm states that the nature of competition is embodied in five competitive forces: (1) the threat of new entrants, (2) the threat of substitute products or services, (3) the bargaining power of suppliers, (4) the bargaining power of buyers, and (5) the rivalry among existing competitors. The competitive strategy school observes that the strength of these five forces varies from industry to industry, and determines long-term industry profitability. In industries in which the five forces are favorable, many competitors earn attractive returns on invested capital. Industries in which pressure from one or more of the forces is intense are industries where few firms are very profitable for long periods. The five competitive forces determine industry profitability because they shape the prices firms can charge, the costs they have to bear, and the investment required to compete in the industry.

The second external factor acting as a constraint on sustainable competitive advantage according to the competitive strategy school is the socio-economic environment, including government policies, social concerns, and shifts in relative global political economy with consequent impact on the industry and individual firms. The articles in this issue explicitly and implicitly inform decision-makers in the global food system, whether they are subsistence farmers or multinational corporation CEO's, of the implications of "agroindustrialization." The papers are an especially valuable contribution to the understanding of the two aforementioned constraints, industry factors and socio-economic environment. Therefore, we review the articles as to their contributions of informing industry and macro environment factors created or influenced by the agroindustrialization phenomenon.

Agroindustrialization from a Strategic Context

The Lesser, Schmit, Ruiz (LSR) article addresses the commercial and societal trade-offs between a global multinational private investor-owned firm and a domestic-oriented public or parastatal organization. The issue is an increasingly familiar bargaining game, whereby the multinational technology-oriented company is motivated to license developing country plant varieties as the optimal agronomic delivery vehicle for genetically modified herbicide resistant technologies. Simultaneously, the financially constrained public research entity is seeking self-funding licensing agreements and pursuing a modern multistakeholder sensitive institutional environment, including intellectual property and food/biosafety regulations. In many countries these latter policies are strongly advocated and officially mandated. Yet there is no action. Often numerous sub issues remain—among them the political risk of valuation of the host country's delivery system and carrier. LSR develop these issues and the three agroindustrialization phenomena—the increasing importance of off-farm commercial activity, significant shifts in the structure of organization structure between domestic agribusiness participants, and concomitant changes in farm and nonfarm sectors into an informative and thought-provoking article. The authors start with the premise that the first two stages of agroindustrialization are "a given" and inform the third dimension of the definition with detail and analysis, using the Brazilian case of Pharmacia–Embrapa negotiation regarding soybeans as the working example.

Strategically the LSR article is ripe with facts, trends, analysis, and/or issues of interest to the competitive analyst. A general bargaining/valuation model incorporates numerous “rivalry” elements including market structure, cost structure, and entry and substitution dilemmas. Numerous strategies are considered and several options examined in detail. The review of these is particularly informative. The boldness of estimating upper and lower boundaries for negotiating purposes will be appreciated by the pragmatic reader.

Reardon, Codron, Busch, Bingen, and Harris’ (RCBBH) paper introduces the reader to the changing role of grades and standards in a globalizing agrifood system. The paper provides a thorough overview of strategic thinking from an agribusiness economics point of view with an introduction and linkages to micro analytic challenges of agroindustrialization confronted by development economists. In describing the evolution of commodities to product goods, and from experienced/search goods to credence goods, they simultaneously relate the complex and now continuous process of agroindustrialization. From the stages when production is completely self sufficiency-producer driven to credence-consumer driven, we experience the evolution of the importance and role of grades and standards. Shifts in organization structure and the impact on an increasingly heterogeneous producer base are introduced and explained.

Utilizing a transaction cost-governance structure approach, RCBBH initially emphasize the power of economizing as a strategy. But they surpass the purely evolutionary economic approach by combining Williamson’s hold-up concepts with Porter’s more classical competitive strategy barriers to entry reasoning to develop a taxonomy of grades and standards strategies. The resultant taxonomy might be a helpful conceptual framework for the strategy analyst at the firm level and the policy maker at the government level. Informative minicases are included and policy recommendations are proffered. In addition to an excellent overview of the path dependency of grades and standards, the RCBBH paper provides a platform from which to advance joint development-agribusiness economists’ collaboration in this increasingly important area—particularly as the cooperative strategy viewpoint gains favor relative to the competitive strategy school.

The Pray–Ramaswami article allows for a rare and detailed view of changes induced by trade liberalization on the upstream agribusiness sector. The process of agroindustrialization illustrates as the authors relate the story of limited liberalization of the seed industry during the past 15 years in India. The increase of farmers’ dependence on off-farm purchase of high yielding seeds to the restructuring of governance structures within the seed development and distribution chains to subsequent changes in farmers’ crop and input portfolio all describe, in an orderly and sequential pattern, the process of this generic phenomenon called agroindustrialization. The article lends itself to being a good minicase or example of the agroindustrialization process for an economic development course that introduces firm strategy and decision making.

Utilizing a unique set of data, the authors describe and analyze the impact on firm strategy of trade liberalization. The competitive strategy school arguments that intervention or radical shifts in institutional environments have significant impacts on industry and market structure are clearly documented and supported. More specifically, strategy scholars hypothesize that the degree of rivalry and the threat of entry modify firm behavior that in turn affects participants' levels of sustainable competitive advantage. Strategy readers will not be disappointed with the reasoning and results of this paper. Furthermore, they are treated to analysis of alternative scenarios as the authors suggest policy changes.

The Dirven paper has much to offer the development economist with a micro analytic interest, the agribusiness economist interested in coordination within and among chains and networks, and the pragmatist interested in the subject of informing strategy, especially in the rapidly globalizing dairy production and foods sector. Dirven's study highlights the agroindustrialization process as defined in this article, documents the rapid transformation of the milk chain in the Southern cone of South America, and identifies opportunities and constraints to producer-owned and -controlled governance structures in a dynamic economic and institutional environment. The paper, a comparative study, is an example of the emerging convergence of interests and methodologies between development and agribusiness scholars. Her discovery of the heterogeneity of agents, high degree of asymmetric information, disincentives in the decision rights organizational architecture, and underdeveloped role of extrafamily reputation all act as forces weakening the traditional bonding among milk network participants. She also documents the increasing homogeneity of governance structures emerging in the South American dairy sector.

Incorporating development economics perspectives, Dirven develops many of the strategic concepts employed by the competitive strategy school. Clusters from a development and community point of view achieve somewhat similar meaning in the Porter strategic cluster literature. Linkages and network could be substituted for each other. Identification of this close proximity in terminology is a step forward in moving toward value adding joint research between agribusiness and development scholars.

Dirven's description of the factors are important for small national enterprise survivability—the stage two and three issues in the process of agroindustrialization would fit tightly into an industry analysis—especially the "threat to entry" and "rivalry" economies of scale oriented sections of a cooperative strategy analysis.

The Farina paper commences with an overview of Mercosur (four-country liberalized trading block in southeastern South America) and the evolution of

Brazilian domestic food, agriculture, and agrifood related policies. Covering what competitive strategists would study in their analysis of the socio-economic external constraint on sustainability, Farina efficiently describes the evolution of the interface between trade policy, currency policy, and agricultural policy in the agriculture export dependent Brazil. She uses half of the paper to create the institutional environment setting that then allows for a more informed micro analytical investigation of the resulting organizational arrangements and firm strategies. This "rules of the game" approach in providing background for the more micro analytical strategic analysis of industry attractiveness, industry structure, and participant strategy provides an informative platform for understanding the current situation not only of Brazil, but of Uruguay, Paraguay, and Argentina. Farina proffers an introduction into agrifood industry generic strategy analysis, and then briefly postulates the environmental causes for the initiation of cooperative strategy behaviors increasingly observed in Mercosur agrifood firms. This ambitious undertaking quickly whisks the reader through a diverse and mammoth set of complex organizational environment and organizational arrangement issues and relationships. The author implicitly assumes that agroindustrialization has already been completed—especially in the commercial agrifood sector of Brazil.

The Jank et al. paper states its objective "to analyze the dynamics of Brazilian agribusiness exports. . . and recent movement of intra-industry concentration. . . ," which is accomplished with informative graphs, charts, and historical prose. But what it accomplishes even more importantly is a story of the evolution-revolution of Brazil as its commercial agricultural and food systems passes through the Reardon–Barrett components of agroindustrialization. The paper is particularly detailed in the explanation of component two in the agroindustrialization process—"institutional and organizational change in relation between agrifood firms and farms such as a marked increase in vertical coordination" (Reardon–Barrett). By identifying and documenting increased domestic concentration, internationalization of capital, logistical efficiency, technological advances, food quality initiatives, and environmental pressures, the authors illuminate the dramatic and radical changes the traditional farm production and food manufacturing sectors have experienced during the last 15 years. The result is a more concentrated food processing and agri-exporting group of industries, and a much more global and multinational, non-Brazilian set of players in the new agroindustrialized sector. These findings, similar to Dirven's results (this issue) on the Southern Cone milk sector, implicitly recognize and emphasize the increasing disappearance of Latin American owned firms in the ex-farm gate food system in this production-agriculturally rich area.

Making references to the change in governance structures accompanying these globally oriented shifts in concentration, the authors leave specifics of this process for another paper. Jank et al., however, propose an interesting interface between the evolving governance structure (increased and tighter vertical coordination in the form of contracts, joint ventures, and ownership) and strategic direction. In general, their conclusion is that at this stage in the Brazilian agrifood evolution, pursuing a cost leadership generic strategy is most rational. The article could also be of interest to strategists contemplating entry into Brazil because of a brief review of firm strategies in seven different commodity groups. A heterogeneity of strategies consistent with macro socio-economic institutional environment and differences in the industry and commodity specific characteristics are well defined and logically analyzed. This section of the paper suggests strong complementary with the other papers in this issue on the rapid agroindustrialization process occurring in Latin America.

The Wei and Cacho paper addresses agroindustrialization in Asia, and in China in particular, by concentrating their discussion on investment strategies of regional and multinational firms. Before engaging the reader with specific strategies and minicases, the authors review the importance of institutional environment in the Northian genre with emphasis on well understood formal and informal rules guiding the use and enforcement of intellectual property rights, quality standards, contract terms, and debtor-creditor agreements. Wei and Cacho then introduce the overall globalization strategies of multinational firms, identifying a preference for foreign direct investment over home base exporting or strategic alliances. Subsequently the paper continues with increasing emphasis on how institutional environment and industry structure, specifically market power of buyers and sellers and the degree of rivalry, affect generic strategies. The paper highlights a number of examples and minicases of global multinationals foreign direct investment strategies and the consequent reaction of domestic competitors. The paper provides an interesting construct of multinational firms strategic thinking and implementation compared to domestic firm strategies. The paper accents the role of East Asian food and agribusiness firms' approaches to accessing and succeeding in China. For the strategist, this is an interesting primer overviewing the agrifood industry environment in East Asia with intriguing examples of challenges and success of sophisticated global firms accessing a dynamic and complex family governance structure world.

The Burger-Kameo-Sandee article brings the reader back to the issue of "clustering." The point of reference is Indonesia with particular emphasis on palm sugar and furniture subsectors. For development economists studying the process of agroindustrialization, the paper offers a number of interesting lemmas. The relationship between type of market (spatially determined) and type of contractual agreement is of particular emphasis. A second relationship of comparable importance is that of type of market or "scope of industry" and the degree of intracluster participant interaction on networking. Using a Williamsonian organizational argument line of governance structure reasoning, the authors find that the broader, more distant, or larger in scope the market the greater the tendency for cluster participants, especially in palm sugar and furniture industries, to engage in more formal contracts with transactors and a higher and more sophisticated degree of interaction. This finding is not without controversy in the network literature, and this paper offers interesting cultural and size dimensions to the discussion.

For the strategist, the authors provide a brief but informative introduction to the complex phenomenon of clustering that receives little attention in the competitive strategy literature. Strategic scholars are familiar with the coordination component of Porter strategic cluster arguments, but this development cluster description is more holistic in nature and more noneconomic culturally based. The clustering introduction is analyzed using transaction cost analysis, and expands on the Williamson call for more micro analytic work where "organization matters." Burger, Kameo, and Sandee, in their attempts to more rigorously address the aforementioned relationship, develop a conceptually intriguing taxonomy of rural industry clusters. The taxonomy offers a potential framework for development of a dynamic model of the agroindustrialization process.

The LeGoulven article is an ambitious study incorporating neoinstitutional economic environment objectives, comparative price transmission analysis, and micro analytic organizational arrangement objectives all in a data-sparse environment. This paper achieves or significantly contributes to each of the objectives. She argues that institutional environment regarding property right regimes, transparency of information, decision rules, and contract enforcement mechanisms affect the rules and forms of governance structures in this rich political-economic setting. The paper itself has a number of implicit contributions, including the realization that path dependence "history matters" when exploring why and how organizational arrangements function. LeGoulven finds that within a single nation state—Vietnam—two quite different institutional environments have emerged. Given these two distinct sets of "rules of the game," she analyzes the integration of the hog markets to determine whether marketing channels convey supply and demand shocks efficiently, and consequently provide incentives to producers. Her findings from a neoinstitutional economics point of view are of importance to both agribusiness and development economists analyzing market coordination and the welfare implications of asymmetric information, and other market failure characteristics. For the strategist several findings are particularly insightful: the importance of institutional environment in creating conditions for sustainable competitive advantage, the generalizability of the competitive strategy paradigm, and the similarity of the consequences of Williamson's behavioral assumptions, especially opportunism across cultures and institutional environments.

The Goletti, Rich, and Wheatley paper addresses a basic strategic and institutional query—why the disparity in size of firms? The authors present the case of the wet and dry starch industry in Vietnam. They commence by reviewing the recent history of the starch industry market structure and its evolution from a relatively homogeneous, many small firms industry to a more heterogeneous continuum of small, medium, large, and multinational enterprises. This historical review explicitly and implicitly supports the hypothesis that the process of agroindustrialization is now continuously dynamic. The authors provide a descriptively concise overview of the industry and its current condition. The rapid emergence of large and global firms has resulted in an industry characterized by excess capacity, decreasing returns and scale, and increasing set of product outputs. These indicators of arrival at a mature industry stage place considerable importance on the strategic analysis and decision making of current participants. The authors turn their attention to policy arguments and options for relieving credit constraints for small firms. The authors, using a sector model of the industry, direct their attention to simulation of credit accessibility and distribution. The scenarios include multiple size firms. Their conclusions suggest room, at this time, for both small, niche market players and large, domestic players. The authors conclude that in high transaction cost environments with low levels of infrastructure, development, and market integration, there are advantages to society and to participants of having an industry structure that includes small and large organizations.

The Gandhi, Kumar, and Marsh article contributes to our understanding of the agroindustrialization process in India. The authors, utilizing secondary data, trace the evolution of the concept of agro-industrial development from the 1920s to the present rural village based models. Their historical review concludes with a division of the past 80 years into three distinct periods: (1) the pro-village based model favored by Gandhi, 1920 through 1950; (2) the Mahanalobis Strategy, 1950 through 1970s, favoring large industries for capital goods, and small enterprises for consumer goods; and (3) the modern period, 1980s to the present, favoring technology imports and supply chain management approaches. The paper identifies constraints to growth of a more efficient food system in India, including raw material supply, capital, and technology. The paper introduces interesting and thought provoking descriptive minicases of organizational models currently in vogue in India. A brief comparison of the Amul, PepsiCo, Del Monte, Himachal Pradesh, and Khetradi value-added models concludes this paper. The plethora of governance structures including varying degrees of vertical and horizontal coordination, contracting schema, ownership models, and contrasts of user and investor structures are informative.

Conclusions

As the results of these papers suggest, the process of agroindustrialization in Latin America and Asia is progressing at a rapid rate. To varying degrees, each of the articles documents or concludes that: (1) input procurement and product and commodity dispersion are increasingly off-farm activities, (2) that forms of interface between farm and input supplier or product procurer are moving more toward hybrid governance structures and away from hierarchies and/or markets, and (3) incentives through contractual provisions or transparent markets are rapidly changing product attribute demand and composition, technology adoption, and market structures.

Viewing the agroindustrialization process from the more micro analytic agribusiness economist's point of view, we see substantive changes occurring in organizational management, governance structures, and accompanying strategic initiatives. As transaction cost-reducing technologies decrease coordination costs, creating a more open global world economy, domestic public policies come under greater pressure to mediate the rapid fall in value of idiosyncratic investments in traditional agrifood systems. Consequently, we see rising friction, dislocations, adjustment costs, employment challenges, and opportunities. By viewing these 11 articles through a single, simple strategic context lens, we are suggesting that the competitive strategy model contributes to the understanding of the agroindustrialization process.

Finally, it is our hope that by reading these articles and this overview, we have furthered the process by which agribusiness scholars and development economists see merit in each others' work and output. We also hope that this edition will inspire more reasoned interdisciplinary collaboration in the areas of: choice of micro analytical tools, choice of a common terminology, and further consideration of coordinated units of analysis when exploring these complex and important phenomena called agroindustrialization.

Acknowledgments: The authors thank the following institutions (listed in alphabetical order) for generously supporting the preconference from which the papers in this special issue were drawn: AAEA Foundation; Cornell International Institute for Food, Agriculture, and Development; Farm Foundation; Food and Agricultural Organization of the United Nations (with individual grants from the Agriculture Sector in Economic Development Service, the Farm Management and Production Economics Service, and the Rural Institutions and Participation Service, Rural Development Division); International Food Policy Research Institute; International Livestock Research Institute; Michigan State University (with individual grants from the Center for Latin American and Caribbean Studies, Office of International Studies and Programs, the Institute of International Agriculture, the Department of Agricultural Economics, the Center for Advanced Studies in International Development, the African Studies Center, and the Asian Studies Center). We also thank the FAO Regional Office for Latin America and the Caribbean for funding Thomas Reardon's sabbatical work on this topic, Gail Foristal and Tobin Mellberg for secretarial assistance, Liz Evans, Nancy Herselius, and Keely Martin for help in organizing the conference, and Greg Baker and Drew Starbird for their enthusiastic support of this special issue.

Notes

1. The international preconference to the August 1999 Annual Meeting of the American Association of Agricultural Economics, held in Nashville, Tennessee. Other papers from the preconference appear in special issues of the journals *Environment and Development Economics* and *Agricultural Economics.*
2. The assumption of the authors of this introductory article is that the reader of this journal makes strategy or informs it.
3. These two perspectives seek to understand intra-firm coordination, and would be considered the theoretical underpinnings of "agribusiness management" (Cook and Chaddad, 2000).
4. An industry is defined as a group of competitors producing products or services that compete directly with each other.

References

Cook, M. L., and F. Chaddad. 2000. "Agroindustrialization of the Global Agrifood Economy: Bridging Development Economics and Agribusiness Research." *Agricultural Economics, 23*: 207–218.

Koza, M. P., and A. Y. Lewin. 1998. "The Co-evolution of Strategic Alliances." *Organization Science, 9*: 255–64.

Nalebuff, B., and A. Brandenburger. 1996. *Co-operation*. New York: Doubleday.

Porter, M. E. 1980. *Competitive Strategy, Techniques for Analyzing Industries and Competitors*. New York: The Free Press.

Porter, M. E. 1985. *Competitive Advantage, Creating and Sustaining Superior Performance*. New York: The Free Press.

Reardon, T., and C. Barrett. 2000. "Agroindustrialization, Globalization, and International Development: An Overview of Issues, Patterns, and Determinants." *Agriculture Economics, 23*(3): 195–205.

Williamson, O. 1994. "The Institutions and Governance of Economic Development and Reform." *Annual Bank Conference on Development Economics: World Bank Proceedings.*