

EDITOR'S INTRODUCTION

In summer 1998, the International Sociological Association held its XIV World Congress of Sociology in Montreal, Canada. RC40, the ISA's Research Committee on the Sociology of Agriculture and Food, was very active during the World Congress. Nearly one hundred scholars from around the world presented their work at sessions sponsored by RC40.

Some of the work was presented in one of five sessions that constituted a mini-conference on "The Global Agro-Food Sector and Transnational Corporations." Nineteen papers were presented, of which a dozen were submitted for consideration to be published in this special volume of the *International Journal of Sociology of Agriculture and Food*.

The review process was lengthy and difficult and would have been doubly challenging without the invaluable assistance of more than two dozen reviewers. I extend my gratitude to each for the excellent work they did for the journal. I also wish to extend a very special thanks to William Friedland, a pioneering and inspirational scholar whose scholarship has influenced much of the work presented over the years in this journal. I am personally indebted to Bill for his mentoring, which was indispensable for me throughout the editorial process of this special issue. Due in no small part to all of this support, I am confident that the articles featured in this volume represent some of the best contemporary scholarship on the topic of the role of transnational firms in the expanding globalization of planet Earth's agro-food system.

The six thematic articles selected for this issue utilize a variety of theoretical and conceptual frameworks, as well as an assortment of methodological approaches. In addition, I am pleased to note that the cases or locations of each of these studies come from different geographical settings, including Southeast Asia, the Middle East, Latin America and the Southwestern Pacific. However, in spite of this diversity, a number of interesting themes emerge as one reads through these contributions. Three among them are: a) the complexity and variety of forms and strategies utilized by transnational firms or firm networks, b) the tremendous impacts which these strategies are having on the lives of producers and consumers of food in each of these world regions, and c) how these strategies have to be adapted not only to the commodity or food being produced, but also to the socio-cultural setting where the production or consumption is taking place. I am sure that each reader will find additional insights as they read through these pages.

The final article, on the historical development of export agriculture in Iran, was an earlier submission to the journal. It offers insights on the value of understanding the historical roots of the contemporary process of global agro-food restructuring. Indeed, one area of research that needs to be expanded is the study of the specific histories of transnational agro-food firms. It is my hope that this special volume of the *International Journal of Sociology of Agriculture and Food* will inspire work on this and other topics within the overall theme of "The Global Agro-Food Sector and Transnational Corporations."

Raymond A. Jussaume Jr.
Department of Rural Sociology
Washington State University
Pullman, Washington, USA

CIRCUITS OF CAPITAL AND TRANSNATIONAL CORPORATE SPATIAL BEHAVIOUR: NESTLÉ IN SOUTHEAST ASIA*

Bill Pritchard

University of Sydney

Robert Fagan

Macquarie University

Over the past decade transnational corporations (TNCs) have gained dramatically enhanced abilities to organise production, sales and finance at an international scale. This has been especially true for TNCs in the food sector, here called transnational food corporations or TFCs. For these companies, the global push for trade liberalisation has lifted many of the restrictions hitherto limiting imports and foreign investment, facilitating an international coordination of food trade and production. The handmaiden of this process has been the Uruguay Round of the GATT and its successor conferences. These negotiations have been driven by broad agendas to rewrite the global rules of trade: progressive reductions in tariffs, ‘tariffication’ of quota restrictions, greater harmonisation of food standards, reductions in non-tariff barriers such as import licence monopolies, and stronger international protection of corporate intellectual property.

Alongside these changes has been the creation of a liberal global financial regime characterised by currency exchange freedoms. This process has been especially important for TFCs because of their extensive use of financial derivatives, due to their need to source large volumes of agricultural produce from volatile markets, and their possession of valuable intangible assets such as brand names and recipes that can play strategically important roles in the ‘paper economy’ of finance (Pritchard 1999). Hence, the liberal financial system of the 1990s has opened new possibilities for the financial management of TFCs’ production and trade, as well as auguring qualitative shifts to the relationships between paper assets and commodities.

Many TFCs have been strong advocates and key lobbyists for many of these changes in state regulation of international trade and financial systems. Progressive implementation of these changes from the mid-1980s, therefore, suggests three hypotheses worth investigating. First, the changes would lead us to expect widespread restructuring of corporate strategies and global geographies of TFCs during the 1990s. Second, strong incentives might be expected, *ceteris paribus*, for

* Direct all correspondence to Bill Pritchard, Division of Geography, School of Geoscience, University of Sydney NSW 2006 Australia, E-mail: <b.pritchard@geography.usyd.edu.au>; or Robert Fagan, Department of Human Geography, Macquarie University NSW 2109 Australia, E-mail: <rfagan@ocs1.ocs.mq.edu.au>.

TFCs to restructure their uses of space in order to take advantages of new profit opportunities created by globalising theatres of accumulation. Third, a close association might be expected between the collapsing of national barriers to economic activity and the formation of internationally integrated corporate strategies.

This study responds to the challenges of these three hypotheses. In the first part, a model is developed to understand corporate spatial behaviour utilising a broad framework based on the notion of circuits of capital. This approach is based on Marxist theoretical work on the internationalisation of capital (Palloix 1977) but has currency well beyond the limitations of structuralist Marxism. Development of the model is seen as a necessary palliative to the tendency, expressed at times both within and outside academia, to conceive of the spatial behaviour of transnational corporations in terms of monolithic, globally-driven agendas. The second part of this article uses this model as an explanatory framework to examine Nestlé's spatial behaviour in Southeast Asia. As the detail of this case study illustrates, the approach to globalisation adopted in this article emphasises the multiple and contradictory geographies that can co-exist within TNCs and complements recent insights by Goodman (1997) into processes of world-scale restructuring.

THE MYTH OF THE GLOBAL CORPORATION

The immense size and scope of many TNCs encourages deceptively simple analysis of the supposed spatial behaviour of these actors. At times, academic and popular accounts of transnational corporate spatial behaviour seem underwritten by the notion that these actors are engaged in grand and monolithic projects to 'conquer the world' through evermore flexible strategies of product sourcing, production location and marketing. From this perspective, TNCs are engaged in constant geographic re-engineering of their activities in an insatiable appetite for profit maximisation. These portrayals of corporate spatial behaviour have given rise to the concept of a 'global corporation'.

The notion of a 'global corporation' implies a TNC with no national allegiances and the ability to shift production, commodities and finance capital with impunity. Yet attempts to conceptually model the organisational appearance of this kind of truly footloose corporate entity reveal that such a TNC would possess an extraordinarily complex spatial structure (UNCTAD 1994; UN 1993:1163). Such an entity would possess multiple layers of deep integration between its subsidiaries and affiliates, alongside equally dense networks with sub-contractors and alliance partners. This would mean that each function performed by such a corporation – production, finance, procurement, research and development, training, accounting, marketing, distribution, and management – would possess its own complex multi-locational geography based on the company's internal economics of location, specialisation and expertise. This multi-locational geography would enable the geographical reproduction of functions within the corporation, providing the opportunity for internal tendering of functions based on specific intra-corporate profit, tax and capacity strategies. Moreover, the ultimate national identity of such a company would be clouded by the multiple listing of its equity on world stock exchanges; a globally diverse stockholder base; the absence of a single, central

corporate headquarters; and a nationally and ethnically diverse Board of Directors and senior management (Hu 1992).

Clearly, the 'global corporation model' is appropriately considered an ideal-type of corporate structure. In practice, examples of such global corporations remain elusive. Allen and Massey (1995:111) identify Asea Brown Boveri, the Swiss-Swedish electrical engineering TNC, as perhaps the closest approximation of this model in the contemporary corporate world. Another candidate is News Corporation, acknowledged widely as possessing one of the most complex intra-corporate structures of any TNC. News Corporation presents a deliberately confused national identity in response to regulatory concerns over foreign media ownership in many of the countries in which it operates, exhibited most brazenly when News Corporation Chairman Rupert Murdoch exchanged Australian for US citizenship in order not to violate US media laws. Transnational finance, securities, legal and accounting firms (such as Nomura, Citicorp and KPMG) possess key similarities to the global corporation model. However, they may be considered special cases. Because of the particularly slippery geography of finance (Corbridge and Thrift 1994), the asset bases of these corporations are unusually reliant on hyper-mobile forms of paper capital. Moreover, transnational accounting and legal firms often rely on partnership structures as intra-corporate glue, creating dissonances between corporate equity and asset structures. The existence of these arrangements is unusual in other sectors.

The elusive nature of 'global corporations' highlights the point that the spatial decisions of economic actors in the global economy, such as TNCs, are contingent upon a range of factors impinging on profit opportunities at different geographical scales. The globalising ambitions and actions of economic actors need to be situated within a broader spectrum of their strategies examined at all geographical scales. Such a perspective acts against the potentially seductive attraction of privileging the global scale. It avoids major distortions inherent in the 'steam-roller' metaphor of globalisation (Fagan 1998) in which changes are seen to emanate 'out there' in a globalised economy and must be accommodated 'in here', for example; in national agricultural and food manufacturing regions.

This approach also brings into focus contradictions between globalisation as a set of material processes involving production, trade, finance and technological changes, and globalisation as a discourse, often constructed politically (Kelly 1997; Fagan and Pritchard forthcoming). The discourse of globalisation constructs a powerful argument about the scale from which dominant economic processes emanate. For example, the power of globally-mobile capital is often systematically overstated while understating the power of national and local actors such as governments, labour movements and local communities seeking alternative pathways to restructuring. For empirical research, this suggests the need to analyse specific examples of restructuring by TNCs and their relationships to individual places, their governments and communities. At the level of praxis, perceiving globalisation as discursively constructed in political, economic and cultural spheres serves to heighten awareness of globalisation's material limits, and hence does not subjugate potential interventions of actors such as governments, labour or non-governmental organisations to a supposedly all-powerful engine of change.

This general framework exposes the simplicity of those analyses suggesting an incipient inevitability of an all-pervading global capitalism. Such arguments have been especially prevalent in management and populist economics literature. Reich (1991:137) speaks of “the coming irrelevance of corporate nationality”. In *The End of the Nation-State*, Ohmae (1995:4) argues: “the mobility ... [of investment, industry, information technology and individual consumers] ... makes it possible for viable economic units in any part of the world to pull in whatever is needed for development”. In *The Future of Capitalism*, Thurow (1996:115) suggests:

for the first time in human history, anything can be made anywhere and sold everywhere. In capitalistic economies that means making each component and performing each activity at the place on the globe where it can be most cheaply done and selling the resulting products or services wherever prices and profits are highest. Minimizing costs and maximizing revenues is what profit maximization, the heart of capitalism, is all about. Sentimental attachment to some geographic part of the world is not part of the system.

Such analyses present globalisation and its specific corporate form, the ‘global corporation’, as totalising constructs. They are built on the basis of macro-scale theorisations of capitalism’s supposed trajectory which bury the continued importance of national and local geographies. This focus enables these authors to pitch their analyses in such a way as to impress the reader of the amazing feats of capital’s nimbleness, often drawing from a rich tapestry of individual cases illustrating these processes at work; such as Reich’s (1991:113) global car. The implication is that as these feats are becoming more common within capitalism, the whole spatial fabric of the system will be transformed. Dicken (1998:193) argues that the logical end-point of these analyses is that TNCs become entities progressively detached from national, cultural and geographical roots:

A major ingredient of the ‘globalization’ scenario ... is the idea that many TNCs are ‘global corporations’ whose ways of doing things have converged towards a single globally integrated model. The pressures of operating in a globally competitive environment, it is argued, are creating a uniformity of strategy and structure among TNCs.

These points are especially important for the analysis of agro-food corporations. There is considerable debate currently on the issue of the distinctiveness of agro-food restructuring vis-a-vis the experiences of other industrial sectors (Goodman and Watts 1994). Published analyses of TFCs (Heffernan and Constance 1994; Burbach and Flynn 1980; Dinham and Hines 1983; Burch and Goss, 1999) enter this debate from varying standpoints. The fundamental ‘divide’ within this literature is reflected in those studies that aim to further develop the empirical record of agro-food restructuring, and those (Goodman and Watts, 1994) that are concerned pre-eminently with the development of theoretical models to account for contemporary patterns of change. An impetus for this article is the need to bridge this divide, via a theoretically-informed, empirical study.

TOWARDS A FRAMEWORK FOR UNDERSTANDING THE SPATIAL STRATEGIES OF TNCs

These inadequacies suggest the need for an alternative framework in which to analyse the spatial behaviour of TNCs: a framework that does not assume corporate

strategy to be a totalising construction set about globalist ambitions, yet at the same time acknowledges that the underlying spatial logic of capital accumulation is to seek profit at a global scale. These conditions are satisfied through utilising the concept of capital circulation, a model inspired by Marx's conception of money (Harvey 1982) and which has informed a series of political economic analyses of corporate restructuring since the 1970s (Radice 1975; Palloix 1977; Bryan 1987; Bryan 1995; Fagan and Le Heron 1994). The key attribute of this approach is its orientation to the transformative processes underpinning the creation of surplus value by corporations. From the perspective of capital circuits, TNCs can be conceptualised as economic actors positioned within a globalised circulation of capital in the forms of money (M), commodities (C) and production (P). The model places an explicit emphasis on tracing the flows of capital in these three forms, known as the circuits of money capital, commodity capital and productive capital. Seen this way, the spatiality of capital is defined as the social relations of value in movement: as capital circulates through the forms of money, commodities and production, value is created. The circulation of this capital within particular spatial arenas animates specific social relations.

This framework expedites an approach to analysing corporations based around the three circuits in which surplus is created. The *circulation of productive capital* refers to processes for transforming raw materials into commodities for sale to third parties, depending on the application of labour processes to specific means of production (Leyshon and Thrift 1997:42-3) enabling the creation of surplus value. The *circulation of commodity capital* refers to the processes by which finished goods are sold, transforming their value into money capital. Through this transformation, capital is realised into its money form, hence this circuit also can be referred to as the 'circuit of realisation'. This circuit enables the creation of profits through devices such as marketing and branding: which are strategies that aim to add value to commodities after they leave the 'factory gate'. Finally, *the circulation of money capital* involves the processes by which finance is circulated through arenas of surplus value creation for reinvestment in future production. Companies can create profits within this circuit via strategies to manage their finances in ways that provide optimal, tax-effective returns. These functions form the realm of corporate treasury operations and tax planning. Because these processes are motivated by securing funds for distribution to shareholders or for reinvestment, this circuit can also be referred to as the 'circuit of reproduction'.

The obvious merit of the circuits of capital model is its capacity to highlight the multiplicities of spatial arrangements that may exist within a single corporation, thus complementing recent key trends in corporate management. In the 1990s there has been a trend towards viewing corporate functions such as sales and marketing, treasury operations and various components of production, as separate profit centres that are expected to meet rate of return requirements. Failure to meet these requirements may result in functions being outsourced, or the development of alternative approaches, such as joint venturing. Hence, the ability of the circuits of capital model to separate out the varied components of profit creation can clear a path through the often-complex world of corporate strategy. This utility is demonstrated in Pritchard's (1995a; 1995b) research into the food operations of Pacific Dunlop.

There are three other benefits of the framework in guiding empirical analysis:

- (1) Within any production region, complex processes link production, realisation and reproduction at different scales. These links with globalised accumulation change over time according to contingent interactions between capital, labour and state in specific places, but are also shaped by patterns of state regulation and de-regulation. These changes do not lead specific corporations inexorably in the direction of the ideal-type ‘global corporation’ discussed earlier.
- (2) Specific interactions between capital, labour and state must be represented at local scales. Here, local managers of TNCs, including those whose local plants export a majority of their output and those selling principally to domestic markets, make decisions based on interactions with other local-national firms, their workers and consumers, and governments. These national and local relationships are not subordinate to the globalised accumulation strategy of the TNC parents but *simultaneously* create its architecture. Precise geographical, organizational and sectoral forms of transnational corporate activity cannot be simply ‘read-off’ from this framework.
- (3) The nation-state remains central to this model of globalisation. Patterns of intervention are determined in both formal and informal political spheres and may be resisted strongly by some stakeholders while supported, or perhaps pressured, by others.

This perspective on globalisation and corporations complements recent theoretical analysis of globalisation by Goodman (1997) who suggests that globalisation is considered appropriately as comprising an interactive concurrence of accumulation processes, each with its own spatial logics. Examining recent research into world agri-foods systems, Goodman calls for a “more nuanced approach to the internationalisation of capital” (Goodman, 1997:665) that gives central attention to the variety of spatial strategies available to companies:

International economic integration and global restructuring are conceptualised and empirically represented as the dynamic conjuncture of several world-scale processes of capitalist accumulation and competition – internationalisation, multinationalisation, transnationalisation, globalisation – that operate *concurrently* yet differentially in the world economy (Goodman 1997:665, italics in original).

Goodman’s recognition that these accumulation processes may operate concurrently acknowledges the fact, noted above, that corporate spatial strategy cannot be rendered as a monolithic ‘whole’. Thus, each of these ideal-type processes may exist concurrently within the same firm (Goodman 1997:669). The four representations of accumulation processes identified by Goodman each have their own distinctive spatial dynamic:

- (1) *Internationalisation* refers to processes whereby economies are integrated primarily through the exchange of commodities (trade) and money (financial securitisation). It is exemplified in commodity complexes where arm’s length trade and finance relations are the dominant agents of international interaction.
- (2) *Multinationalisation* refers to processes of economic integration driven primarily by foreign direct investment by TNCs. These processes are associated typically with multi-domestic corporate strategies and relatively autonomous branch plants selling primarily to their local markets.

- (3) *Transnationalisation* refers to processes involving intensive international intra-firm divisions of labour, such as that exercised by Nike and Benetton.
- (4) *Globalisation* refers to processes of global economic *integration* dominated by exchange and collaboration between industrial districts, as typified in regions such as California's Silicon Valley and Raleigh, North Carolina. According to Goodman: "globalization is conceptualized as the ensemble of processes collectively constitutive of the new global phenomena observable, for example, in financial and equity markets, science and R&D networks, market structures, corporate organization, lifestyles, consumption patterns and culture, and regulatory capacities and governance" (Goodman, 1997:667).

Goodman's taxonomy is not framed in terms of capital circuits. Indeed, his framework makes no explicit attempt to separate out the flows of money, commodities and investment capital within a cycle of capital accumulation. Yet in specifying ideal-type processes of corporate spatial strategy, Goodman's framework potentially provides a vehicle that can be applied to the circuits of capital model. This is shown in Table 1, which links Goodman's ideal-type processes to the circuits of capital categories of production, realisation and reproduction. This table represents an elaboration of Goodman's initial framework: his ideal-types are each reconstituted in terms of the three circuits of capital. Evidently, they remain ideal-types serving heuristic goals.

The intention of Table 1 is to identify the variety of corporate-spatial strategies that potentially can co-exist within the one corporation. As with any exercise of this type, there is a mixed capacity for any particular company to be 'pigeon-holed' within this framework. At times, distinctive corporate-spatial behaviour may be seen to correspond closely with these categories. On other occasions, correspondence might appear more opaque. The key point to emphasise is that Table 1 acts as a loose template in which to understand the major elements of corporate spatial behaviour. This is now illustrated in the case of Nestlé's spatial behaviour within Southeast Asia.

THE PLACE OF SOUTHEAST ASIA WITHIN NESTLÉ'S GLOBAL ACCUMULATION STRATEGIES

Nestlé is the world's largest food company. In 1996 it made global sales of nearly US\$50 billion (Table 2), an amount substantially larger than its nearest competitors. Nestlé's size and scope is the result of an extraordinary historical progression since the mid-nineteenth century. In 1866 the Anglo-Swiss Condensed Milk Co. built Europe's first condensed milk factory. Thirty-nine years later, in 1905, the company merged with a small Swiss infant formula company, Farine Lactée Henri Nestlé. Demand for condensed milk during the First World War saw the company expand rapidly (Ruigrok and Van Tulder 1995:246). Between the two world wars Nestlé diversified from condensed milk and milk powders: first, in 1929, into chocolate; and second, in 1938, into coffee via its invention of Nescafé, the world's first soluble coffee. World War Two provided another boom period for Nestlé and laid the foundation for rapid international expansion during the post-1945 era. In 1947 Nestlé merged with Potages Jules Maggi, a manufacturer of cooking aids under the Maggi brand. Within this merger, Nestlé completed the core structure that remains

Table 1. Linking the Circuits of Capital Model to Goodman's Typology of Processes of World-scale Integration

Processes	Circuits		
	Production	Realisation	Reproduction
Internationalisation	local sourcing of inputs through arm's length transactions	sales to international customers through arm's length transactions	profits repatriated and reinvested locally
Multinationalisation	intra-corporate sourcing of inputs from local or global sources	sales to international customers through a combination of arm's length and intra-corporate transactions	profits returned to foreign owners of capital with some retained for local investment strategies
Transnationalisation	intra-corporate sourcing of inputs governed by an intra-firm international division of labor	an increasing fragmentation of production processes leads to increasing international intra-corporate sales of partly finished commodities and the sale of commodities manufactured under licence by third parties	profit distributions dominated increasingly by intra-corporate transactions and royalty payments that may be related to global tax strategies
Globalisation	highly complex and fluid sourcing of inputs (including human capital)	sales increasingly take the form of intellectual property transactions	profits take the form of royalty and technical payments that can be linked to individual salaries/bonuses

in place today. In the fifty years since its merger with Maggi, Nestlé's corporate strategy has concentrated on strengthening core businesses. This is typified by acquisitions such as Rowntree (1988) in chocolate, Carnation (1985) in milk powders and Hills Brothers (1985) in coffee. The only significant new business areas opened by Nestlé since 1947 have been mineral water through the acquisitions of Vittel in 1969 and Perrier in 1992 and pharmaceutical/cosmetics with the acquisition of L'Oreal in 1974.

Nestlé's fifty year expansion of core businesses has provided the company with a stable of internationally-recognised market-leading brand names. Nestlé promotes these brands heavily in order to maintain their exposure and asset worth. Brands such as Milo and Maggi are internationally recognisable and associated closely with Nestlé. However, Nestlé complements this brand strategy by cultivating a large

Table 2. Food and Beverage Sales of the Five Largest Agri-Food TNCs, 1996

TNC	US\$ billions
Nestlé	46.8
Cargill	35.4
Philip Morris	32.3
Unilever	25.9
ConAgra	24.8

Source: corporate annual reports.

number of local brands that aim to fill niche regional markets. Through this two-pronged marketing strategy, Nestlé positions itself simultaneously within international and localised marketing arenas (Pritchard 1999).

By product area, Nestlé remains reliant on beverages. Nestlé's beverages division, which includes the company's key brand assets Nescafé, Milo, Nestea, Perrier and Nesquik, is the company's most important profit engine. In 1996, a typical year for Nestlé, beverages generated over 40 percent of the company's trading profit although contributing less than 30 percent of its sales (Table 3). This performance would seem to highlight the important role played by market leading brands such as Nescafé. With market leadership in the instant coffee markets of most countries, Nestlé is empowered to extract a relatively high profit rate. For example, a 1994 study by Australia's Prices Surveillance Authority found that with 70 percent market share in Australia, Nestlé's instant coffee operations could generate a profit rate significantly higher than the norm across the processed food sector (Australia: Prices Surveillance Authority 1994:54).

This background to the company is vital for an understanding of the role played by Southeast Asia within Nestlé's corporate-spatial strategies. In the main, Nestlé's sales are derived from well-established products within mature markets. Consequently, revenue growth is dependent upon acquisitions or the expansion of Nestlé products into new markets. The rapid economic growth of Southeast Asia during the 1980s and 1990s, until the economic crisis beginning in 1997, provided fertile ground for the latter. Thus, although the five major national economies of Southeast Asia (henceforth the ASEAN5: Indonesia, Malaysia, the Philippines, Thailand, Singapore) accounted for somewhat less than 5 percent of Nestlé's revenue in the mid-1990s, these markets were strategically important for the company in terms of generating future revenue and profit growth. Nestlé executed the strategic importance of the region through a number of high profile acquisitions of Southeast Asian food companies in the 1990s, including Magnolia and the Philippine Cocoa Corporation (Philippines) and Dairy Farm (Thailand). These acquisitions were aimed mainly at strengthening core interests, especially in dairy products. Nestlé has been particularly keen to increase its exposure to the Southeast Asian dairy products market, in line with increases in per capita consumption. Dairy businesses acquired by Nestlé in the Philippines and Thailand have possessed supply supply contracts with fast food chains, enabling the company to ride on the back of trends towards the westernisation of regional diets.

Table 3. Nestlé's Global Sales and Trading Profits by Product Category, 1996

Product Group	Key Brand Names	Percentage of Sales	Percentage of Trading Profit
Beverages	Nescafé, Milo, Perrier	27.1	40.1
Milk products, dietetics and ice cream	Carnation, Nido, NAN	27.6	20.6
Prepared dishes, cooking aids and miscellaneous	Maggi, Findus, Friskies	26.4	16.8
Chocolate and confectionery	KitKat, Crunch, Smarties	14.9	13.1
Pharmaceuticals	L'Oreal, Alcon	4.0	9.5

Source: Nestlé (1997).

THE CIRCUITS OF CAPITAL MODEL AS AN EXPLANATORY FRAMEWORK FOR NESTLÉ'S ACTIVITIES IN SOUTHEAST ASIA

The circuits of capital model described earlier in this article offers a potentially robust framework for understanding Nestlé's spatial behaviour in Southeast Asia. Nestlé has distinctive geographies of accumulation for the production, realisation and reproduction of capital in Southeast Asia. Separately identifying and reviewing these geographies is the first task towards understanding the spatial behaviour of this company in the region.

Nestlé's Geographies of Production in Southeast Asia

Nestlé's extensive global scope reaches deep inside the economies of Southeast Asia. When travelling through the region, one is assailed by advertising for key Nestlé brand names, such as Milo, Nescafé, Bear Brand, Kit-Kat and Maggi, on shopfronts, billboards and television screens. The company's product mix provides it with the capability to mount an orchestrated distribution system that delivers the company's products to small vendors far and wide through the region. Like the Heinz ketchup bottle in American diners, Nestlé's Maggi chilli sauce bottle widely adorns the tables of eateries in Southeast Asia: it has become an iconic signifier of the incursions of global brand name capitalism in the diets of many Southeast Asians.

One reason for this reach is Nestlé's long history within the region. The company began trading operations in Southeast Asia in the late nineteenth century and established production facilities in the period after 1945. As in other regions of the world, the Second World War provided the catalyst for a rapid expansion of Nestlé. Products such as instant coffee and chocolate were staple rations for American military personnel through the region. Once introduced, these items found a permanent place in the foodscapes of Southeast Asia.

Until the 1990s, Nestlé followed a relatively simple expansion strategy in Southeast Asia. In the decades following 1945, the governments of each Southeast Asian country, with the exception of Singapore, instigated comprehensive tariff and quota restrictions on food imports, ostensibly to safeguard food security. Consequently, Nestlé developed a multi-domestic investment strategy through the region. By the 1990s, the company had established almost 30 separate factories in the

region, most of which manufactured food products for single national markets (Table 4). The Nestlé experience in Southeast Asia provides a typical example of food industry corporate strategy during the period of the second food regime (Rama 1992).

Progress in the late 1980s and early 1990s towards greater economic integration within ASEAN led to qualitative shifts in the geography of Nestlé's production. In 1991 ASEAN trade ministers approved Nestlé's participation in the ASEAN International Joint Venture (AIJV) Scheme. This scheme was established mainly at the behest of automotive manufacturers seeking tariff-free trade of components within ASEAN, though is applicable to other sectors as well. Consistent with the general tenor of economic integration within the region, the AIJV Scheme was slow-moving. Granting of approvals was undertaken on a case-by-case basis, with ample room for individual governments to frustrate the ambitions of companies seeking free-trade concessions. In the mid-1990s, ASEAN Governments agreed to replace the AIJV with a more comprehensive program to promote intra-ASEAN trade. This program, the ASEAN Industrial Cooperation (AICO) scheme, was planned to lead to complete duty exemption for many industries by the year 2001, but economic turmoil since 1997 has now waylaid implementation of this timetable.

Nestlé is the only food company to have applied for free-trade concessions through the AIJV and AICO programs. According to the terms of these programs, exemption is provided only for those products manufactured in identified factory sites. Nestlé gained approval for products manufactured in five factories, one in each of the ASEAN5 countries. Participation in this Scheme has allowed Nestlé to pursue a degree of specialisation within its ASEAN production geography. Nestlé's five ASEAN IJV factories are: Lipa (the Philippines, breakfast cereals); Batu Tiga (Malaysia, chocolate and confectionery); Bangpoo (Thailand, non-dairy creamer); Jurong (Singapore, soya sauce) and Lampung (Indonesia, instant coffee). Although Nestlé is further advanced than any other food company in terms of integrating its ASEAN production operations, nonetheless it remains hostage to the continued cautiousness of ASEAN Governments in trade reform. In May 1998, for example, ASEAN Foreign Ministers rejected Nestlé's application for duty-free trade in coffee between Malaysia and Thailand (*The Nation* [Bangkok] 1998).

The partial restructuring of Nestlé's ASEAN production geography away from traditional multi-domestic structures also needs to be interpreted in light of wider changes to the global production geographies of Nestlé. In the 1990s, Nestlé has dramatically expanded its intra-firm trade of final products. The general lowering of trade barriers globally for final food products has created opportunities for Nestlé to exploit excess production capacities in individual factories. Because many Nestlé products sell under globally recognised brand names and are manufactured according to globally consistent recipes, there is a certain footlooseness in the intra-firm trade patterns of the company. Hence, the concentration of ASEAN confectionery production in Malaysia, for instance, is occurring simultaneously with substantial increases in the importation of Nestlé confectionery into Southeast Asia from Nestlé production sites in Europe, Australia and South Africa.

Nestlé's Geographies of Realisation in Southeast Asia

The circuit of capital realisation describes the processes by which finished goods

Table 4. Nestlé Factories in ASEAN5 Countries, 1998

Country	Factory Location	Products
Indonesia	Lampung (South Sumatra)	C
	Jakarta	CC
	Supmi Sakti (Jakarta)	PF
	Pasuruan	SP
	Sidoarjo (Surabaya)	MP
Malaysia	Raja Muda (Kuala Lumpur)	C, MP
	Petaling Jaya (Kuala Lumpur)	PF, MP
	Batu Tiga AIJV (Kuala Lumpur)	PF
	Shah Alam (Kuala Lumpur)	MP
	Cembong (Negeri Sembilan)	CC, MP
	Kuching (Sarawak)	PF
Philippines	Cagayan de Oro (Mindanao)	C, PF, MP
	Lipa AIJV (Batangas, south Luzon)	CC, BC, MP
	Cabuyao (Mindanao)	PF, MP, SP
	Pulilan (Bulacan)	PF
	Alabang	MP
Singapore	Jurong AIJV	PF
Thailand	Samrong (Bangkok region)	MP; PF
	Chachoengsao (Bangkok region)	C
	Navanakorn 1 (Bangkok region)	MP, SP
	Navanakorn 2 (Bangkok region)	LC
	Pathunthani (Bangkok region)	CC
	Bangpoo (Bangkok region)	NDC (domestic)
	Bangpoo AIJV (Bangkok region)	NDC (export)
	Bangchan (Bangkok region)	IC
	Pakchong (Nakhon Ratchasima)	FMJ
	Ayudhya (Bangkok region)	MW

Key: MP = milk products; BC = breakfast cereals; C = instant coffee; LC = canned liquid coffee; MW = mineral water; CC = chocolate and confectionery; FMJ = fresh milk products and juice; IC = ice cream; PF = prepared foods; NDC = non-dairy creamer; SP = soya products.

are sold, transforming their value into money capital. In common with many other TFCs, Nestlé utilises sophisticated marketing and branding strategies to attach value to its products beyond the factory gate. These strategies have tended to attract little attention in economic sociology and human geography, where there remains a preference for analysing concrete spatial processes of factory location and raw materials sourcing. However, marketing and branding are taking on increasingly central roles in many companies' strategies for wealth creation (Pritchard 1999). These strategies are played out via the formation of complex geographies of brand ownership and licensing, strategic alliances of cross-promotion, preferred supplier

arrangements with retailers and joint ventures in packaging and distribution. Attention to these activities deserves priority within contemporary research agendas.

Nestlé's long history in Southeast Asia means that these aspects of corporate activity provide a clear competitive advantage for the company. Distribution chains within Southeast Asian food sectors tend to be much more fractured than is the case in Europe, North America and Australia (Instate Pty Limited 1993). Small shops, roadside stalls and mobile vendors comprise a significant proportion of the retail sectors of these countries. Often, these actors are linked to distributors through locally embedded arrangements constructed through institutions of trust and family. Nestlé's long history in the region has allowed it to become alert to these nuances.

Rapid restructuring of retail sectors in Southeast Asia, however, is forcing change to these distribution strategies. Overall, there is a regional shift towards supermarkets and franchise stores, especially in the larger cities. In Bangkok alone, over 1,000 'Seven-Eleven' franchise stores have been opened in the 1990s (Kanitta 1998). These changes are significant because they presage more centralised systems of product distribution, potentially weakening Nestlé's competitive advantage attained through its 'on the ground' regional presence. One response by Nestlé has been to invest funds for modernising its warehousing and distributional arrangements, thereby attempting to gain an advantage over competitors. In 1997 and 1998, Nestlé introduced new computerised warehousing systems in Indonesia and Malaysia that link the company directly to key retailers (*Jakarta Post* 1998; Fernandez 1998).

These restructuring strategies complement the general shift away from Nestlé's multi-domestic production arrangements in the region. The construction of large warehousing complexes facilitates the distribution of imported Nestlé products within national economies. Through these means, the geographies of Nestlé's sales and distribution presence in Southeast Asia are changing. Certainly the company retains its traditional reliance on locally decentralised forms of distribution. However, retail restructuring and the complementary development by Nestlé of large warehousing/distribution strategies are disembedding systems of production from systems of distribution, so that Nestlé is increasingly able to source supermarkets with products regardless of their origins. As these changes gather pace, Nestlé repositions itself from being a local manufacturer, to being a supplier of consumer foods to supermarkets and other retail outlets. This transformation diminishes the strategic importance of production as an engine for profit, in favour of an ability to retain ownership over key brands. The shift is consistent with a contracting out of production to third parties by means of manufacturing under licence.

The enhanced potential for geographical dissonances between the ownership of production and the ownership of brands raises two implications for Nestlé's corporate spatial behaviour in Southeast Asia. First, it heightens the importance of advertising and promotion. These strategies are crucial for the maintenance and/or construction of price margins for individual products. To generate sales of a product at a given price, Nestlé, in common with other food and consumer goods companies, use the auras of branding and advertising to attach various concepts like 'value', 'quality' and 'healthiness' to their products. Second, branding strategies potentially enable the creation of international intra-firm royalty streams that assist

profits to be repatriated to corporate parents in tax-effective ways (Pritchard 1999). Nestlé's branding strategy rests on an acute appreciation of the legal and accounting implications of issues such as which of its subsidiaries hold possession of its various brands and licenses (Perrier 1998:109-10). One result of this strategy is that Nestlé facilitates a flow of intra-firm royalties throughout the corporation. Nestlé's management and strategy for brand names represents a distinctive geography of accumulation within the corporation. The places in which brand names are held for legal purposes can be quite dissimilar from the places in which these same brand names have their origins, meanings and social values. Through creating these geographical dissonances, companies such as Nestlé open avenues for the creation of profit.

Nestlé's Geographies of Reproduction in Southeast Asia

The third distinctive geography of accumulation used by Nestlé in Southeast Asia relates to the circulation of money capital. Transnational corporations such as Nestlé possess highly sophisticated treasury operations to manage their loans' portfolios and to develop appropriate hedge strategies to mitigate foreign exchange and other risk. Closely related to these strategies is the management of corporate accounts in such ways that ensure compliance with national corporate affairs and taxation legislation, while at the same time ensuring corporate accounting practice results in 'tax effective' outcomes. With the rise of what Rybczynski (1988) labels a securitised global financial system, these operations have taken on greater importance. During the 1980s, a number of transnational corporations built their treasury operations to the extent that they tended to overshadow other corporate activities. This is documented in research by Fagan (1990) into the Australian agribusiness corporation Elders IXL. The general importance of treasury functions is also underscored in ongoing research by Bonanno et al. (1995) into the financial activities of Feruzzi.

Nestlé's treasury operations are extensive. In 1997 the company made CHF5.7 billion (US\$8.332 billion) in foreign exchange forward contracts, also known as derivative transactions, and had on its books a total of 17 international bond issues in seven currencies (US dollars; Swiss francs; French francs; German marks; British pounds; Canadian dollars; South African rands). These liabilities are managed in line with complex articulations of corporate goals and market forecasts. So, for example, Nestlé's Australian operations have issued bonds denominated in Swiss francs that create an Australian dollar liability. Whereas the overarching corporate goal of these operations is to protect Nestlé's exposure to adverse shifts in currency, money and commodity markets, these operations also can be understood as arenas for the creation of profit, especially when seen in conjunction with wider themes of corporate financial planning. This capacity is illustrated through events surrounding Nestlé's 1984 takeover of Carnation, which resulted ultimately in a 1995 determination by the United States Tax Court that Nestlé's Federal income taxes for three years in the 1980s were in deficiency by over US\$300 million relating to issues concerning the valuation of Carnation assets and intra-corporate financing (United States Tax Court 1995).

Research into these geographies of accumulation is made difficult by the highly technical nature of financial management and the general secrecy within which corporations cloak these activities. Detailed insights into these operations often can

be gleaned only through opportunistic means, such as when companies are required to table documentation as evidence in legal arenas. However, a broad sense of corporate financial strategy is achieved through analysis of corporate ownership structures; such as the nested relationships between parent and subsidiary companies. Large companies invariably construct highly complex corporate ownership structures in order to service financial objectives. The development of these structures provides the architecture to execute various intra-corporate transactions including loans, royalty payments, dividends and commodity sales.

Table 5 summarises Nestlé's legal-corporate geography in Southeast Asia. Evidently, the proliferation of Nestlé subsidiaries through the region would appear related to the need to accommodate highly complex flows of money capital. Although some of this complexity can be attributed to legal requirements, such as the requirement that there be local partners in some jurisdictions, this legal-corporate architecture is more complex than strictly would be necessary for Nestlé to operate as a manufacturer of branded food products in Southeast Asia. As far as research is concerned, Table 5 represents the tip of an iceberg. Mapping the flows of money capital within and among these companies represents a next stage for research into Nestlé's geographies of accumulation in Southeast Asia.

CONCLUSION: CIRCUITS OF CAPITAL AND NESTLÉ'S SPATIAL BEHAVIOUR IN SOUTHEAST ASIA

This article has argued that corporate spatial behaviour needs to be understood as constituting multiple flows of capital through the circuits of production, realisation and reproduction. Each of these circuits possesses distinctive geographies of accumulation. The case study of Nestlé in Southeast Asia demonstrates the complexities of corporate spatial behaviour associated with any TNC. Nestlé simultaneously possesses a geography of production, as exhibited in the location of factories and raw material supply arrangements; a geography of realisation as exhibited in its marketing and branding strategies, including the locations in which key brands are held for legal purposes; and a geography of reproduction as exhibited through the flows of money capital within and through its structure of subsidiary companies.

Using the framework established in Table 1, which links the circuits of capital to Goodman's (1997) typology of world-scale integration, leads to the following observations. First, Nestlé's geography of production seems best described through the concept of 'multinationalization'. Production systems are arranged via a series of intra-corporate transactions, but these are organised only weakly in terms of exploiting an international division of labour. The output of most factories in the region remains the legacy of the multi-domestic strategy developed by the company in line with state restrictions on cross-border trade in processed foods. This legacy will wane, however, as the company attempts to incorporate its Southeast Asian operations more tightly with those in other regions. As this occurs, Nestlé's Southeast Asian production geography will tend increasingly to emulate a 'transnationalised' spatial structure. Second, Nestlé's geography of realisation in Southeast Asia also seems best described through the concept of 'multinationaliza-

Table 5. Nestlé's Legal-Corporate Geography in Southeast Asia, 1998

Country	Company Name	Nestlé's Ownership Share (in percent)
Indonesia	PT Nestlé Indonesia	57.6
	PT Indofood Jaya Raya	70
	PT Nestlé Confectionery Indonesia	100
	PT Nestlé Asean (Indonesia)	60
	PT Supmi Sakti	95
Malaysia	Nestlé Products Sdn Bhd	100
	Nestlé (Malaysia) Sdn Bhd	51
	Malaysia Cocoa Manufacturing Sdn Bhd	49
	Nestlé Asean (Malaysia) Sdn Bhd	60
	Nestlé Cold Storage (Malaysia) Sdn Bhd	51
Philippines	Nestlé Philippines Inc	55
Singapore	Nestlé Singapore (Pte) Ltd	100
	Nestlé Asean Singapore (Pte) Ltd	60
Thailand	Nestlé (Thailand) Ltd	100
	Nestlé Products Thailand Inc.	100
	Nestlé Asean (Thailand) Ltd	60
	Quality Coffee Products Ltd	49
	Nestlé Foods (Thailand) Ltd	100
	Nestlé Trading (Thailand) Ltd	49
	Nestlé Manufacturing (Thailand) Ltd	100
Nestlé Dairy Farm (Thailand) Ltd	46.3	

Source: own research.

tion'. At the present time, most of Nestlé's Southeast Asian revenue earning activities comprises the sale of products to third parties within the region, or intra-corporate sales to Nestlé subsidiaries in other regions. In the main, these sales are of finished products, as opposed to partly finished products, that tend to be manufactured in Nestlé factories, as opposed to being manufactured by third parties under licence. Finally, Nestlé's geography of reproduction in Southeast Asia seems to accord most closely to the concept of 'transnationalisation'. The complexity of Nestlé's corporate structures in the region suggest that the company is engaged in a range of intra-corporate transactions for repatriating profits and paying royalties to intra-corporate holders of brand names and other types of intellectual property.

The point of this analysis is not to pigeon-hole Nestlé's Southeast Asian spatial behaviour within taxonomic constructs, but to build a model of the corporation based on the concurrent existence of three distinctive geographies of accumulation. This approach necessarily emphasises the complexity of corporate spatial behaviour, heightening an appreciation of the intra-corporate flows of finance and commodities that are often neglected in research. Ultimately, this article represents a preliminary analysis of these issues. In suggesting that spatial flows of money

capital within Nestlé's Southeast Asian operations appear more complex than the company's production geographies, this article opens the intriguing hypothesis that these activities, more than production itself, are the real engines of profit for Nestlé in Southeast Asia. The validity of this hypothesis, however, awaits further research.

REFERENCES

- Allen, John and Doreen Massey. 1995. *Geographical Worlds*. Oxford: Oxford University Press.
- Australia: Prices Surveillance Authority. 1994. *Inquiry into the Instant Coffee Declaration*. Canberra: Australian Government Publishing Service.
- Bonanno, Alessandro, Douglas Constance and Mary Hendrickson. 1995. "Global Agro-Food Corporations and the State: The Feruzzi Case." *Rural Sociology* 60(2):274-96.
- Bryan, Richard. 1987. "The State and the Internationalisation of Capital: An Approach to Analysis." *Journal of Contemporary Asia* 17(3):253-75.
- . 1995. *The Chase Across the Globe*. Boulder: Westview Press.
- Burbach, Roger and Patricia Flynn. 1980. *Agribusiness in the Americas*. New York: Monthly Review Press/North American Congress on Latin America.
- Burch, David and Jasper Goss. 1999. "An End to Fordist Food? Economic Crisis and the Fast Food Sector in Southeast Asia." Pp. 87-112 in *Restructuring Global and Regional Agricultures: Transformations in Australasian Agri-Food Economies and Spaces*, edited by David Burch, Jasper Goss and Geoffrey Lawrence. Aldershot: Ashgate.
- Corbridge, Stewart and Nigel Thrift. 1994. "Money, Power and Space: Introduction and Overview." Pp. 1-26 in *Money, Power and Space*, edited by Stewart Corbridge, Ron Martin and Nigel Thrift. Oxford: Basil Blackwell.
- Dicken, Peter. 1998. *Global Shift*. London: Paul Chapman Publishing.
- Dicken, Peter, Jamie Peck and Adam Tickell. 1998. "Un-packing Globalization." Pp. 158-66 in *Geographies of Economies*, edited by Roger Lee and Jane Wills. London: Edward Arnold.
- Dinham, Barbara and Colin Hines. 1983. *Agribusiness in Africa*. London: Earth Resources Research.
- Fagan, Robert. 1990. "Elders IXL Ltd: Finance Capital and the Geography of Corporate Restructuring." *Environment and Planning A* 22:647-666.
- . 1998. "Local Food/Global Food: Globalisation and Local Restructuring." Pp. 197-208 in *Geographies of Economies*, edited by Roger Lee and Jane Wills. London: Edward Arnold.
- Fagan, Robert and Richard Le Heron. 1994. "Reinterpreting the Geography of Accumulation: The Global Shift and Local Restructuring." *Environment and Planning D: Society and Space* 12:265-85.
- Fagan, Robert and Pritchard, William. Forthcoming. "The Political Construction of Geographical Scale: Subic Bay Freeport, the Philippines."
- Fernandez, Francis. 1998. "Nestlé Forging an Improved Supply Chain." *Business Times (Malaysia)* 12 May.
- Goodman, David. 1997. "World-scale Processes and Agro-Food Systems: Critique and Research Needs." *Review of International Political Economy* 4(4):663-87.
- Goodman, David and Michael Watts. 1994. "Reconfiguring the Rural or Forging the Divide? Capitalist Restructuring and the Global Agro-food System" *Journal of Peasant Studies* 22(1):1-49.
- Harvey, David. 1982. *The Limits to Capital*. Oxford: Basil Blackwell.
- Heffernan, William and Douglas Constance. 1994. "Transnational Corporations and the Globalization of the Food System." Pp. 29-51 in *From Columbus to ConAgra: The Globalization of Food and Agriculture*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press

- of Kansas.
- Hu, Y-S. 1992. "Global Firms are National Firms with International Operations." *California Management Review* 34:107-26.
- Instate Pty Limited. 1993. "Agribusiness and Processed Food Development in South East Asia." *Rural Industries Research and Development Corporation Research Paper Series* 93(1).
- Jakarta Post*. 1998. "Nestlé's Warehouse Center." 12 May.
- Kanitta, Pussadej. 1998. Personal communication, Bangkok, 21 April. (Mrs Kanitta is Executive Director, Thai Retailers' Association.)
- Kelly, Phillip. 1997. "Globalization, Power and the Politics of Scale in The Philippines" *Geoforum* 28:151-71.
- Leysen, Andrew and Nigel Thrift. 1997. *Money/Space: Geographies of Monetary Transformation*. London: Routledge.
- The Nation* (Bangkok). 1998. "Six Projects Approved for Aico Scheme" Pp. B1-2, 9 May.
- Ohmae, Kenichi. 1995. *The End of the Nation State*. London: Harper Collins.
- Palloix, Christian. 1977. "The Self Expansion of Capital on a World Scale." *Review of Radical Political Economics* 9:1-28.
- Perrier, Raymond. 1998. "Brand Licensing." Pp. 104-113 in *Brands: The New Wealth Creators*, edited by Susannah Hart and John Murphy. London: Macmillan Business.
- Pritchard, William. 1995a. *Uneven Globalisation: The Restructuring of Australian Dairy and Vegetable Processing Sectors*. Ph.D. thesis submitted to the Department of Geography, the University of Sydney (unpublished).
- Pritchard, Bill. 1995b. "Foreign Ownership in Australian Food Processing: The 1995 Sale of the Pacific Dunlop Food Division." *Journal of Australian Political Economy* 36:26-47.
- . 1999. "Switzerland's Billabong: Brand Management in the Global Food System and Nestlé Australia." Pp. 23-40 in *Restructuring Global and Regional Agricultures: Transformations in Australasian Agri-Food Economies and Spaces*, edited by David Burch, Jasper Goss and Geoff Lawrence. Aldershot: Ashbury.
- Radice, Hugo. 1975. *International Firms and Modern Imperialism*. Harmondsworth: Penguin.
- Rama, Ruth. 1992. *Investing in Food*. Paris: Organization for Economic Cooperation and Development.
- Reich, Robert. 1991. *The Work of Nations*. New York: Alfred A. Knopf.
- Ruigrok, Winfried and Rob Van Tulder. 1995. *The Logic of International Restructuring*. London: Routledge.
- Rybczynski, Tad. 1988. "Financial Systems and Industrial Re-structuring." *National Westminster Bank Quarterly Review*, November:1-11.
- Thurow, Lester. 1996. *The Future of Capitalism*. New York: Allen and Unwin.
- United Nations. 1993. *World Economic Survey*. New York:United Nations.
- UNCTAD. 1994. *World Investment Report: Transnational Corporations, Employment and the Workplace*. New York: United Nations.
- United States Tax Court. 1995. "Nestlé Holdings, Inc., on Behalf of Itself and Consolidated Subsidiaries, and as the Successor in Interest to Nestlé Enterprises, Inc. and Consolidated Subsidiaries (petitioner) v. Commissioner of Internal Revenue (respondent)." Docket No. 21562-90. T.C. Memo 1995-441; Tax Ct. Memo LEXIS 439;70 T.C.M. (CCH) 682.

FOOD TNCs, INTELLECTUAL PROPERTY INVESTMENTS AND POST-FORDIST FOOD CONSUMPTION: THE CASE OF UNILEVER AND NESTLÉ IN TURKEY*

Nuri Zafer Yenil
Binghamton University

This article is an attempt to analyze the growing predominance and changing investment strategies of food TNCs (transnational corporations) in the context of a peripheral country, Turkey. My general argument is two-folded. On the one hand, I will demonstrate that exploiting intellectual property (intangible assets) by investing in foreign markets has become an important component of the expansion strategies of food TNCs in the past several decades. On the other hand, I will suggest that this process is closely related to changes in food consumption patterns. In other words, my intention is to show that with the growing segmentation of food consumption markets, intellectual property investments have gained even more significance in the production and marketing decisions of food TNCs, especially in the processed food sector.

For this purpose, I will first provide a brief review of the literature on the restructuring of the world agro-food industry after the 1970s and the role of TNCs in this process. Secondly, I will highlight the importance of intellectual property investments and changes in food consumption patterns in this period. I will then briefly summarize the transformation of the Turkish agro-food sector since the 1980s. In the last section, I will concentrate on the activities of two major food TNCs in Turkey, namely Unilever and Nestlé, and describe how their investment and marketing strategies have changed and responded to transformations in the consumption sphere.

Analyses of the current restructuring of the world agro-food industry are heavily dominated by a core-centric approach. My contention is that for the most part these analyses neglect changes in the investment and marketing strategies of food TNCs in the periphery. This is partly because the growth of trade and foreign direct investment and financial integration, have been concentrated within the global triad of North America, Western Europe and East Asia since the 1980s. Therefore sociological accounts of the globalization of agro-food markets usually focus on these regions and ignore what takes place in other parts of the world. I believe that research on food TNCs would benefit from studies dealing with peripheral countries.

* Direct all correspondence to: Nuri Zafer Yenil, Binghamton University, Sociology Department, Binghamton, NY 13905 USA. The research on which this article is based was financed by Middle East Awards (Population Council) Research Grant No. 358. I am grateful to MEAWARDS for their financial support. I would like to thank Deniz Yenil, Caglar Keyder and two anonymous reviewers for their constructive comments.

THE RESTRUCTURING OF THE WORLD AGRO-FOOD INDUSTRY AND THE FOOD TNCs

Several scholars have described the transformation of agricultural production into a global agro-food complex in the postwar period (Friedmann 1982; McMichael 1992). One of the main features of the emerging agro-food industry was the creation of a durable food complex. This complex “changed food from a local, perishable set of ingredients to a widely marketed manufactured set of products with a long and hardy life” (Friedmann and McMichael 1989:106). It also contributed to the emergence of Fordist mass consumption diets in core countries and the standardization of food consumption patterns. This new mass diet included processed foods, dairy, meat and poultry products, whose mass production and swift delivery became possible thanks to advances in biotechnology and transportation. The underlying characteristic of the “postwar food order,” as it has been called by some, was that it was an integral part of the Fordist accumulation model, combining mass production with the mass consumption of food (Friedmann 1982 and 1991).

This postwar food order started to disintegrate in the 1970s as a result of changes in world market conditions (McMichael 1992; McMichael and Reynolds 1994). When we examine the sociological literature on agro-food restructuring in the past three decades, we see that current research concentrates on several areas. In broad terms, these areas include the new international division of labor, global sourcing, rising ascendancy of transnational regulatory institutions and the undermining of the regulatory powers of nation-states. Some authors argue that there is a new division of labor in agriculture in the 1980s between low-value and high-value products. While core countries predominantly export low-value temperate cereals and oilseeds, peripheral countries specialize in exports of high-value products such as fruits, vegetables and exotic products (McMichael and Reynolds 1994; Llambi 1994; Friedland 1994). Some of these analyses draw attention to the new norms of consumption in core countries which are reflected in the emergence of specialized, customized and segmented food markets and market niches (Marsden 1992; Lyson and Geisler 1992). Moreover, the increasing dominance of transnational institutions and mechanisms such as the IMF, the World Bank, NAFTA, the EU and GATT in regulating the organization and workings of global agro-food markets are often cited as an indication of declining nation-state capacities (Bonanno et al. 1994; McMichael and Myhre 1991; McMichael 1992).

Furthermore, many studies point at the eagerness of TNCs in setting up a cross border division of labor for taking advantage of cheap labor and raw materials as well as value-adding at the point of consumption through global sourcing (Sanderson 1986; Reynolds 1994). In most of these analyses, TNCs appear as the main agents in the coordination and organization of world food markets. For example, according to Heffernan and Constance (1994), TNCs’ ability to gather and utilize information gives them primacy as global actors. In the next section, I will turn to how TNCs exercise their increasing control of food markets, by means of examining the role of their intellectual property investments.

INTELLECTUAL PROPERTY INVESTMENTS

I argue that taking advantage of the intellectual property (intangible assets) that transnational companies possess is increasingly becoming one of the major

investment strategies of food TNCs. These intangible assets include research and development (R&D), differentiated products, established loyalties with suppliers and customers, and unique brands and trademarks (Henderson, Voros and Hirschberg 1996; Handy and Henderson 1994). In fact, R&D expenditures in food industry are generally low in comparison to other manufacturing industries. However, there has been a significant growth over the past twenty years in the number of patents produced by the food and beverage manufacturers (Rama 1998). The rate of technology transfer from other industries has also increased, such as in the case of the chemicals and pharmaceuticals industry. The nature of product innovation in this sector is also different than other industries. Technology is only one component of the innovation process in the food industry. Brands, packaging and advertising are other elements which are vital to the innovation process. When these factors are taken into account, the food industry's comparative innovative performance appears to be quite high (Wilkinson 1998).

One of the main characteristics of the world economy in the past several decades has been that the share of production destined for international trade has not increased considerably. "Instead, the predominant thrust has been acquisitions by multinational food corporations of existing firms operating in established markets, and mergers among large multinational food firms" (Buttel 1996:26). Through these mergers and acquisitions, firms can avoid competition with local firms and make an easier entry to developing, or already lucrative, markets. Given the fact that capacity expansion and technological development in the food industry have become more expensive in recent years, mergers and acquisitions are crucial for reducing financial risks (Buttel 1996).

In the case of peripheral countries, new forms of investment strategies are pursued and implemented by TNCs to capitalize on their intangible assets. Through joint ventures, licensing agreements, management contracts, franchising and sub-contracting, TNCs make significant in-roads in foreign markets, particularly in high value-added segments of the food processing industry. Major food TNCs mostly invest in brand name and differentiated processed foods as well as milk products, vegetables and fruits. In this regard, especially important are joint ventures in which the TNCs provide "more sophisticated product technology and, often, a brand name and advertising experience ... Sharing product technology and control with local partners, such firms benefit from the latter's knowledge of local markets and ability to share risks" (Oman 1993:182-3).

A body of scholarship in economics underlines the importance of intangible (firm-specific) assets in evaluating the investment strategies of food TNCs, an area that has not adequately been pursued in sociological accounts (Hagen 1998; Handy and Henderson 1994; Henderson et al. 1996; Malanoski et al. 1996). According to this point of view, firms with a greater amount of such assets have a higher propensity to become internationalized in order to make larger use of these assets:

The fundamental basis for firms' choosing production abroad to supply foreign markets seem to lie in their desire to capitalize on existing intangible investments in their brand, knowledge, and reputation, while serving foreign markets in a cost-effective manner. A foreign affiliate enables the parent firm to capitalize on intangible investments because it allows for greater control over the quality, distribution, and presentation of the product in the foreign market. It also enhances the ability of the

firm to produce a good suited to the foreign customers' needs and preferences (Malanoski et al. 1996:101).

As noted above, most large food firms prefer foreign direct investment in the form of license agreements, joint ventures and foreign subsidiaries over exports as their major strategy to gain access to foreign markets. Handy and Henderson (1994) analyze the role of foreign direct investment in the US food manufacturing sector and argue that TNCs have higher ratios of intangible to total assets than those firms with no foreign operations (Table 1). They point out that transnationals "establish foreign affiliates primarily to access and serve the host country market, rather than to originate exports" (Handy and Henderson 1994:227).

Global expansion strategies of the leading TNCs can, in fact, be seen as a response to the saturation of industrialized-country markets. In addition to policies of market segmentation with an emphasis on high quality products, opening up developing country markets has become a crucial expansion strategy. These priorities have contributed to the development of new strategies for agricultural R&D. "Whereas previously agronomic criteria prevailed in the R&D programs of plant and animal breeding, the latter are now increasingly geared to processing and end-user priorities" (Sorj and Wilkinson 1994:90). Therefore, taking over established companies with a significant domestic market share and an emphasis on innovation are different sides of the same coin. This innovative push involves "reducing the constraints associated with the perishability of food products..., diversifying the methods and techniques of food preparation and, packaging and advertising" (Marsden and Little 1990:7).

POST-FORDIST FOOD CONSUMPTION

Many scholars have argued that in the last several decades, parallel to the transformations in the world economy, there has been a transition from mass consumption forms to more differentiated, post-Fordist, consumption patterns (Lash and Urry 1994; Aglietta 1987; Piore and Sabel 1984). According to these analyses, mass consumption was characterized by relatively limited choices, little product differentiation on the basis of specific market segments and the purchase of commodities produced under conditions of mass production (Urry 1990). On the other hand, post-Fordist consumption is distinguished by a greater volatility of consumer preferences and higher market turnover rates, heightened market segmentation and increased preferences expressed for goods and services which are produced in more flexible, specialized and non-mass forms of production (Lash and Urry 1994).

The food industry is one of the economic sectors where the diversification of preferences and concomitant market segmentation are most apparent. The introduction and the growth of exotic fruits and vegetables on supermarket shelves, and sophisticated culinary methods in expensive restaurants since the early 1980s, are shown as examples of this phenomenon (Christopherson 1994). The emergence and the salience of various fashions and new styles in food consumption such as eating organic and healthy foods, and vegetarianism, are other common instances of this trend towards post-Fordist food consumption patterns which are conceptualized by Goodman and Redclift (1991) in the following way:

Table 1. Intangible Assets of 21 Leading World Food Manufacturing Firms

	Intangible Assets as a Percentage of Total Assets
Multinational Firms	19.1
US Firms	16.9
Non-US Firms	23.1
Firms Without Foreign Operations	12.4
US Firms	11.6
Non-US Firms	16.7

Source: Handy and Henderson (1994).

We would argue that some segments of the market in developed countries have entered a 'post-fordist' era, as far as the consumption of food is concerned. That is, an era not so much of the mass consumption of homogeneous, industrially produced food as of the development of healthy foods for market 'niches', often reflecting ethnic variety and traditions, but utilizing the full armoury of the food processing industry, and targeted to consumers willing to pay for high value-added products (Goodman and Redclift 1991:240).

Thus, there is a growing specialization in food markets. For instance, in the case of fresh produce, post-Fordist niche markets have emerged for products such as "tropicals" and "baby vegetables" (Friedland 1994). But, mass consumption forms and post-Fordist consumption patterns co-exist in the current period. Here, Friedmann (1991:86) underlines the class differentiation in the adoption of post-Fordist food consumption practices:

While privileged consumers eat free-range chickens prepared through handicraft methods in food shops, restaurants or by domestic servants, mass consumers eat reconstituted chicken foods from supermarket freezers or fast food restaurants and dispossessed peasants eat none at all.

Similarly, Marsden (1992) relates the development of new value-added food markets in the United Kingdom to the rising living standards of the 'service class' during the 1980s.

When we compare the current period with the Fordist period of consumption, then, we observe a major difference. During the postwar food order Fordist consumption patterns were created whereas in the past several decades, segmentation of markets has occurred in such a way that post-Fordist consumption exists side by side with mass consumption patterns. These developments in consumption have partly been brought about by, and partly have resulted in, a restructuring of production as well as new investment and marketing practices.

The emergence of post-Fordist food consumption patterns is usually examined in the case of core countries. No attention is paid to what kinds of post-Fordist consumption forms may take shape in a peripheral context. In what follows, my aim is to bring together an analysis of the investment and marketing strategies of food TNCs and the transformation of food consumption patterns in Turkey, a peripheral country. My argument is that, parallel to global trends, food TNCs have resorted to a variety of investment and marketing strategies in their quest to optimize the effectiveness of their operations in the periphery. Thus, food TNCs have entered into relationships with local corporations to reap the benefits of their partners'

knowledge of local market conditions. Related to this, they have been able to pursue marketing strategies that emphasize product proliferation, exploitation of intangible assets and market segmentation.

RESTRUCTURING OF THE TURKISH AGRO-FOOD SECTOR IN THE 1980s

As food TNCs have expanded their markets in SouthEast Asia and Latin America, and to a lesser extent in Central and Eastern Europe, over the past decade, there has been a decline in foreign direct investments (FDI) in Africa, the Middle East and the Mediterranean region. The only exception to this trend in the Mediterranean region is Turkey, where FDI in the food industry has been rising rapidly (Tozanli 1998). For instance, between 1989 and 1993, foreign direct investment in the food sector increased more than two-fold to nearly US\$400 million (*Capital* 1993). In fact, the share of the food manufacturing sector in total foreign capital investments between 1954 and 1998 was 7.11 percent, which is the highest figure in the overall manufacturing industry (HDTM 1998). Food giants such as Jacobs-Suchard, Kraft, General Foods, Heinz, Danone, Carrefour and Philip-Morris have all made significant investments in the country during the 1990s in areas ranging from food processing to retailing (*Ekonomist* 1993). These investments are propelled by the promise of a lucrative market in Turkey, which has a relatively young and rapidly growing urban population and an expanding – and modernizing – marketing and distribution infrastructure.

The proliferation of TNCs' operations in Turkey should be situated within the deregulation of the agro-food sector since the 1980s. On the one hand, the protection of agricultural production for the domestic market was consciously eroded in order to make way for export crops. On the other hand, the deregulation of foreign trade and investment has allowed foreign capital to enter both the agricultural and the processed foods sectors (Yenal and Yenal 1993). In the same period, the Turkish private sector's interest in the food sector has also grown. The share of the private sector in the food industry has risen rapidly since the 1980s and exceeded that of the public sector. In 1996, the shares of the private sector and the public sector in the total volume of food production were 54.27 percent and 45.73 percent, respectively (*Gıda Teknolojisi* 1996). New companies specializing in food production have emerged at the same time that domestic corporations operating in other industrial sectors invested heavily in the agro-food industry, particularly in food processing. Turkish food manufacturers with growing scales of operations have entered into partnerships and joint ventures with transnationals in processing meat and milk, fruit and vegetable processing and freezing, tea processing, food packaging and food catering (Kapital 1994). The increasing presence of international capital in these sectors in the form of large scale and high technology plants points to a trend through which food manufacturing in Turkey, although still dominated by small scale production, is being transformed into an integral part of the international agro-food industry. Here I should underline that the food manufacturing industry exhibits a highly concentrated character in terms of the distribution of modern technology. While more than 80 percent of food firms are utilizing low-level traditional technology, the rest are operating with imported advanced technology. Another important point in this context is that the R&D

expenditures are extremely low in the Turkish agro-food industry. They amounted to US\$92.1 million in 1991. Eighty-six percent of these R&D activities are carried out in the universities. The shares of public institutions and the private sector in this amount are 12 and 2 percent, respectively (Pala 1991).

Simultaneously, with the process of deregulation and internationalization in the agro-food industry, the structure of the domestic market has also changed drastically since the 1980s. New bouts of rural exodus in the 1980s and the 1990s, triggered partially by agricultural restructuring, increased Turkey's urban population to about 60 percent of the total (SIS 1996). While this had the overall effect of expanding the metropolitan food market, it more importantly contributed to a widening polarization of income in the country that was initiated with economic liberalization in the early 1980s. Hence the creation of a segmented market, with impoverished working classes on one side, and a new middle class that is increasingly defining itself through life styles and consumption on the other (Oncu 1991; Abadan-Unat 1991). Growing income inequality and the decreasing purchasing power of the working classes are the basic factors behind the greater segmentation of the food market. Rising inflation rates coupled with decreasing real wages caused a dramatic collapse in the purchasing power of the urban masses during the 1980s (Padilla and Oncuoglu 1990). Thus, while low income families became more and more dependent on bread, cereals and seasonal vegetables, high income families ate more meat and meat products, dairy products and various processed foods (Baysal 1991).

The restructuring of agro-food production in the 1980s changed the composition of food items in the domestic market and introduced non-traditional items to the popular diet. Considerable segments of the urban population, especially middle class urbanites, were eager to try these new products and to adopt them into their diets (*TDN* 1995). Certain sections of the middle classes (professionals, managers, corporate executives, etc.), especially younger and well educated metropolitan dwellers, have become the major consumers of non-traditional food products such as new processed foods and imported exotic vegetables and fruits. What is noteworthy in this process is that those food products which are generally considered as Fordist food items in the core countries, such as frozen foods and packaged dairy and meat products, are now occupying a central place in niche markets for the urban middle classes in Turkey. This can be observed in Table 2. The low consumption rates for the selected manufactured food items attest to the fact that the consumption of certain processed food exhibits the characteristics of niche markets. And the largest group of consumers of packaged and processed/frozen foods are university graduates and metropolitan dwellers.

The fact that the mass consumption foods of a previous period in the core have become items in the niches of a segmented market in Turkey should not be seen as an aberrance. All these food products are novel to most of the Turkish population. From their packaging to display in modern supermarkets, they represent convenience, modernity, healthiness and being trendy for people endowed with higher economic and cultural capital. This is to say that these so called Fordist food products are bestowed with different social and cultural meanings in Turkey, which make them objects of specialized and stylized food consumption for educated higher middle class urbanites. Plus, as I mentioned earlier, this situation is also a consequence of the global expansion strategies of TNCs in the face of the saturation

Table 2: Positive Responses to the Question: “Did you consume the following products within the past week?” (in percentages)

Product	Education				Residence		
	General	Primary	Medium	University	Metro- poles	Other Cities	Rural Area
Packaged Honey	29.7	26.4	39.6	46.7	45.5	28.5	22
Ketchup, Dressings, etc.	26.5	20.9	44	51.1	49.8	28	11.7
Frozen Food	11.7	9.5	17.8	23.3	17.7	12.2	7.6
Canned Fish	11.4	8.9	18.7	24.4	18.6	12.1	6.5
Packaged Meat Products	38.6	33.9	52.4	63.3	54.5	37.8	30.1
Packaged Yoghurt	36.6	32.8	47.9	55.6	72.3	32.4	20.3
Packaged Milk	20.9	18.4	29.5	28.9	34.5	23.5	10.4
Ready-to-Make Soup	37.4	34.4	46.2	53.3	50.9	37.5	29.6
N Population	1970	1521	359	90	440	762	768

Source: PIAR 1998.

of core country markets for mass consumer goods. Now I will turn to this process by means of discussing the operations of two food giants in Turkey.

UNILEVER AND NESTLE IN TURKEY

My analysis in this section is based on interviews with the managers of domestic and transnational food companies and a survey of secondary resources on food TNCs that I conducted in Turkey in 1996 and 1997. Here I will focus on the activities of Nestlé and Unilever in Turkey in order to demonstrate the changing forms of investment by – and the organization of – food TNCs. Unilever and Nestlé are the two oldest multinationals operating in Turkey. They have had a presence in Turkey since the 1950s and both companies have greatly expanded their operations in the past decade. Unilever has been one of the largest vegetable oil processors with a majority share of equity since its first entry into Turkey. Whereas Nestlé entered the Turkish market with only confections and baby formula on a small scale in the 1950s, it has recently strengthened its presence through mergers with domestic corporations.

For several decades, Unilever’s main line of production, in addition to cleaning products, was vegetable shortenings, i.e., margarine. This small range was mainly the result of official restrictions on its line of products and difficulties in obtaining imported raw materials due to foreign currency shortages and regulations. Unilever

started its operations with two margarine brands in Turkey in a capital partnership with one of the leading Turkish banks in 1953. By keeping the price of its margarine well below that of butter and natural ghee and pursuing an aggressive advertisement campaign, Unilever rapidly expanded its consumer base in the absence of any brand rivalry. Its products aimed at the mass market, from rural areas to urban migrants and the urban middle classes (Fieldhouse 1978). Its advertisements in the 1960s and 1970s demonstrate that consumers from all socio-economic backgrounds were targeted (Unilever 1997). It can be said that Unilever largely achieved its aim of substituting margarine for butter in most Turkish kitchens by the 1970s.

In the wake of the deregulation of the Turkish economy in the early 1980s, Unilever started to diversify its range of products. On the one hand, a line of products that targeted the health foods market was launched, from 'light' margarine to various kinds of cheeses. On the other hand, Unilever introduced a wider variety of food products ranging from ice cream to prepared foods and tea. This contrasts to Unilever's operations in the core. Unilever started to diversify its product range much earlier in European countries. Starting from the 1960s, aside from margarine production, the company has specialized in frozen food and ice cream production as well as soup, tea and salad dressings. Since the mid-1970s, it has also been producing low-calorie products, health foods and convenience foods for different world markets (Maljers 1994).

The company also entered other product lines through acquisitions of established Turkish companies with popular brand names. A case in point is Komili, one of the largest and oldest olive oil producers. In the wake of this acquisition, the company introduced different varieties of olive oil, taking advantage of the established Komili brand name. Some of these varieties, such as flavored and extra virgin olive oils, were aimed at metropolitan niche markets. The manager of the vegetable oils department of Unilever in Istanbul told me that this product differentiation targeted the market created by higher income groups in metropolitan areas. What she calls the "supermarket boom" in the 1990s, that is, the rapidly growing network of large food retail stores in cities, helped the company promote new products thanks to large storage capacities and high turnover rates. In addition to Komili, Unilever also acquired Aymar, a popular domestic brand of vegetable oils. By means of these acquisitions, Unilever also gained access to these companies' networks with domestic suppliers, distributors and customers, and cashed in on consumer loyalty to certain brand names.

In the Unilever case, we observe that its recent Turkish investments are geared to exploiting intangible assets in two different ways. First, Unilever takes advantage of its local partners' intangible assets, from popular brand names to domestic networks. Secondly, it also capitalizes on its previous R&D operations in Europe, by introducing Fordist products such as frozen foods, into the Turkish market.

The history of Nestlé in Turkey is somewhat different. As I mentioned earlier, except for confections and baby formula, Nestlé did not have a visible presence in the food sector until the 1990s. It made a strong entry into the Turkish market in 1995 by acquiring 25 percent of the country's largest dairy producer, Mis Sut, and increasing its ownership share to 49 percent in 1996. A Nestlé executive explained

this bold and sudden move by pointing out that Turkey has become the fastest growing market in the Middle Eastern region with a young population and an “increasingly more sophisticated group of consumers”. Expanding from a limited product range of pasteurized milk and plain yogurt, Mis Sut-Nestlé proceeded to significantly diversify its range of products into lines such as fruit yogurts, specialized milk products and dairy desserts (*Gıda Teknolojisi* 1997).

From the perspective of Mis Sut, this merger involves a give-and-take. The General Director of Mis Sut told me in an interview that Nestlé provided them with an invaluable resource, namely R&D. Mentioning the example of Mis Sut’s failed attempts at developing a commercial version of a traditional dessert in the 1980s, he likens their previous R&D operations to “cooking in a kitchen,” whereas Nestlé’s R&D, in his view, is a scientific enterprise. The gains that Nestlé has made by buying Mis Sut are also very significant. According to the Mis Sut General Director, Nestlé is now taking advantage of Mis Sut’s highly developed distribution network. Moreover, it also capitalizes on the well-established Mis Sut brand name. Finally, Nestlé learns from Mis Sut about the structure of the domestic market and consumer demands and tastes. As Mis Sut’s general director said, “we will teach them how to make yogurt.”

As in the case of Unilever, the Mis Sut-Nestlé joint venture demonstrates the importance of a TNC tapping domestic resources by means of networking with a local firm. In addition to that, the division of labor between Mis Sut and Nestlé is indicative of the importance of intellectual property investments for TNCs. In a globalized market, TNCs are able to make specialized investments in different locations. Thus, Nestlé keeps its R&D activities in Europe and makes it available for its partner in a selective manner, thereby causing Mis Sut to be dependent on it for product proliferation, while at the same time gaining knowledge of local tastes and consumer demands. Yet it should be noted that Mis Sut appreciates the potential for product differentiation that came with the Nestlé partnership (*Dunya* 1995). Underlining the growing power of supermarkets vis-à-vis producers through manipulation of shelf-space, Mis Sut’s general director points out that his company needed the product range that became possible with Nestlé in order to claim more and better shelf-space and stay competitive. Here it should be noted that the share of supermarkets in the retail market is growing steadily in the 1990s, although the food retail market is still dominated by small-scale grocery stores and various forms of bazaars. Corporate-owned supermarket chains have come to account for 30 per-cent of all retailed food in major metropolitan areas by the mid-1990s (Zet-Nielsen 1994).

CONCLUSION

In light of the above discussion, we can put forward several conclusions. Firstly, the evidence I presented here is in line with the argument that FDI by TNCs in the periphery are increasingly taking new forms such as joint ventures and acquisitions that cash in on intellectual property. In the case of Nestlé, which had less presence in the domestic market, tapping into the existing networks of a domestic corporation (Mis Sut) and taking advantage of its experience was a preferable option for gaining access to the market. Likewise, Unilever sought to strengthen its market share by means of acquisitions that allowed access to domestic networks.

In both cases, the significance of intellectual property is obvious in terms of strengthening and widening each firm's respective positions in the Turkish food market. While these two TNCs were predominantly engaged in producing a small range of products, such as margarine and confections in the postwar era, they have recently expanded their production range and now concentrate on producing and marketing high value-added processed foods. It should be underlined that the introduction of these new products for the most part does not require new intellectual property investments. For both TNCs, product development and R&D, the actual production process and marketing can take place in different countries. A case in point is the specialized milks and yogurts that are developed elsewhere by Nestlé and produced and marketed by Mis Sut in Turkey. Similarly, while Unilever launches products which are new to the Turkish market, such as packaged ice cream and frozen food, it simply makes use of existing technology and brand privileges which have already been developed in Europe. All these processes are clear indications of the fact that food TNCs are concentrating on new investment strategies to expand their market shares globally; capitalizing on their existing intellectual property is a significant strategy in this endeavor. Yet, there is another way in which intangible assets are crucial in the expansion of food TNCs. As evident in both cases, Unilever and Nestlé also take advantage of domestic companies' intangible assets, such as distribution networks, knowledge about market conditions and established brand names.

One can argue that the changing patterns of FDI continue to benefit the TNCs rather than their partners in a developing country. Although ownership may sometimes rest with the domestic companies, vital functions such as R&D and product development are still in the hands of the TNC. Besides, uncertainties regarding the market are shared between the TNC and the local partners unequally to the benefit of the former.

A second set of conclusions concerns TNCs' investment strategies in relation to the consumption sphere. In the cases of both Unilever and Nestlé, we observe how TNCs tap into the existing income polarization and contribute to the further segmentation of the Turkish market. The consumption of certain food products such as low-calorie foods and different varieties of olive oil, which have been introduced recently by these companies, is largely limited to the upper echelons of the metropolitan middle classes. The introduction of various food items by Unilever and Nestlé targeting different socio-economic groups thus solidifies and deepens the existing segmentation of the market.

Here I should underline the importance of the relationship between local contexts and global forces in determining the range of possibilities for the transformation of consumption practices. This relationship is always a dynamic and interactive one and may result in different outcomes in different socio-historical settings. Therefore, it is no surprise that various food products epitomizing the Fordist age of food consumption in the core are becoming the symbols of social privilege, prestige and economic wealth towards the end of the twentieth century in a peripheral context such as Turkey. Hence, local conditions are as important as the changing production and marketing strategies of TNCs in the emergence of various forms of consumption relations.

REFERENCES

- Abadan-Unat, Nermin. 1991. "Market Research and Public Opinion Polling in Turkey as an Agent of Social Change." In *Structural Change in Turkish Society*, edited by Mubeccel Kiray. Indiana: Indiana University Turkish Studies.
- Aglietta, M. 1987. *A Theory of Capitalist Regulation: The US Experience*. London: Verso.
- Baysal, Ayse. 1991. "Food and Nutrition Policies in Turkey." In *Food and Nutrition Policy in Mediterranean Europe*, edited by A. Ferro-Luzi. World Health Organization.
- Bonanno, Alessandro, W. Friedland, L. Llambi, T. Marsden, M. Moreira and R. Schaeffer. 1994. "Global Post-Fordism and Concepts of the State." *International Journal of Sociology of Agriculture and Food* 4:11-29.
- Buttel, Frederick. 1996. "Theoretical Issues in Global Agri-food Restructuring." In *Globalization and Agro-food Restructuring. Perspectives from the Australia Region*, edited by David Burch, Roy E. Rickson and Geoffrey Lawrence. Vermont: Avebury.
- Capital. 1993. "Tadina doylulmayan sektor" (A sector, which is very tasty). 11:42-45.
- Christopherson, Susan. 1994. "The Fortress City: Privatized Spaces, Consumer Citizenship." In *Post-Fordism: A Reader*, edited by Ash Amin. Cambridge: Blackwell Publishers.
- Dunya. 1995. "Nestlé, Mis-Sut'un %25'ini Aldı" ("Nestlé Acquired 25 Percent of Mis Sut"). March 3, 8.
- Ekonomist*. 1993. "Gıda Yatırımlarına Büyük Hucum" ("Big Rush to Food Investments"). May 16:12-17.
- Fieldhouse, D. K. 1978. *Unilever Overseas. The Anatomy of a Multinational, 1895-1965*. London: Croom Helm.
- Friedland, William H. 1994. "The New Globalization: The Case of Fresh Produce." In *From Columbus to ConAgra: The Globalization of Agriculture and Food*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- Friedmann, Harriet. 1982. "The Political Economy of Food: The Rise and Fall of the Postwar International Food Order." *American Journal of Sociology* 88 (Supplement):248-286.
- . 1991. "Changes in the International Division of Labor." In *Towards a New Political Economy of Agriculture*, edited by William Friedland et al. San Francisco: Westview Press.
- Friedmann, Harriet and Philip McMichael. 1989. "Agriculture and the State System: The Rise and Decline of National Agricultures, 1870 to the Present." *Sociologia Ruralis* 29(2): 93-117.
- Gıda Teknolojisi* (Food Technology) 1997. "En Büyük Rakibimiz Sokak Sutu" ("Our Biggest Rival is the Milk Sold on the Street"). 2(2):February.
- . 1996. "Gidada En Büyük 100 Firma" ("The Biggest 100 Firms in Food"). 1(1): January.
- Goodman, David and Michael Redclift. 1991. *Refashioning Nature, Food, Ecology and Culture*. New York: Routledge.
- Hagen, James M. 1998. "Foreign Production by U.S. Food Processing Firms: A Transaction Cost Approach." In *Global Markets for Processed Foods: Theoretical and Practical Issues*, edited by Daniel Pick, D. R. Henderson, J.D. Kinsey and I. M. Sheldon. Boulder: Westview Press.
- Handy, Charles and Dennis Henderson. 1994. "Assessing the Role of Foreign Direct Investment in the Food Manufacturing Industry." In *Competitiveness in International Food Markets*, edited by M. E. Bredahl, P. C. Abbott and M. R. Reed. Boulder: Westview Press.
- HDTM (Treasury and Foreign Trade Undersecretariat). 1998. *1998 Yilinin Degerlendirmesi* (The Assessment of Year 1998). Unpublished report. Ankara: HDTM.
- Heffernan, William and Douglas Constance. 1994. "Transnational Corporations and the Globalization of the Food System." In *From Columbus to ConAgra: The Globalization*

- of Agriculture and Food*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- Henderson, Dennis R., Peter R. Voros and Joseph G. Hirschberg. 1996. "Industrial Determinants of International Trade and Foreign Investment by Food and Beverage Manufacturing Firms." In *Industrial Organization and Trade in the Food Industries*, edited by Ian M. Sheldon and Philip C. Abbott. Boulder: Westview Press.
- Lash, Scott and John Urry. 1994. *Economies of Signs and Space*. Thousand Oaks: Sage Publications.
- Llambi, Luis. 1994. "Opening Economies and Closing Markets: Latin American Agriculture's Difficult Search for a Place in the Emerging Global Order." In *From Columbus to ConAgra: The Globalization of Agriculture and Food*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- Lyson, Thomas A. and Charles C. Geisler. 1992. "Toward a Second Agricultural Divide: The Restructuring of American Agriculture." *Sociologia Ruralis* 22(2/3):248-263.
- Malanoski, M., C. Handy, N. Siegle and D. Henderson. 1996. "International Strategies in the Global Market." In *Globalization of the Processed Food Market*, edited by D. Henderson, C. Handy and S. Neff. U.S. Department of Agriculture, Economic Research Service, Agricultural Economics Report, No. 742.
- Maljers, Floris. 1994. "Inside Unilever: The Evolving Transnational Company." In *Global Strategies: Insides from The World's Leading Thinkers*. Boston: Harvard Business Review Press.
- Marsden, Terry. 1992. "Exploring a Rural Sociology for the Fordist Transition." *Sociologia Ruralis* 22(2/3):209-230.
- Marsden, Terry and Jo Little. 1990. "Introduction." In *Political, Social and Economic Perspectives on the International Food System*, edited by Terry Marsden and Jo Little. Brookfield: Avebury.
- McMichael, Philip. 1992. "Tensions between National and International Control of the World Food Order: Contours of a New Food Regime." *Sociological Perspectives* 35(2):343-365.
- McMichael, Philip and David Myhre. 1991. "Global Regulation vs. the Nation-state: Agro-food Restructuring and the New Politics of Capital." *Capital and Class* 43:83-105.
- McMichael, Philip and Laura Reynolds. 1994. "Capitalism, Agriculture and World Economy." In *Capitalism and Development*, edited by Leslie Sklair. New York: Routledge.
- Oman, Charles. 1993. "New Forms of Investment in Developing Countries." In *Transnational Corporations and Economic Development*, edited by Sanjaya Lall. London: Routledge.
- Oncu, Ayse. 1991. "The Transformation of the Bases of Social Standing in Contemporary Turkish Society." In *Structural Change in Turkish Society*, edited by Mubeccel Kiray. Indiana University Turkish Studies.
- Padilla, Martine and Selma Oncuoglu. 1990. "Evolution of Food Consumption in Turkey and in the Mediterranean." *METU Studies in Development* 17(3-4):1-39.
- Pala, Mehmet. 1991. "Gıda Teknolojisindeki Son Gelişmeler ve Türkiye'deki Uygulamaları" ("The Latest Developments in Food Technology and Their Applications in Turkey"), in *Gıda Sanayii Kongresi* (Conference on Food Industry). Ankara: TMMOB Ziraat Mühendisleri Odası.
- PIAR (Market-Research). 1998. *Profile: Consumption Survey, Turkey*. Istanbul: PIAR.
- Piore, Michael and Charles Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books.
- Rama, Ruth. 1998. "Productive Inertia and Technological Flows in Food and Drink Processing." *International Journal of Technology Management* 16(7):689-694.
- Reynolds, Laura. 1994. "The Restructuring of Third World Agro-Exports: Changing

- Production Relations in the Dominican Republic.” In *The Global Restructuring of Agro-food Systems*, edited by Philip McMichael. Ithaca: Cornell University Press.
- Sanderson, Steven. 1986. *The Transformation of Mexican Agriculture: International Structure and the Politics of Rural Change*. Princeton: Princeton University Press.
- SIS (State Institute of Statistics). 1996. *Statistical Indicators 1923-1995*. Ankara: SIS.
- Sorj, Bernardo and John Wilkinson. 1994. “Biotechnologies, Multinationals, and the Agrofood Systems of Developing Countries.” In *From Columbus to ConAgra: The Globalization of Agriculture and Food*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- TDN (Turkish Daily News). 1995. “Special Supplement: Foodland in Turkey.” July 5.
- Tozanli, Selma. 1998. “Capital Concentration among the Food Multinational Enterprises and the Development of the World’s Agro-food System.” *International Journal of Technology Management* 16(7):695-710.
- Ulguray, Dilek. 1990. “Turkiye’de Gıda Sanayinin Gelisimi” (The Development of Food Industry in Turkey”), unpublished report. Ankara: State Planning Organization.
- Unilever. 1997. *Sardunyalara Anlatisin*. Istanbul: Unilever.
- Urry, John. 1990. *The Tourist Gaze: Leisure and Travel in Contemporary Societies*. Newbury Park: Sage Publications.
- Wilkinson, John. 1998. “The R&D Priorities of Leading Food Firms and Long Term Innovation in the Agro-food System.” *International Journal of Technology Management* 16(7):711-720.
- Yenal, Deniz and Zafer Yenal. 1993. “The Changing World Food Order: The Case of Turkey.” *New Perspectives on Turkey* Fall 9:19-47.
- Zet-Nielsen. 1994. *Retailing Survey*. Istanbul.

H.J. HEINZ AND GLOBAL GARDENS: CREATING QUALITY, LEVERAGING LOCALITIES*

Megan McKenna

Massey University

Michael Roche

Massey University

Richard Le Heron

University of Auckland

The nature of globalised food networks, or more simply, ‘globalisation’ remains complex and problematic. Complex because we need to take into account our own positionality when conceptualising issues of scale, sites of action and defining elements of risk and regulation. Problematic because whatever choices are made in examining key elements of our complex world, it is important to recognise that at every level of commodity and non-commodity networks, people (social actors) are contesting, redefining and restructuring meanings of globalisation.

The purpose of this article is to provide a preliminary analysis of what globalisation represents to New Zealand fruit and vegetable growers who supply the H.J. Heinz company. Embedded in this task is the need to understand how Heinz is using various production strategies in New Zealand to continue its cautious but steady transnational growth policy into key global markets – particularly Asia. Founded in 1888, Heinz specialises in sauces, pickles and tinned goods. It expanded its operations beyond the United States in the 1950s and 1960s. By the early 1990s, it had forty-eight subsidiaries in twenty-three countries with nearly half of its profits being made outside the United States. In 1997, H.J. Heinz, with revenues of US\$9.4 million, was ranked 167 on the US Fortune 500 list and seventh amongst food companies (*Fortune* 1998). Profits in 1997 amounted to US\$302 million, eleventh amongst US food companies. After Heinz took over the popular New Zealand-based ‘Wattie’ label in 1992, New Zealand was given showcase treatment in Heinz’s 1994 annual report as ‘A Garden in the Pacific’. The beauty and green image of the natural environment was clearly paired with a competitive, open business environment.

* Direct all correspondence to Megan McKenna, Massey University, Geography Programme, Private Bag 11-222, Palmerston North, New Zealand, E-mail: <M.McKenna@massey.ac.nz>. The Massey University Post Doctoral Fellowship programme was instrumental in helping support research activities for this article. The support of the Massey University Research Fund (MURF) should also be acknowledged in helping us conduct field work. Finally, thank you to all the growers and industry personnel for sharing their time and expertise with us.

International Journal of Sociology of Agriculture and Food, Vol. 8. © 1999 Research Committee on the Sociology of Agriculture and Food, International Sociological Association.

A crucial part of Heinz's expansionist strategies into Asia depended on the traditional and quality appeal of the 'Wattie' label and the capacity to expand production in the New Zealand-based processing plants. Increasing production meant capital investment in plants, marketing, food research and securing raw material supplies with growers. We contend that the shifting relationships Heinz has developed with contract growers provide focus for questions about corporate strategies, farmer responses to company directives and the ways quality standards for food production challenge growers' profitability and control over their resources. The theoretical implications of these issues focus attention on 'globalisation' as a discourse. That globalisation is a project legitimised by business is generally understood. That globalisation is a contested process both at the level of locality – and the level of discourse – has received less attention in the literature. Reasserting the importance of 'scale' in our investigations not only challenges the legitimacy of globalisation discourse, it also provides explicit spaces where social actors contest and experience restructuring relations in commodity networks. Further, 'scale' as metaphor provides a useful critique of hegemonic globalisation discourse.

The research reported on here has some distinctive contributions to make in terms of approach. It draws on field work from four distinct localities in New Zealand (Canterbury, Manawatu, Hawkes Bay and Gisborne) which reflect different socio-spatial and hierarchical entry points into the Heinz organisation. This facilitates a unique exploration of different social and corporate constructions of quality in the context of shifting contractual arrangements between growers and Heinz. It allows us to 'go inside' the company through a series of independent studies over a five year time period and develop a better understanding of Heinz's expansionist strategies and corporate presence in New Zealand.

Following the introduction, this article is organised into four main sections. First, we highlight theoretical concepts and tensions that provide an initial framework for our study. Second, the context for – and implications of – Heinz's historical and contemporary positioning with respect to global trends in convenience foods is discussed in relation to New Zealand's open economy and proximity to Asian markets. Looking at growers' perceptions of the changing nature of contract arrangements with Heinz provides a preliminary view of the complexity of links between domestic and export production and the lived meanings of globalisation. Third, we reflect on the experiences and agenda of growers and corporate personnel involved with various commodity chains in different localities in New Zealand. Finally, the last section discusses the lessons learned from grower and corporate interviews; the nature of Heinz as a corporate presence in New Zealand; revised interpretations of 'globalisation' in New Zealand's processed food complex; and identifies issues for further research.

GROWING GLOBAL, CONTRACTING QUALITY

While growing food remains a quintessentially local activity (Barnet and Cavanagh 1994), the political, social, economic and local developments shaping food producing complexes are subject to 'global' influence. These influences derive from a number of things including: changing consumer tastes, food safety campaigns in far-away countries, international regulatory measures like GATT and WTO, crop

successes and failures in competing nations and the shifting, often obscure expansion strategies of corporate food giants. Starting with discussions of globalisation, this section aims to highlight some key literature and concepts that structure our study of H.J. Heinz in New Zealand.

Food – Thinking Global, Acting Local

The explanatory power of globalisation discourse is particularly appealing when looking at the ways agribusiness corporations shape production conditions in rural communities by constructing global-scale production and consumption networks. The conceptual background for these debates lies in agricultural political economy literature focusing on meta-theoretical constructions of how culture, politics and consumption chains are being simultaneously redefined and restructured in most industrialised countries (Friedmann and McMichael 1989; Friedmann 1993; McMichael 1994, 1996; Le Heron 1993; Lawrence 1996; Marsden and Arce 1995; Buttel 1996; Hartwick 1998 *inter alia*). Central to notions of restructuring global food networks are concerns with sustainability, relations of power, social agency and valorisation. However, some have argued that preoccupation with large-scale food producers and processors has meant that less attention is given to real, local-level changes taking place within agrarian structures of advanced capitalist countries (Winson 1990; Goodman and Watts 1994; McKenna et al. 1998; Le Heron and Roche 1995).

Food network analysis (Arce and Marsden 1993; Marsden and Arce 1995) provides a useful entry point for understanding the dynamics of food production, consumption and valorisation as socially embedded. It also offers a critique of undifferentiated understandings of ‘global structures’ that negate the importance of locality, socio-cultural differentiation and agency in restructuring processes. While offering a valuable critique of meta-theoretical concepts like food regimes (see Friedmann and McMichael 1989), food networks are not a replacement for other networks. Rather, networks analysis allows for explanations that simultaneously incorporate holism and diversity; holism in trying to construct a wider change, and diversity in creating space for multiple actors, institutions and commodity complexes.

In some fundamental ways, food networks analysis builds on the Commodity Systems Approach (CSA) outlined by Friedland (1984). In general, the CSA attempts to strike a balance between global discourses and narrowly focused local-level studies. It argues for balancing explanations of changes at the point of production with broader events shaping processing, distribution, marketing, regulatory and restructuring issues connected to specific industries. Such a balance is necessary given unique socio-economic factors and regime structures that influence specific commodity systems. Including social, economic and political elements in the theorisation of food production and distribution is necessary to avoid oversimplified accounts of agricultural change (Buttel et al. 1990). Five elements underpin the CSA (Friedland 1984): (1) the production process – relating to the specific biophysical properties and growing conditions of the product; (2) grower organisation and organisation – social and political factors structuring participation in specific commodity systems; (3) labour – the uses and arrangements of different types of labour, a subject area which reflects a vast literature in rural

sociology; (4) science and technology – the innovation and application of technology to commodities; and (5) marketing and distribution networks – including the nature of the company or business controlling food processing which includes the politics of distribution, as well as highlighting consumption as a key, socio-political, factor in the politics of restructuring agriculture by introducing questions of control and power over the production-distribution dynamics of commodities.

The explicit inclusion of ‘power’ and ‘control’ in Friedland’s theorisation of commodity systems opened up new spaces in rural sociology and the political economy of agriculture literature to examine the social construction and valorisation of ‘food’. A contemporary reading of CSA highlights a few areas that need to be revisited and expanded. These include: the role of the consumer in defining and contesting ‘quality’; exploring the positionality of power and control with reference to food processing companies and grower-suppliers; conceptualising the real, organisational complexity of commodity production and processing; and suggesting links between national commodity systems and global commodity systems. In particular, CSA could be reworked to include more explicit insights into international marketing and distribution. These issues notwithstanding, CSA offers several viable conceptual starting points for organising research on contemporary agriculture. Further, when focusing on a facet of company evolution and the decision domain of the grower-processor, as in this article, the CSA framework in modified form is more applicable than global commodity chain analysis.

Issues of scale add another layer of complexity to analysis of agribusiness corporations and their negotiated relationships with farmers and rural communities. While ‘new’ sociologies of agriculture are problematising social actors and social activities at multiple sites, it may also be useful to incorporate notions of uneven geographies of rules, resources and restructuring into social processes. Further, given that there is a flux of social action at sites, it is important to recognise that on a daily and seasonal basis, sites of production and social activity are being re-scaled. Here the importance of historical and contemporary geographies of change are crucial to establish spatial context(s) for the operation of commodity systems and food networks.

In the case of New Zealand for example, potato growers who contract to Heinz-Watties engage in spatially complex and temporally flexible arrangements for disposal of their crop. One grower interviewed split his crop between contract sale to the local subsidiary of a Heinz, who in turn are 90 percent orientated to supply local McDonald’s outlets. The other half of the grower’s crops may be further divided to agents for export overseas and/or be sold on the local fresh market. It is important to note that local and overseas suppliers are cognisant of market prices in New Zealand and international markets so that they not only know what prices the ‘local’ market will stand, but are also involved with shaping growers’ local options with respect to global price signals. Alternatively, potato growers may leave their crop in the ground or plough it under if prices are not good enough to initiate harvesting. In these latter instances, global price signals strongly influence a highly ‘localised’ resource use. In studies of contract farming in different localities in Australia (Rickson and Burch 1996; Miller 1996; Fulton and Clark 1996) and Canada (Winson 1990) tensions between globalised multiple sourcing and localised resource use and daily living highlighted how farmers’ capabilities to make land use

decisions were reduced. It was also argued that the ways farmers articulate complex 'global-local' relationships have a bearing on socio-economic differentiation in rural communities. This relates to an earlier point that power, resources and restructuring changes within organisations and within/between localities is unevenly distributed and experienced.

Contracting Food Qualities and/or Quality?

In 'growing global' farmers are also increasingly drawn into various discourses of sustainability, freshness, food safety and perceived quality. Evidence suggests that decisions about quality parameters and farm inputs are being increasingly subsumed by the administrative hierarchies of international agribusiness and financial organisations (Rickson and Burch 1996; Miller 1996; Winson 1990). Further, the contracts growers make with food processors are the primary mechanisms establishing quality standards. Means to assure that certain quality standards are met can range from highly interventionist precision farming (Lu, et al. 1997) to seminars, farm visits and random crop checks by company officials, consultants or preferred suppliers that specific agribusiness corporations may choose to deal with. Contracting quality (or specific qualities) with precision farming revolves around company specified applications of fertilisers, pesticides, water, seeds or other inputs to certain areas where and when they are needed for optimal crop growth. In terms of contract agreements between farmers and food processors therefore, and "...as a result of industrialisation and globalisation in agriculture, land is effectively becoming an organisational asset which the company attempts to control by routinising the way farmers work their land" (Rickson and Burch 1996:177). In this sense, contracts specify an authority system, apportion risks in crop production and represent an organisational alternative to an on-site administrative hierarchy for regulating farm land use (Rickson and Burch 1996).

The issue of food 'quality' is however, highly subjective and socially constructed. Quality can refer to minimum or desired produce characteristics outlined by processing firms (e.g. size, shape, colour, texture, maturity), and/or desired food images created by marketers and consumers. In the case of 'organically produced' food (a term that is open to interpretation) consumer preferences for quality revolve around minimum, or 'natural' intervention in the production process. Contract precision farming pursuing organic and sustainability principles revolves around different sets of issues than conventional precision farming. These might include, testing for zero detectable residues, monitoring soil and water quality, assuring that farm labour is adequately valued, and avoiding the use of genetically altered seed, plant or animal material. Far from being free of 'global' influences, particularly in food imaging and distribution, organic producers adhere to different production practices and principles in creating added value to food (Coombes and Campbell 1998). While organic food is still marginal in the global sense, and is not driven by a mass industrial complex, it does fit particularly well into food networks which contend that there are contestable and negotiable meanings associated with food.

Drawing on concepts of globalisation, restructuring, spatial and organisational complexity, food networks as socially constituted, and relationships between contract farming and quality, the following sections focus more specifically on transnational food giant H.J. Heinz's activities in New Zealand. Taking advantage

of New Zealand's deregulated economy since the late 1980s, Heinz is leveraging competitive production costs and 'clean green' image in New Zealand as a locality to consolidate its position as the key supplier of canned and frozen foods to selected large Asian markets.

THE HEINZ-WATTIE CONNECTION

The Heinz purchase of J. Wattie Industries as part of the restructuring of the Australasian food corporate Goodman Fielder Wattie (GFW) in 1992 revitalised the languishing fortunes of what had in the early 1980s been New Zealand's foremost food company. Whereas GFW grew from the amalgamation of Australian and New Zealand capital, Heinz represented direct foreign investment. The purchase had major implications for Wattie. From the outset, the company was inserted into Heinz's global networks. The purchase fused two companies with very different corporate cultures; both processors of food, Heinz emphasised marketing using its strong internationally known brands, while Wattie was viewed as a seller of food. Where Wattie was the pre-eminent brand in New Zealand (up to 95 percent of market share in some product areas) and strong in Australia (supplanting Heinz in the early 1990s in baked beans), the company was still a minor player in Asia, despite nearly three decades of exporting to the region.

For Heinz the attraction of Wattie was the perception that New Zealand was regarded internationally as a 'clean green' environment, the world's only 'environmental oasis' (*Heinz-Wattie Quarterly* 1997). Wattie, a demonstrated long term supplier to Japan and other Asian markets was thus an ideal acquisition, as Heinz products could benefit from New Zealand's image abroad. When Wattie was acquired, the company's Asian presence was gaining momentum through its frozen food arm, Wattie Frozen Foods. Wattie management viewed the purchase as an enabling arrangement, accelerating a process already underway and which had origins in the limited size of the domestic markets of Australia and New Zealand and high internal transport costs within New Zealand and to Australia. At first the two cultures coexisted. Wattie CEO David Irving spoke of relative independence, against the backdrop of "enhancing efficiencies between the Australian and New Zealand operations, improving productivity and finding new ways to boost exports" (McEwen 1993:21). Middle-order management sensed, however, that they were 'on trial' (Manufacturing Manager, Hastings 1997), a conclusion supported by subsequent developments which focused on the realignment of Wattie systems with those of Heinz. The nature of Wattie's future in the East Asian food complex was gradually comprehended. A key aspect was that Heinz proposed to increase export volume by facilitating market entry through Wattie networks. This was also consistent with Heinz's view of New Zealand as a 'market garden of Asia' (*The Dominion* 11 October 1992), providing frozen and canned produce. To achieve this objective, Wattie staff had to 'globalise their mind-set' (Manufacturing Manager, Hastings 1997) which would, on the one hand, assist acceptance of the Heinz brand in Asia, and on the other, shape attitudes towards quality production in supply areas.

The new context of Wattie's existing operations had other impacts. Processor and grower productivity began to be evaluated in terms of Heinz parameters. Internal rationalisation occurred between the Dandenong (Australia) and Hastings (New

Zealand) plants, with the Hastings facility losing, for example, the premium glass jar line. Expected rates of return on capital became higher; previously Wattie worked to 10 percent approximately but Heinz aims for 20 percent. The five business groups of the late Wattie era have been rejigged to conform with Heinz's management model. Part of this process is the introduction of process centres, from the field to distribution, based on the idea that a chain of quality is built on two principles, that each process centre adds value and has as its initial key customer the next process centre.

Perhaps most significantly, Heinz instituted Project Millennia, a plan to take Heinz into the twenty-first century, which designated eight manufacturing locations around the world, and included the Tomoana site at Hastings as Heinz's source of low-cost, high-quality products for Japan and Asia (*Heinz-Wattie Quarterly* 1997). According to site management (Transport Manager, Hastings 1996; Manufacturing Manager, Hastings 1997) this decision recognised location advantages of the site, including ample supply of clean water, ideal climate for growing fruit and vegetables, substantial space for expansion and the ability to produce for niche markets, drawing on high levels of product innovation. Heinz found, for instance, that the normal product range of the Hastings complex exceeded that of all other Heinz factories world-wide. An indication of Heinz commitment to the Tomoana site is the presence of exchange staff (eight Japanese for a year).

Although Wattie had established processing operations in four main regions in New Zealand (Hawkes Bay, Canterbury, Gisborne and Manawatu), the volume of product projected meant company-grower relations in each region would be pivotal to success or failure. Deep seated tensions have characterised company-grower relations in New Zealand's horticultural sector (Hayward et al. 1998). These stemmed from four interlocking factors. First, growers have resisted becoming specialist suppliers. This has jeopardised, from the company point of view, a regular supply of produce. Second, the processing sector in each region has tended to a monopsonistic or oligopsonistic structure, with only short periods of regional competition (Le Heron and Warr 1976; Hayward et al. 1998). The Hastings Manufacturing Manager (1997) suggests that behaviour has been influenced by grower perceptions that the company is consistently 'the bearer of bad news' and of company experience that growers have rarely treated the company as a 'customer'. Third, the history of price negotiation and payments for different crops has been fraught with misunderstanding and unexpected adjustment. Fourth, harvesting arrangements have been a source of contention, either because of the investment required to mechanise harvesting or the supervision of harvesting gangs.

Fundamentally, Heinz-Wattie's Asian impetus rests on the co-option of growers into an evolving concept of total quality assurance. Company literature describes J. Wattie Foods as "fully integrated from the field to the factory (involving) close partnerships with a select number of major growers who are prepared to match our demanding standards" (J. Wattie Foods Ltd. 1997:7). Separate studies by Campbell (1996), Coombes et al. (1998), Perry et al. (1997), of Wattie's development in Canterbury, Gisborne and the Hawkes Bay respectively, reveal that a new generation of quality concepts were introduced by Wattie Frozen Foods in the Canterbury area as part of a drive to 'Grow Organic With Watties' (Campbell 1996:25; Coombes and Campbell 1998). While initial activities centred on

Canterbury, two other WFF processing plants, in Gisborne and Feilding, also began encouraging growers to sign contracts to provide organic produce. The Hawkes Bay plant in Hastings, canning fruit and vegetables, was a late entrant to organic production, reflecting the greater difficulties associated with organic production of tomatoes compared to peas, sweet corn, carrots and onions (Organic Grower, Hastings 1997; Agricultural Manager, Hastings 1997). Indeed, guaranteeing an environmental standard at each stage of production requires all suppliers to be certified and to supply to specification. Tomato paste, for instance, sourced from overseas poses major problems because of chemical residues and is a major constraint to the wholesale conversion to organic production of the canned lines which are dominated by tomato-based products (including baked beans, spaghetti and many soups).

Heinz's overall strategy appears to have been first to supply and market organic frozen vegetables to Asia and then to extend the philosophy of environmental improvement into canned foods. The frozen foods vegetable processing menu consists of various mixes of peas, sweetcorn and carrots, supplemented by other vegetables in minor proportions. Canterbury was the main supply source for peas and carrots to Wattie Frozen Foods. In the early 1990s the area proved attractive to the company to 'grow' the company's organic activities because the area already featured an incipient domestic organic sector. Having secured a reasonably reliable supply stream in Canterbury the company turned to sweetcorn in the Gisborne area. Unlike Canterbury there was no history of domestic organic involvement; any organic production was exclusively for export. Organic potato production began in 1993, partly encouraged by the success in Canterbury. The most recent development is an initiative to move into canned organic products at Hastings. Table 1 summarises the history of Heinz's organic development in relation to key aspects of grower-producer relations in different growing areas. What is apparent is that the company has altered strategy, from region to region, as it has encountered and resolved different local problems.

As might be expected, the switch to organics is motivated by personal ideologies about sustainable food production and the search for economic premiums generated by 'environmentally safe' organic food. Heinz's strategies are consistent with developments in other commodity chains in New Zealand, including the 'Kiwi-Green' programme under the Kiwifruit Marketing Board and the Integrated Fruit Production (IFP) programme under the New Zealand Apple and Pear Marketing Board. As is the case with Heinz's push to 'safe' foods, evidence from other commodity chains suggests that economic ideology, and the desire to increase market share through product differentiation, motivate growers to switch from conventional to organic production practices (McKenna et al. 1998). It is important to note that where fruit and vegetable growers may have had ideological preferences for fewer chemical inputs into production practices for quite some time, only relatively recently have developments in food imaging and consumer preferences created an economic space for changed social practices of production.

THE 'LOCAL' END OF GLOBAL GARDENS

This section focuses on the experienced relationships between growers and selected Heinz processing plants in New Zealand. The main theme includes how growers are

Table 1. Development in Heinz-Wattie Organic Production, 1991-1998

Area	Canterbury	Gisborne	Hawkes Bay	Feilding
Market for organics	domestic and export	export	adding value by moving all product to organics	export
Processing technology	freezing	freezing	canning/freezing	freezing
Organic crops	peas/carrots	sweetcorn/peas	onions/pears/tomatoes	potatoes
1995/96 organic production	10000 t	2000 t	data unavailable	150 t (1997-98 data)
Company strategy	GOWW to secure base volume	establish organic sweetcorn to solidify organic strategy for frozen foods	gradually change product lines to 'organic'	establish and solidify organic strategy for frozen foods
Processor problems	productivity of conversion farmers versus new entrant farmers	wide variability in site yields in and across seasons	product accountability	product accountability
Attraction for growers	ideology/returns	premiums	ideology/returns	premiums
Grower problems	finding a rotation system involving crops and stock	finding a rotation system (soilution: organic sweet-corn, peas and squash)	transition from conventional to organic production; identifying alternative markets	transition from conventional to organic production; grower risk

* GOWW (Grow Organic With Watties).

involved in – and make sense of – multi-scaled food networks and issues of 'quality' through their contractual arrangements with Heinz. We examine this theme by considering: (1) the supply needs and operational strategies of processing plants in Hawkes Bay and Manawatu and (2) growers' changing perceptions of their relationships with Heinz. A related aim is to gain insight into the real complexities of food networks and commodity chains.

A combination of methods were used to approach our study. An attempt was made to build an understanding of commodity production and complexity at selected Heinz processing plants in New Zealand on the North and South Islands. Intensive, semi-structured grower and corporate personnel interviews were conducted in the Manawatu and Hawkes Bay regions and also at the Heinz head office in Auckland from 1994 to the present. Interviews were combined with field

visits in April and May of 1998 that included processing factory tours in the towns of Hastings (Hawkes Bay) and Feilding (Manawatu) and orchard walks (in Hawkes Bay) at sites that were converting to organic production. Information on the processing plants and grower production complexes in Gisborne and Canterbury was gained through intensive interviews with head office personnel and independent research studies conducted in those regions (Campbell 1996; Campbell et al. 1997). Data regarding the nature of contract arrangements between farmers and growers was explained by the growers, commodity agents and corporate personnel. There was some understandable reluctance to divulge individual contractual details to outside interests owing to the commercial sensitivity of specific arrangements. Further, owing to sensitivities surrounding staff restructuring in the Hastings and Feilding processing plants, some caution was evident in personnel's responses which is respected in any reporting of interviews. Rather than offer an exhaustive review of interview data, key insights and issues will be drawn out according to this section's central themes.

Global Gardens – Changing Scale(s) and Complexity

Since the purchase of J. Watties Industries in 1992, Heinz has initiated a number of important changes to its fruit and vegetable supply chains. These include the sale of corporate orchards in Hastings; re-evaluating the types of contract arrangements available to growers; contracting-out key services at various sites, including laboratory work, staff catering, packaging, field consultancy and transport services; realigning production lines between processing plants in New Zealand and Australia; and influencing corporate and grower culture to be more market driven.

In terms of plant organisation, operations are increasingly 'section driven', with each part of the processing and sourcing operations divided into units with detailed costing and profitability goals. According to one operations manager, "... things can get pretty competitive between units, with some units charging back to other units if the quality or price is out of line" (Operations Manager, Feilding 1998). Ultimately, all operations remain under the Heinz umbrella, but the directive from Heinz parent operations is to make costing and responsibilities in plant operations more transparent and linked to individual managers. According to plant managers in Feilding and Hastings, the on-site production processes have evolved as more competitive and stressful in the past five years as a direct reflection of the corporate system imposed by Heinz, which was 'markedly different' from New Zealand owned Watties.

Quality parameters and the scale of processing operations revealed clear tensions between plant managers' relationships with growers and the need to adhere to corporate profitability and production targets. Profitability goals are set at 35 percent over the entire production process (in New Zealand and across global operations), which have not been achieved in the Feilding or Hastings plants (personal communication 1998). However, profitability and efficiency discourses are used as a rationale for increasing the scale of operations. The implications for growers wanting to secure or maintain contracts with Heinz therefore involves getting into larger production tonnages which requires more capital investment and stringent variety and quality control measures. Plant managers in Hastings and Feilding agree that these trends represent costs being passed on from Heinz to the

grower who is either 'squeezed' out of process cropping or adjusts through increasing the scale of operations, debt and personal risk. For example, the Feilding plant, which annually processes 60,000 tonnes of potatoes, 10,000 tonnes each of peas and sweet corn, 8,000 tonnes of carrots, and minor crops of broccoli, cauliflower and zucchini (100 tonnes each), is under increasing pressure from other parts of the Australasian and global operations to rationalise its numerous small-scale, specialised product lines of frozen vegetables. Feilding management acknowledges this would mean 'dumping' certain growers that have established supply relationships with the plant.

Increasing scale, risk and capital investments also extend to servicing operations involved in the supply network. A local Feilding trucking company was 'talked into' investing in a fleet of V-bottomed trucks by Heinz that reduces bruising of the potatoes when they are loaded and unloaded. In turn, Heinz guaranteed the trucking company 70 percent of their business. Only potatoes that are transported in V-bottom trucks will be accepted by the Feilding plant in 1999, and if the growers incur extra costs in contracting these trucks, that will be one more production cost they have to bear. The reality is that rationalisation pressures are increasing from Heinz global operations:

It all comes down to scale. Potato processing is the most significant part of our operations, but in one whole year we source a volume equivalent to two weeks production in Idaho. It won't be long until this place is only doing potatoes (Operations Manager, Feilding 1998).

Part of the problem with multiple small scale production lines at one site is that the quality accountability link between growers and the plant is difficult to follow through the processing operation – and ultimately – Heinz's global inventory. Once raw material enters the processing plant, the individual accountability and quality chain disappears which is a 'major concern for Heinz' (Operations Manager, Feilding 1988). While plant managers at local sites can choose to deal with only the 'best growers' for certain raw material, their local knowledge and personal responsibility is subsumed by corporate preferences for large scale, singularly specialised processing operations that reflect industrialisation and standardisation of agricultural inputs.

The physical flow of agricultural inputs and spatial scale of product distribution is also a highly complex process. Again using potatoes as an example, the production of raw material is localised but acquired under contract by a multinational food processor. The consumption of those potatoes is largely local, as the Heinz Feilding plant sells 90 percent of its production to McDonald's franchises in New Zealand. Therefore, layered and interwoven issues of scale arise in conceptualising the networks and links between locally contracted production for a multinational organisation and local consumption through a global food chain. In this instance, questions arise concerning the extent to which the globalisation of food in New Zealand is assumed to be dispatched for overseas sales. Two important lessons emerge from looking at potato production. First, that it is necessary to differentiate between product types, production sites and points of consumption for various New Zealand food stuffs. Second, that is also necessary not to overgeneralise about the export and 'global' focus of New Zealand produce by drawing on the dynamics of commodity chains governing the meat, dairy and horticultural sectors.

Perceptions from the Field – Pears and Potatoes

Discussion involving grower contracts, quality and scale in processed fruit and vegetable commodity chains are represented in this section by drawing on experiences from pear and potato processing. The Heinz plant in Hastings handles the majority of processed fruit (mainly apples, pears and peaches), tomatoes and some canned vegetables. The Feilding plant only processes frozen vegetables including potatoes, corn, carrots, beans, peas and mixed vegetables.

Growers and suppliers of fruit to Heinz in Hastings have, according to most people interviewed, a 'love-hate' relationship with the company. It is important to note, that fruit suppliers operate under two distinctly different regime structures. Pipfruit growers are part of a national co-operative and have been regulated by the New Zealand Apple and Pear Marketing Board (NZAPMB) since 1948. They Board controls more than 95 percent of the export fruit and used to control the sale of domestic fruit until 1993 when the local market was deregulated. Other fruit growers who supply Heinz with summerfruit (e.g. plums and peaches) are not regulated by a statutory board.

Categorically, all growers agree that the attitudes towards suppliers to the Hastings processing plant changed dramatically in the late 1980s with the sweeping measures of economic deregulation in New Zealand. Related to economic deregulation was the implementation of the Commerce Act at the close of the 1980s which prevented growers from negotiating with company representatives as a group. Presently, it is legal only for individuals to enter into price negotiations with Heinz. The growers interviewed also agreed that since the Heinz takeover of Watties, new directives have been implemented 'distancing the company from the grower'. Contact with Heinz is now structured around contractual agreements dealing with cost and wider scale crop development initiatives, whereas under Watties management, it was felt that supply arrangements were of a more 'personal' nature.

Most growers had their own anecdotal evidence confirming their positive and negative views of Heinz. From these comments, several themes emerged that reflect the changing nature of Heinz's corporate presence in New Zealand. First, as is the case with other process crops, Heinz's discourses of profitability and 'global competition' have been a significant factor in formalising contractual agreements with fruit growers around supply tonnages, quality specifications, detectable chemical residues on fruit, delivery dates and payment schedules. In the case of pears, for instance, the company has argued that international threats to its competitiveness have meant that the price offered for processing pears has been constant for ten years. Taking into consideration increase production costs and inflation, the real price for processing pears has actually declined. In 1988 the price offered for pears was US\$3.50 per tonne, and in 1998 it was US\$3.55 per tonne. As one grower observed,

The only reason the prices haven't declined over the past ten years is because we can cut the trees out. It takes 8-10 years to get a reasonable crop from a new tree, and they [Heinz] know that if we cut them out, they will not be replaced (Pipfruit Grower, Hawkes Bay 1998).

Second, growers readily acknowledged that Heinz does provide a consistent market for growers. However, associated with this is pressure from plant managers and company marketers to provide a totally consistent crop which is not possible

with fruit production owing to the vagaries of weather and less frequently, pests. In being the primary buyer for process-grade crop, Heinz also has complete and arbitrary control over the tonnage accepted which, according to growers, seems to be declining over the years.

Third, Heinz's new management style has increased crop recovery and overall efficiency by improving the processing cool chain for raw materials delivered to the plant. After Watties was purchased, Heinz contracted out numerous services including fruit sourcing and procurement. Divesting itself of corporate pear orchards and total crop management has made Heinz's crop recovery more efficient as they worked with growers and procurement contractors to identify cool chain problems. Growers thought that Heinz was 'more businesslike' than Watties, particularly in improving their quality control through the establishment of 'preferred partnerships' with selected high quality growers.

Fourth, growers note that Heinz has showed improved cost effectiveness in some aspects of its operations, notably packing and canning. However these cost savings have not been passed back to growers in terms of improved prices for supplied fruit, as was noted in the case of pears. Fifth, in the case of crop failure, usually caused by hail damage, Heinz was 'extremely supportive' of its contract growers. After a devastating hailstorm in Hawkes Bay in 1994, several growers commented that advance payments for crops were not recalled and that field managers allowed heavily damaged fruit— fruit that would normally be rejected – to be processed. Finally, and as part of their corporate management style, Heinz has entered into a formal 'partnership' process with growers to promote more direct and efficient information exchange regarding crop conditions, prices, key issues and company programmes. The reality of the 'partnership' however, is very one sided:

Its supposed to be a partnership, but its a very one-way exchange. Heinz sorts out the prices, tonnage and quality conditions and growers either accept them or don't supply Heinz. Its that simple (Pipfruit Grower, Hawkes Bay 1998).

In many ways, the qualitative nature of the grower-Heinz relationship in the potato commodity chain is similar to that for fruit growers. Contractual agreements with Heinz imply a subsumption of farmer control over their land, labour, inputs and ability to define 'acceptable' quality standards. However, the nature of potatoes as a crop, suggest a certain durability that fruit does not have. Potatoes can be left in the ground once mature for a much longer period of time than fruit can be left on the tree. In some respects, this may allow the grower more time or leverage to make decisions about where and when to sell the crop. 1997 saw a real decline in prices for contract potato growers of 7 percent. This followed several years of poor prices, making supply contracts with Heinz less attractive. Where potato growers could withdraw from supplying Heinz and export their own crop, many fruit growers may not have the same opportunities. Pipfruit growers' flexibility is restricted owing to the highly perishable nature of the crop and the existence of the NZAPMB controlling pipfruit exports.

The different qualities of potatoes as a crop lends to a more varied participation in the supply chain than for fruit growers. Of the 445 registered potato growers in New Zealand, about 30 of them produce approximately 80 percent of the national crop. In contrast, there are 1600 pipfruit growers. 'Large' potato growers produce

in the order of 1000 acres. A second tier of medium growers produce about 30 acres, while small growers produce 5 to 10 acres. The middle group are sometimes smaller farmers not engaged exclusively with potato cropping who will exit the industry when prices fall. When prices fall for fruit growers, diversification is often more difficult owing to the nature of tree cropping. In fact, field work supports the notion that there is a well developed fresh potato export commodity chain between New Zealand and some Asian markets including Hong Kong and Singapore that has nothing to do with Heinz. For example, several large potato growers in the Manawatu region who are under contract to the Feilding plant, also export fresh potatoes through agents or sell to intermediaries (like Turners & Growers) who then export to Asia. Growers indicated that this helped spread their risk and reduced overall reliance on Heinz.

With the appearance of multinational food giant McCains in New Zealand in the mid-1990s and the construction of a potato processing plant in Timaru on the South Island, the competition for securing potato and other vegetable growers, supplies and market share has increased. Interview data suggested that McCains is attempting to 'lure away' organic potato suppliers from Heinz, which has a better developed field support system to help growers through the transition period between conventional and organic growing. Plant managers at the Feilding site suggest that while there is 'some company loyalty to Heinz', in general growers will go with the best prices. This type of competition is not seen in the fruit processing commodity chains. Interestingly, Heinz is building a new potato coolstore facility at its Feilding site that is 90 percent financed by growers and 10 percent financed by the company. Heinz has guaranteed growers that it will support their venture for a minimum of ten years of financing. To some extent, this may be interpreted as a relatively low risk, low cost venture to further secure contract supply relationships with local potato growers.

The export market for New Zealand's processed vegetables continues to grow at impressive rates. It is projected to double by the end of the century to about US\$250 million. Contributing to overall industry growth rates is Heinz's ongoing upgrades to its potato processing line in Feilding. French fries are a growth industry, and the trends towards westernization of the Asian diet suggest there is a potentially huge market for Heinz frozen fries, either through supplying McDonalds outlets in Asia, or by selling bags of frozen french fries to Asian supermarket chains. Although the Feilding processing plant is rumoured to be for sale, "...french fries are a growth industry and that plant isn't going anywhere" (Potato Grower, Manawatu 1998). Whether or not Heinz retains corporate interest in the plant is not important to local potato growers. Rather, the point is for the site to remain operational under the assumption that new and/or existing export networks will be developed if Heinz sells the factory.

DISCUSSION

Reflections on our field studies with fruit and vegetable growers supplying Heinz processing plants suggests some similarities and key differences between the two commodity chains studied. The fact that, "Vegetables are inscribed in English as useful food for humans while fruit is perceived as closer to the dimension of luxury

and sensual pleasure” (McKee 1995:5) imply different profitability dimensions may be associated with fruit versus vegetables. However, it remains unclear whether that ‘luxury’ dimension associated with fresh fruit, translates to processed fruit. The push to organics by multinational food processors like Heinz, may be a way to bridge this gap by creating ‘quality’ value added.

The data collected from interviews in our study indicates that the company has the upper hand in contract ‘partnerships’. In a deregulated economy – and in the context of the Commerce Act – it is difficult for growers to exert pressure against Heinz in negotiating contracts. The primary means of grower resistance in both commodity chains examined remained withholding crops or selling elsewhere. However, the reality of fruitgrowers ‘selling elsewhere’ is difficult given current world oversupply of all fruit and depressed international prices for many of the vegetable crops produced in New Zealand. To a certain degree, ongoing restructuring of plant and product lines within Heinz Australasia also keeps New Zealand contract growers and plant managers guessing as to what products will be preferred in the drive to scale economies and what volumes will be accepted. More noticeable among potato growers than pear growers was the fact that the potato commodity chain appeared to offer more options for individual activity to export or sell crops locally. Heinz captures only a portion of the potato commodity chain, while the nature of the crop allows for greater ease of movement in and out of production. Owing to the presence of the NZAPMB regulating pear exports and the nature of pears as a tree crop, fruit growers may be less able to pursue alternative options to sell their crop. This perception was reflected in orchardists’ comments about being... “historically reliant on Watties to take the excess fruit” (Pipfruit Grower, Hawkes Bay 1998).

The Heinz processing operations in New Zealand have the right mix of access to – and quality of – raw materials which makes for highly competitive products domestically and internationally. The move to sourcing organic material is also an important factor in breaking into and capturing market share in the huge Asian market under the recognised brand label of ‘Wattie’. The impacts for growers of Heinz expansionist behaviour are mixed. On the positive side, certain commodity chains including potatoes, fruit and to a lesser extent tomatoes, are benefiting from increased capital investment, product research and sophisticated international marketing techniques. Heinz is also proving to be a consistent buyer of raw materials, has formalised grower-plant partnership arrangements for information sharing and has been seen to be an understanding customer in cases of unexpected crop failure. Heinz management also maintains that it can provide economies of scale in purchasing, manufacturing and overhead that reduce costs associated with New Zealand-owned Watties. These savings increase the cost and export competitiveness of New Zealand based Heinz-Wattie operations. However, increased cost and export competitiveness has not automatically lead to more lucrative supply contracts with the company. Further, given that the structure of contract farming has been imposed by an outside multinational organisation, growers are finding they have less control over strategic crop and land use decisions.

The shifting power relationships of contract negotiation and supply between fruit and vegetable growers and Heinz also brings to light the practical and theoretical

complexities of scale in analysis of food networks. The ways growers use various commodity chains that supply local fresh market and/or international food processing companies and/or intermediate export agents points to the need to differentiate 'scale' in food network analysis. Further, there is a certain simultaneity in constituting local-global relationships between growers and Heinz that implies fluid power and scale positioning. Growers can use these fluid relationships to increase their bargaining power, reduce personal risk and increase profitability. Heinz can use these fluid relationships to increase economic concentration and organisation as a way of subsuming grower autonomy and pursuing co-ordinated expansionist strategies. While contracts can be studied as substitutes for bureaucratic hierarchies (Rickson and Burch 1996), more attention needs to be paid to the fact hierarchies linking 'global' companies to 'local' sites are spatially complex and permeable allowing for a variety of production, processing, marketing and consumption arrangements with a single commodity chain.

Finally, the impacts of the Asian economic crisis at the close of the 1990s are undoubtedly having an impact on overall economic performance for New Zealand, which is heavily export reliant, and for Australia. Heinz purchased Watties in 1992 when the Asian economies were experiencing record growth. It will be worth watching to see if Heinz keeps Asia as a target market in the long term or switches quickly to other markets, perhaps Latin America. If there is a sudden switch away from Asia, this could mean wholesale changes to Heinz Australasia, and a dramatic shift in the scale of Heinz global operations away from New Zealand as a production platform. Left at the level of conjecture is whether and/or how Heinz would operate and develop its New Zealand production sites for an Australian-New Zealand market, with a combined population of only thirty million people. Not to be forgotten in the context of global-scale strategies are the growers who are left to anticipate and negotiate their way through any potential restructuring changes.

REFERENCES

- Arce, A. and T. Marsden. 1993. "The Social Construction of International Food: A New Research Agenda." *Economic Geography* 69:293-311.
- Barnet, R. and J. Cavanagh. 1994. *Global Dreams*. New York: Simon and Schuster.
- Buttel, F. 1996. "Theoretical Issues in Global Agri-food Restructuring." Pp. 17-44 in *Globalization and Agrifood Restructuring*, edited by D. Burch, R. Rickson, and G. Lawrence. Aldershot, England: Avebury.
- Buttel, F., O. Larson, and G. Gillespie. 1990. *The Sociology of Agriculture*. New York: Greenwood Press.
- Campbell, H. 1996. "Recent Developments in Organic Food Production Part 1: Organic Food Exporting in Canterbury." Studies in Rural Sustainability, Research Report No. 1, Department of Anthropology, University of Otago.
- Campbell, H., J. Fairweather, and D. Steven. 1997. "Recent Developments in Organic Food Production Part 2: Kiwifruit in the Bay of Plenty." Studies in Rural Sustainability, Research Report No. 2, Department of Anthropology, University of Otago.
- Coombes, B. and H. Campbell. 1998. "Dependent Reproduction of Alternative Modes of Agriculture: Organic Farming in New Zealand." *Sociologia Ruralis* 38:127-146.
- Coombes, B., H. Campbell, and J. Fairweather. 1998. "Recent Development in Organic Food Production in New Zealand Part 3: Exporting of Organic Produce from Gisborne District." Studies in Rural Sustainability Research Report No. 3, Department of Anthropology, University of Otago.

- Fortune*. 1998. *Fortune 500 List*.
- Friedland, W. 1984. "Commodity Systems Analysis: An Approach to the Sociology of Agriculture." *Research in Rural Sociology and Development* 1:221-235.
- Friedmann, H. 1993. "The Political Economy of Food: A Global Crisis." *New Left Review* 197:29-57.
- Friedmann, H. and P. McMichael. 1989. "Agriculture and the State System." *Sociologia Ruralis* 29:93-117.
- Fulton, A. and R. Clark. 1996. "Farmer Decision Making Under Contract Farming in Northern Tasmania." Pp. 17-44 in *Globalisation in Agrifood Restructuring*, edited by D. Burch, R. Rickson, and G. Lawrence. Aldershot, England: Avebury.
- Goodman, D. and M. Watts. 1994. "Reconfiguring the Rural or Forging the Divide?: Capitalist Restructuring and the Global Agro-Food System." *The Journal of Peasant Studies* 22:1-49.
- Hartwick, E. 1998. "Geographies of Consumption: A Commodity Chain Approach." *Environment and Planning D: Society and Space* 16:423-437.
- Hayward, D., R. Le Heron, M. Perry, and I. Cooper. 1998. "Networking, Technology and Governance: Lessons from New Zealand Horticulture." *Environment and Planning A* 30:2025-2040.
- Heinz-Wattie Quarterly*. 1997. Second Quarter.
- Interviews, Massey-Auckland Universities Grower and Industry. 1994-98. "The Heinz-Wattie Project."
- Lawrence, G. 1996. "Contemporary Agri-food Restructuring: Australia and New Zealand." Pp. 45-72 in *Globalisation in Agrifood Restructuring*, edited by D. Burch, R. Rickson, and G. Lawrence. Aldershot, England: Avebury.
- Le Heron, R. 1993. *Globalized Agriculture Political Choice*. Oxford: Pergamon.
- Le Heron, R. and M. Roche. 1995. "A Fresh Place in Food's Space." *Area* 27:22-32.
- Le Heron, R. and E. Warr. 1976. "Corporate Organisation, Corporate Strategy and Agribusiness Development in New Zealand: An Introductory Study with Particular Reference to the Fruit and Vegetable Processing Industry." *The New Zealand Geographer* 32:1-16.
- Lu, yao-Chi, C. Daughtry, G. Hart, and B. Watkins. 1997. "The Current State of Precision Farming." *Food Review International* 13:141-162.
- Marsden, T. and A. Arce. 1995. "Constructing Quality: Emerging Food Networks in the Rural Transition." *Environment and Planning A* 27:1261-1279.
- McEwen. 1993. "O'Reilly: It's up to you, David." *National Business Review* 26.
- McKenna, M., M. Roche, and R. Le Heron. 1998. "Sustaining the Fruits of Labour: A Comparative Localities Analysis of the Integrated Fruit Production Programme in New Zealand's Apple Industry." *Journal of Rural Studies* 14:393-409.
- McMichael, P. 1994. "Global Restructuring: Some Lines of Inquiry." Pp. 277-300 in *The Global Restructuring of Agro-Food Systems*, edited by P. McMichael. Ithaca: Cornell University Press.
- McMichael, P. 1996. "Globalisation: Myths and Realities." *Rural Sociology* 6:25-55.
- Miller, L. 1996. "Contract Farming Under Globally-Orientated and Locally-Emergent Agribusiness in Tasmania." Pp. 203-218 in *Globalisation in Agrifood Restructuring*, edited by D. Burch, R. Rickson, and G. Lawrence. Aldershot, England: Avebury.
- Perry, M., R. Le Heron, D. Hayward, and I. Cooper. 1997. "Growing Discipline Through Total Quality Management in a New Zealand Horticultural Region." *Journal of Rural Studies* 13:289-304.
- Rickson, R. and D. Burch. 1996. "Contract Farming in Organisational Agriculture: The Effects Upon Farmers and the Environment." Pp. 173-202 in *Globalisation in Agrifood Restructuring*, edited by D. Burch, R. Rickson, and G. Lawrence. Aldershot: Avebury.
- Winson, A. 1990. "Capitalist Coordination of Agriculture: Food Processing Firms and Farming in Central Canada." *Rural Sociology* 55:376-394.

**THE ROLE OF NATIONAL AND TRANSNATIONAL
CORPORATIONS IN THE GLOBALIZATION OF
DAIRYING IN LA LAGUNA, MEXICO***

Luis Arturo García Hernández

Universidad Autónoma Metropolitana-Xochimilco

Estela Martínez Borrego

Universidad Nacional Autónoma de México

Hernán Salas Quintanal

Universidad Nacional Autónoma de México

In this article we examine the problems caused by globalization and transnational corporations in *La Laguna*, a region that spans the border between the states of Durango and Coahuila in north-central Mexico and which constitutes the country's foremost milk-producing zone. Our main objective is to describe how foreign corporations work along with national ones to form a "milk agro-food chain." We study corporations involved directly in the transfer, adaptation and diffusion of dairy technology, and we examine associated technologies such as irrigation, transportation, and seeds.

For transnational corporations (TNCs), the question of how to establish a corporate presence in developing countries is the central challenge to their globalization strategies. In Mexico, TNCs have established themselves mostly since 1964, when the Foreign Investment Act limiting foreign investment to 49 percent of capital was modified. The modification eased restrictions on foreign capital and encouraged the expansion of foreign firms into Mexico.

In La Laguna, we find a model of dairy production in which national, transnational and foreign corporations interact. Our analytical axis is the *Grupo Industrial LALA* (LALA Industrial Group), a Mexican company that articulates the regional dairy system. LALA takes part both in the production phase and in the industrialization or transformation phase – pasteurization, homogenization, and milk packaging. TNCs linked to the milk chain are found in the production phase. Even though LALA is a Mexican company, an examination of its role as an articulating agent allows us to understand the current modernization process, global articulation, and the presence of transnational and foreign capital in the region.

Our study is guided by the following hypothesis. The place or *positioning* of LALA in La Laguna's milk chain has promoted development of the regional dairy

* Direct correspondence to Luis García Hernández, Department of Agriculture and Animal Production, Universidad Autónoma Metropolitana-Xochimilco, E-mail: <ghla6963@cueyatl.uam.mx>, or Estela Martínez Borrego, Universidad Nacional Autónoma de México, José María Luis Mora Institute, E-mail: <mborrego@servidor.unam.mx>.

system. LALA has achieved this by constituting itself as the region's economically pivotal company. LALA has emphasized one particular link of the milk agro-food chain: the collection of raw materials for the transformation and industrialization of milk. Its focus allows many firms, including national, transnational and foreign, to penetrate into various other phases of production, specifically input supply. As a result, competition among companies is minimized, allowing each corporation and the milk chain as a whole to develop. Such interaction is based on a strategy currently convenient for both national and foreign sectors, although it may have been otherwise at another moment in history, and although it may be different today in other regions of the country where input supply, primary production, transformation and commercialization of dairy products are disputed. The main axis of this interactive regional strategy is currently based on the particular traits and prior history of LALA as an actor and how the TNCs and LALA have controlled different links of the dairy chain.

Most of the information we present was obtained from field research in the region. We interviewed some members of LALA's upper management as well as milk producers. We also gathered statistical information and documents from regional offices of government agencies such as the Ministry of Agriculture. We faced the greatest methodological difficulties in the collection of information regarding TNCs. We first identified the channels used by these corporations to publicize their products by reviewing three trade journals: *Unión Ganadera*, a regional publication; *Carne y Leche*, which has national distribution; and *Lechero Latino*, distributed throughout Latin America. We also gathered information at the National Cattle Farmers Congresses in 1998 and 1999, organized by dairy farmer organizations from the region. These meetings included specialized presentations, visits to high-tech dairy farms, and demonstrations where companies offer their goods and services linked to dairy activities. This approach permitted us to inventory TNCs operating in the region.

We first explore the general theoretical elements of the economic globalization processes which encompass the international, national and regional dairy systems. Then we describe the milk chain in La Laguna. Here we examine the performances of TNCs and of national agro-industries, focusing mainly on the region's industrial leader, Grupo Industrial LALA.

THEORETICAL ELEMENTS OF GLOBALIZATION

Socioeconomic globalization is a process as old as capitalist expansion itself. These processes constitute two sides of a single global phenomenon. However, during the second half of the twentieth century, globalization acquired specific aspects that determine the development of current capitalist accumulation.

In the late twentieth century, globalization became a process characterized by a set of three sometimes successive, sometimes overlapping stages (Benko 1996): (1) *internationalization* – associated with the development of export flows under a non-flexible accumulation paradigm run by nation-states; (2) *transnationalization* – related to investment flows and the insertion in countries of companies that transcend national borders and become directors of the accumulation process; and (3) *globalization* – linked to an accelerated technological development, a complete

reorganization of the global financial system, deregulation of the state, and installation of world organizations that produce information and regulation under a “flexible accumulation” paradigm (Harvey 1992).

In this evolution, the hypermobility of TNCs and the limited power of nation-states become problems of growing magnitude (McMichael 1994). In this process, it is important to establish how multinational corporations changed into transnational ones. This transformation altered the existing relationship between economy and politics, all the while serving to continue capital accumulation through investment and deregulation of economies in developed and developing countries (Bonanno, Constance and Hendrickson 1995).

Even when globalization is analyzed from various disciplinary perspectives, there is agreement that globalization emerges in the context of a new division of labor in the world (Fröbel, Heinrichs and Kreye 1977; Bonanno et al. 1994). The latter is based on at least three conditions: (1) the development of an inexhaustible potential work force in Third World countries, (2) the fragmentation of the productive process and the consequent possibility for most production phases to be carried out by the low-skilled work forces found in less developed countries, and (3) technological developments in transportation and communications that facilitate complete or partial production anywhere in the world, tending to decrease costs.

The new international division of labor (NIDL) opens the way for globalization since it makes productive processes more flexible and causes companies and transnational conglomerates to acquire preeminence over national economies. TNCs are derivations of monopolies, consortia and cartels that had been developing for some time in the international field. Their reign began under the shadow of the Cold War and, afterwards, under the “new world economic order.” They arose with such force that they redesigned the world map in geoeconomic and geopolitical terms. They possess a strength greater than that of nation-states, for they progressively rid themselves of some impositions or limitations inherent to nation-states.

In this global context, states show a trend towards deregulation or to other kinds of regulation by ending production subsidy policies, privatizing some of their historical functions such as social security, intervening directly in markets through incentives (thus overcoming indirect intervention carried out through rent and price policies), and finally through the implementation of territorial policies, which are regionally designed according to the specific competitive traits of each region (Swyngedouw 1986, as cited by Harvey 1992).

Internationalization is constituted under the Fordist production paradigm. It rests on the concept of a labor force divisible into dissociated, but spatially united, temporal portions; the best example being chain production in large factories. The central factors now are the new instruments and technological rationales used to modify this space-time logic (Giddens 1994). This gives rise to the possibility of *spatial simultaneity*, which, given new possibilities for producing in spatially distant locations (Hiernaux 1996), allows internationalization to transform into globalization. Therefore, transnationalization, whose space-time linearity allows it to traverse national borders, turns into globalization by making processes in different spaces simultaneous. It represents the ultimate expansion of markets and territorial restructuring where diversification, divisions and complements are

materialized around the planet.

Under this conception, globalization fragments space because each location has its very particular logic, depending on its competitive advantages. Different locations are connected or linked to capitalism's globality through their diverse logics. The existence of multiple logics opens a possibility for the inclusion of regions previously not considered incorporable because of their low development levels. Given the possibilities for global operations across far-flung territories opened up by spatial simultaneousness, no region is automatically excluded from incorporation into the global economy.

TNCs are the central actors in this process, for they are focused on capturing resources and surplus. They also play the part of integrating national structures and international capitalism within a unique global system. As we demonstrate below, the means for the integration of a local production process, i.e., a regional dairy system, into a global one is the product of the combination of actions between TNCs and national companies.

GLOBALIZATION OF THE DAIRY SYSTEM

With globalization, the strategies of agroindustries, including transnational ones, have undergone restructuring as the companies try to adapt to market conditions and the demands of international competition. Because these companies play vital roles in agro-food chains their transformations have repercussions on the organization and operation of these chains. It is not easy to identify a single global strategy regarding how companies participate in the global dairy system, although it is possible to mention some of the trends.

The first is a long-term trend, whereby TNCs make a direct investment in a country or market. They then depend on the development of products with local characteristics and which make use of regional inputs. Consequently, local brands for the country or region are born, implying a great flexibility within an individual TNC's production lines. In other words, local brands and personnel are retained and only technology is global.

The second trend concerns the strictly commercial exporting of dairy products, for which we present two examples. The first one concerns cooperative organizations, such as the New Zealand Dairy Board (NZDB), whose dairy product exports are valued at US\$2,900 million. The NZDB employs 6,000 people (more than 70 percent of whom live outside the country) and is considered to be the biggest global exporter. The second case concerns private corporations, such as Dean Foods from Illinois. Among other products, this company produces and exports liquid milk, ice cream, yogurt and cottage cheese. Recently, it replaced Borden as the most important liquid milk processing and distributing company in the United States. It now is the third most important company selling dairy products in the North American market, behind Kraft and Nestlé (Dobson 1995).

A third trend is the development of companies that specialize in providing inputs and equipment to both milk producers and dairy agroindustries. In this manner, they join the national productive process in a regionally-differentiated way according to the developmental stage of the dairy system and to the governing production model

of each region. Large companies establish their strategies in terms of “global localization” (Beck 1998), in other words, by becoming a living part of the local production process. This strategy allows the penetration of companies that are very heterogeneous in nature and in size and which offer a wide variety of products, from pharmaceuticals and chemicals, feedstuffs, registered dairy cattle, milking equipment, cooling and packaging equipment, and even market and business management computer software.

The agroindustrial complexes generated by the action of foreign investors have developed regionally adapted strategies. Consequently, they construct a vertical and interdependent system where different actors play distinct parts – individuals and organizations are involved in production, transformation, transportation, storage, financing, regulation and commercialization of the worldwide dairy supply.

In the context of globalization, a company’s profitability depends on production and productivity increases. In turn, these depend on technological inputs, most of which come from the United States and Canada. In addition, attention is focused on supplying “quality raw materials.” Milk quality depends on inputs and imported technologies, on the rational use of genetic information for breeding more productive cows, and on optimized feeding of livestock. The relationship between milk collecting companies and producers will also have an effect on product quality, and producers receive bonuses determined by volume and milk characteristics.

Even though it is a highly perishable product, milk is one of the most marketable commodities on an international scale due to technological advances in its handling, operation, manipulation, conservation, packaging, storage and transportation. This particular characteristic of the world dairy system reveals a paradox within globalization: even though there have been open trade agreements between countries and trade barriers have been dropped for agricultural and cattle products since the 1980s, the dairy industry is one of the most regulated and controlled in the global agro-food system. This is expressed in protective and regulatory measures undertaken by countries that are dairy powers. Some examples are the EEC’s price policies, Canada’s fee system, and subsidies for producers in the United States. In the case of Mexican dairy products, this trade liberalization started in 1986 with the signing of GATT and was consolidated in 1994 with NAFTA.

As we pointed out before, the milk market’s international structure is characterized by the predominance of industrialized countries in production and exporting. This is mostly due to their technological innovations, production patterns based on supplying cattle with concentrated feed, and milk policies.

On the other hand, less developed countries have become dependent on developed ones because of the difficulties they face when trying to reach a competitive level in milk production to satisfy domestic needs. They come to depend on the more industrialized countries because of the adoption of technological paradigms and the implementation of dairy policies based on inaccurate market estimates. This forces them to become importing countries and weakens their self-sufficiency, as in Mexico’s case. In 1995, the most important importing countries were Mexico with 6,595 million pounds, Japan with 5,182 and Algeria with 4,547. Between 1990 and 1995, Korea increased its imports 325 percent, Venezuela 179 percent and Hong Kong 145 percent.

A nation may be important as a dairy exporting or importing region depending on its export and import volumes, balance of trade, trade-consumption percentage, or the dynamics of a certain period (García, Martínez and Salas 1999). In dairy commerce within the global agro-food system, countries distinguished as important economic powers are preponderant. These countries, as a rule, control every aspect of the dairy chain, from primary production to machinery, inputs, industrial processing and even product marketing.

This unequal situation may be clearly observed in North America. Dairy policies in the United States and Canada seek to strengthen producers who are efficient and who can adapt to competitive conditions in national and international markets. US and Canadian policies are oriented towards stabilizing their internal markets, satisfying their population's and industry's basic needs, and ultimately, exportation. This has been achieved through increasing production and productivity by intensifying the use of technologies which are subsequently bought by Mexico.

The United States' dairy industry is renowned for its high efficiency. It has one of the highest yields in the world, as can be observed from how it supplies three-quarters of the regional production with half the cows. Canada stabilizes its production by focusing on domestic supply, not by stimulating increased production. However, it goes farther into more elaborate and sophisticated products such as flavored milk, filtered milk for infants and light products. For Mexico, on the other hand, dependency on the international market is structural, particularly for powdered skimmed milk, hindering the development of its productive system and generating a growing dependency on imports, mostly from the United States, to cover its domestic demand (Alvarez et al. 1997). Approximately 30 percent of total dairy exports from the United States were destined for Mexico during the first half of the 1990s (Burrell 1997).

There is, therefore, a differential context in dairy technology generation in the United States and Canada that is widening the gap between these countries and Mexico. Closing that gap will require greater and greater investments as time marches on. Some examples of where technologies are widening the productivity gap can be found in the use of the hormone bovine somatotropin (BST), reproduction techniques like *in vitro* insemination and embryo transfer, computer registry, and the development of communications technology for trade operations. This has contributed to an increase in production and yield per animal and a reduction in dairy herd size, as shown by figures for 1994. In the United States, the average annual yield per cow was 7,312 liters, in Canada it was 5,546 and in Mexico it only reached 1,165 (Martínez et al. 1997).

For Mexican agricultural and dairy sectors, globalization has resulted in the stimulation of exports, growth in food imports, the elimination of subsidies in an effort to heighten the competitiveness of domestically consumed products, budget cuts in development and production support programs, and the reduction of assistance programs for poorer sectors in rural communities (García and Martínez 1997).

In the framework of open trade, this situation brings forth an unequal competition between the United States and Latin American countries. Developed countries achieve self-sufficiency in dairy products and become global exporters, while

developing countries tend to import more, while the possibility of achieving self-sufficiency in dairy products escapes from their grasp.

Mexico finds itself in a very vulnerable position in the face of NAFTA. It is a net importer of dairy products and of inputs for dairying. It uses technologies designed and constructed according to models from the United States and Canada. However, there are differences regarding production and productivity, which puts Mexican producers in a very unequal position for international competition. The United States and Canada achieve food self-sufficiency in dairy products and produce a surplus destined for export, while the opposite happens in Mexico. Internationalization processes in dairying, mostly guided by TNCs, are accompanied by an economic regionalization as far as market distribution is concerned. This occurs not only for dairy products for direct consumption such as powdered milk, yogurt, cheese, desserts, and ice cream, but also for a great variety of goods and services like registered animals, food, semen, embryos, vaccines, medicines, equipment, raw materials for the industrialization of dairy products such as lactobacilli, butyric fat, and casein, as well as patents and consultantships.

THE AGRO-FOOD MILK CHAIN IN LA LAGUNA

Agroclimatic conditions favored that La Laguna be occupied by large *haciendas* operating as agricultural companies whose main crop was cotton, mostly for export. In the 1940s, the Mexican state broke up the haciendas and redistributed land in the region by establishing *ejidos* that held land collectively. However, the cotton production system and its orientation towards foreign markets was left untouched.

A shift towards dairying took place after 1950, in the context of a capital internationalization process which, aside from having the elements mentioned before, included the addition of agro-food transnational companies and the introduction of a new technological package that accelerated the modernization of the dairy production process.

Today, La Laguna is the most specialized and most modern dairy region in the country. This means having registered cattle; using artificial insemination, balanced feeds, chemical and pharmaceutical inputs, automatic milking devices and cooling tanks; and improving infrastructure and techniques for the handling and caring of dairy cattle. On the other hand, it also means having effective vertical and horizontal integration, encompassing the fodder production stage, primary milk production and its industrialization, and even distribution and direct commercialization. It is in this space of integration where transnational and national companies intervene and where they develop permanent relationships.

Below, we will describe the dairy production and transformation chain in the region according to information we have gathered. Analyzing each link of the chain will allow us to understand how national – specifically, LALA – and transnational agroindustries intervene and operate in the region.

The dairy agroindustrial chain for the region can be outlined as follows:

- (1) The production of inputs for dairy industry productive processes, including fertilizers, seeds, and agrochemicals. In other words, everything that generates a productive foundation for dairying.

- (2) The biological process of milk production, which is restricted to transformation of inputs by the animal into an interchangeable product with specific nutritional qualities.
- (3) Milk collection and its transportation to an agroindustrial plant. In La Laguna, this phase is generally the responsibility of the transforming industry.
- (4) The transformation process or agroindustrialization. In this phase milk is assumed to be an input.
- (5) Milk or dairy product distribution, consisting of its marketing, promotion and transportation to trade or consumption centers.
- (6) Finally, consumption of these products (this phase will not be analyzed here).

We illustrate the milk and milk derivatives chain in Figure 1.

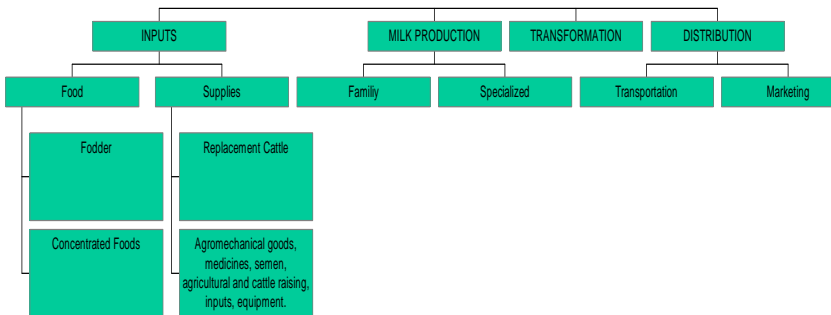


Figure 1. The Milk Production Chain

Inputs and the Role of TNCs

Regarding input supply, we have observed that national and transnational corporations intervene precisely and specifically, distributing the market among themselves. Fodder mostly is produced by dairy farmers, with unmet demand supplied by fodder companies. These companies frequently are part of an agroindustrial conglomerate such as LALA, which has its own fodder company and grants credit, through its own credit institution, to its dairy farmer partners.

For balanced feeds, which are basic for productivity and milk quality, the important participation of TNCs becomes evident. According to information provided by *Fideicomiso Instituido en Relación a la Agricultura – FIRA* (Trust Fund for Agriculture), in 1997 there were four main companies in the feed market in La Laguna: Ucialsa, which controls 87 percent of the market; Anderson Clayton with 6 percent; Purina with 5.2 percent; and *Zaragoza de Chihuahua* with 1.2 percent. It is important to point out that these companies manufacture their products mostly with raw materials, such as corn, sorghum and soy, which they obtain mainly from the United States.

Regarding the supply of replacement cattle, the Ministry of Agriculture

(SAGAR) in La Laguna presents data that indicate that in 1997 a total of 32,259 milker phenotype calves entered the region from the United States and Canada. Many of these animals were imported directly by producers through government credit programs and/or through Regional Cattle Farmers Associations. Also, some companies, such as LALA, provide a service for replacing and improving the herds of their dairy farmer partners.

Regarding other productive inputs, according to FIRA in La Laguna there are 8 companies that supply agromechanical goods, 31 veterinary pharmacies, 8 semen distributors, 20 agricultural inputs companies, and 7 equipment companies. The intervention of TNCs in this particular link of the chain is evident.

This information led us to investigate the existence of companies that provide the inputs and equipment required by dairy farms and fodder producing agricultural areas. We made an inventory of the companies that offer services or products linked to milk production. We registered 78 companies, 41 of which are linked to TNCs, 25 of which have their headquarters in the United States, 5 in Germany, 3 in France, 2 in Japan and 1 each in Israel, Spain, Switzerland, Holland, Italy and Canada. Table 1 shows the number of TNCs and national firms that operate in the region according to the products and services they offer.

As far as operations in the region are concerned, some firms, mostly the stronger companies (TNCs), have their own technical advisors and salesmen in the region. Smaller companies work through freelancers who sometimes represent several different companies, as is the case of semen sales. One example is a company called *Genética Mexicana*, which simultaneously represents several TNCs – such as ABS Global Inc., which leads the market in bovine genetics, artificial reproduction, and cloning, and has one thousand independent representatives in seventy countries; or SEMEX, which is of Canadian origin. We should mention that progeny tests are very costly and take a long time, about five to six years, to prove the genetic quality of a breeding animal or stud. The region has approximately 170,000 wombs (i.e., cows that have borne at least one calf) in production (LALA 1998:38), which allows for the quantification of the dimensions of semen demand, mostly if the replacement and reduction of imported calves, which represent around 25 to 30 percent of calves, are being considered.

We detected several companies that we may call TNCs because of their size, the volume of their operations abroad, their investment in research and development, their number of employees in this area and their operational dynamics. We also found that there are many companies that have foreign capital, though some of them are very small. These we have called foreign firms and some examples are a small group of farmers from the United States or from a kibbutz in Israel that have discovered some technological innovation and are marketing it around the world. This is the case of SAE Afikim, an Israeli company that has the name of a kibbutz and has subsidiaries in Waunakee, Wisconsin, USA. Its representative in the region is *Equipos y Accesorios de Ordeña*. It has developed and produced computerized market and dairy administration systems consisting of milk meters, individual cow identification, pedometers, software and individual weighing and feeding systems. Their systems allow them to determine each cow's yield, electrical conductivity of

Table 1. Number of Companies by Products Supplied to the Dairy Sector in La Laguna

Product	Foreign Capital Companies	National Capital Companies
Pharmaceutical and chemical: medicines, vaccines, agrochemicals, fertilizers, lubricants, disinfectants, detergents, etc.	14	4
Balanced foods, nutritional inputs, etc.	9	1
Equipment and machinery: tractors, trucks, agricultural machinery, milking and cooling equipment, food mixing and ensiling cars, fodder equipment, sprinklers and irrigation systems, pumps, motors, pipes, filters, extractors, fans, earrings for tagging, heat detectors, etc.	21	5
Genetics: semen, studs (breeding male animals) and calves.	6	3
Communication and surveillance equipment	1	
Fodder seeds	7	2
Training		1
Software	1	
Drilling services, collection of toxic wastes, geohydrological exploration, water and soil treatment, insurance and equipment and spare parts, etc.	3	6

Source: own information.

its milk and its activity level in number of steps taken by the animal per hour. However, in spite of its technological innovations and presence in several countries, its size and level of operations cannot bring it to the level of a TNC.

We observed that out of the forty-one foreign firms registered, those that work as corporations generally have a group of employees (veterinarians, agronomists, nutritionists, pathologists) that directly promote acquisition of their products by providing technical, managerial and sales support. However, the treatment a producer receives varies according to herd size – a greater number of animals implies a greater need for technologically advanced products and, therefore, preferential treatment. For example, in promoting BST, a small producer is visited at his farm and is given materials advertising the product and invitations to promotional meetings (these include a meal and a social gathering for those who attend). For producers who own at least 3,000 cows, the hormone vendors offer all-expenses-paid trips abroad, specifically to the United States, where the dairymen visit farms in the main milk producing states as well as meet researchers at prestigious universities. Thus, we observed a differential strategy for the introduction and promotion of a particular technology depending on the scale of production.

For small companies, but generally not for large corporations, contracting local sales representation is the best mechanism. In the first place, it is unnecessary to

determine a salary for the employee – he works on commission. Secondly, depending on the technologies he is promoting, if a small firm's product line is too narrow for a representative to earn a living, he can often complement it with non-competing products from one or more other companies. For example, he can represent pharmaceuticals, reproduction and genetics simultaneously.

There is a group of TNCs with products of a generic character and, even though they are promoted in the region, they do not depend on dairy activity. Such are the cases of Ford New Holland, General Motors, Honda, John Deere, and Mobil Oil. Even though it is not difficult to see links between dairy activities and agricultural machinery, or Honda's electric generators, these companies and their products, though necessary, are not closely linked to production.

Up to now we have seen the importance of the presence of TNCs and other foreign firms linked to dairy activity in this phase of the milk chain in La Laguna. Promotion and development of new technologies are introduced by various strategies, among which the role of a regional milk and dairy product company of national dimensions stands out: LALA. There is no open competition for substitution of outside technology but rather a complementarity facing a real scenario of production. In other words, it is very difficult to have resources to technologically innovate in each area in the milk production process and still keep a privileged position. The same TNCs that use multiple financing strategies with the purpose of having researchers in different countries and in different fields, are able to come up with innovations that they can later market.

Technological extension mechanisms used by TNCs include events, conferences, shows, promotions, technical support, research and informative articles, and building human capital. Their focus is on increasing productivity at the lowest possible cost in order to achieve greater production and income for the producer. However, this does not help avoid disputes between corporations in their efforts to introduce themselves in a specific market niche. Such is the case for BST promoted by Elanco Animal Health in competition with a Korean manufacturer that offers lesser quality BST at lower prices.

Milk Production

This process of technological modernization has led to dairy farms in La Laguna having a better yields per animal than elsewhere in Mexico. Furthermore, 1997 data show that a total of 169,717 cows were producing an average yield of 8,239 liters per animal, which meant an average annual production of 1,312 million liters, representing 16.4 percent of the national production, followed by the state of Jalisco with 1,231 million liters and 15.7 percent (SAGAR 1998).

In La Laguna, milk is produced by privately- and ejido-owned herds, although the private dairy farmers predominate. There are collectivized dairy farms, a legacy of the ejido system, and conglomerates, such as Chilchota, but these are a minority. Every dairy farm is articulated "backwards" with input suppliers, and "forwards" with processing and transformation agroindustries. LALA collects milk among its partners, complemented by purchases for the balance of its needs from non-partner farmers in the region.

Milk processing plants differ from each other in size, the genetic quality of their

herds, the kinds of technology they use, their infrastructure, the way they handle their cattle, their productive yield and the degree of links they have with agroindustries.

Three major types of dairy farms in the region can be identified: (1) those that use advanced technology – they are mainly owned by large capitalists from the private sector who control agricultural and cattle raising dairy activity and the industrialization and commercialization of dairy products; (2) those that use fairly common technology – they generally are mid-sized and small producers from ejido stables and some from the private sector; and (3) those who use obsolete or traditional technology, that is, their techniques are rudimentary – they are mostly small producers from ejidos and some private owners.

Hence, we find ourselves in a regional dairy subsystem characterized by large dairy farms owned by private capitalists, ever more modern and growing; ejido dairy farms that were created with support from the state in the 1970s; and small individual dairy farms, which generally use technology but on a smaller scale (García et al. 1999). Producers in La Laguna in 1997 were classified accordingly, as is shown in Table 2.

The technologically-advanced dairy farms average more than 200 wombs, depend on hired personnel, use mechanized milking systems, have horizontal and vertical organization, own modern facilities and possess high levels of entrepreneurial competence. The technologically-unsophisticated dairy farms average fewer than 30 wombs, use family labor, have either manual or portable milking systems, use average quality fodder, have unsophisticated facilities and possess low levels of entrepreneurial competence.

According to LALA (1998) there were 169,717 wombs producing in La Laguna. Of this amount, the producers in the first group own 157,552 wombs, that is, 92.8 percent of the total, while producers in the second group own 12,165, which represents 7.1 percent. In calf and heifer ownership, the proportions are very similar, 93 percent vs. 7 percent and 91.6 percent vs. 8.4 percent, respectively.

Such differences, however, are not determinant factors for milk buying companies. We were able to witness this during our field research when we saw that even small producers sell to large companies such as LALA. The key conditions for selling are quality and milk cleanliness.

It is here that differentiation really has an impact, since obtaining good quality milk depends directly on the equipment, feed and other inputs used, which in turn depends on capital availability. An alternative for family producers has been horizontal organization. An example is collective access to cooling equipment that holds large amounts of milk that make it into the industrialization stage. This means that producers will receive a higher price for each liter of milk. However, if they are not able to do this, they must sell at a lower price to micro-companies that make cheese and cream. This situation poses a paradox that is very common in a globalized environment. It concerns the fact that, though these farmers own their means of production and thus have the independence and economic self-sufficiency that has always characterized dairy farmers, now they are told by companies how to produce and what kinds of products they need. This gives farmers two choices: adapt to conditions imposed by these companies and embrace technology offered

Table 2. Types of Dairy Farms in La Laguna, 1997

Type of Stable	Number of Farms	Number of Producers	Number of Wombs
Technologically advanced or specialized milking facility (types a and b)	297	965	153371
Technologically unsophisticated or family milking facility (type c)	67	591	11850

Source: LALA 1998.

by TNCs or leave the “business.” This is similar to the situation observed in the region los Altos de Jalisco (Rodríguez and Chombo 1998).

Milk Agroindustrial Transformation

In 1997, as was already pointed out, 1,312 million liters of milk were produced in La Laguna. Participation of regional companies in milk collection in La Laguna in 1996 is shown in Table 3. Most of the milk produced in La Laguna was destined to become pasteurized milk (790 million liters), followed by cream and butyric fat (314), ultrapasteurized milk – UHT (206), yogurt (29), and other derivatives (55).

One of the most important aspects of the milk transformation process and a cause of great debate among the social actors involved, such as cattle farmer associations, the state and corporations, is the importation of inputs such as powdered milk, lactoserum, lactobacilli, and UHT packages. Here, the intervention of TNCs is again of great importance. For example, in the case of powdered milk, M.E. Franks, of St. Davis, Pennsylvania, USA (but owned by the Belgian company Ecoval) has the governments of Mexico and Algeria as its main clients and takes advantage of its position under NAFTA to benefit from subsidies that are transmitted by government programs from the United States.

As we can see from Table 3, all the dairy agroindustries operating in the region are domestic and the participation of LALA stands out. For LALA, this link in the chain is vital. To keep its position it has had to constitute itself into a conglomerate of companies.

Role of *Grupo Industrial Lala* in the Dynamics of the Regional Dairy System

Information on the origin and development of this group was obtained through an interview with Dr. Rolando Herrera, Head of Technology Support at LALA, as well as from LALA magazines. According to Dr. Herrera, LALA

is a holding company. It began as a cooperative society, back in the late forties and LALA was born from the needs of producers facing a mandate from the government of the state of Coahuila in which selling non-pasteurized milk was prohibited. There had been a very important problem with brucellosis and tuberculosis. It had been detected that milk was highly contaminated and therefore the Coahuilan government imposed this law; it put a lot of pressure on small producers and they decided to join forces. The *Unión de Crédito de la Laguna* was first formed, which helped them get necessary resources to set up the first pasteurizing plant, *Pasteurizadora del Nazas*. From this, LALA was born. It will turn fifty years old and what started as an association and then as a cooperative society is now an industrial holding company.

Table 3. Principal Milk Collecting Firms in La Laguna, 1996

Company	Millions of Liters	Percentage
Grupo Industrial LALA (domestic)	748	60.4
Chilchota Alimentos (domestic)	145	11.7
Productores de Leche Pura (domestic)	99	8
Lácteos de Oriente (domestic)	53	4.2
Monica's Foods (domestic)	47	3.7
Pasteurizadora Lerdo (domestic)	37	2.9
La Risueña (domestic)	22	1.7
Lácteos Mayrán (domestic)	15	1.2
Others	51	3.7
Total	1237	100

Source: LALA 1998.

The group has several companies and they are all related with production, commercialization, packaging and transportation of milk and its derivatives, as well as with raw materials for milk production. LALA's food plant facilities were among the first ones of their kind in the country to hold an important position in sales volume regarding finished products for dairy cattle inputs. It is also owns the third largest balanced feed company in the country. This company supplies its partners in the group, but it also sells to other farmers and other regions in the country, mainly in Chihuahua, Aguascalientes, Nuevo León and Zacatecas.

Another company called *Envases Especializados* (Specialized Containers) was founded in 1971. It was born as a result of a dispute between Tetra Pak and LALA. The former is a world leader in packaging. It rents, but does not sell, machines to manufacture milk containers, and it sells the inputs required, such as cardboard, ink, plastic and metal. The problem presented itself because packaging represented a high percentage of the sales price. However, retail prices remained relatively static due to the specific way milk prices are established in Mexico. At that moment, LALA decided to look for another alternative and entered a joint venture with a Norwegian company called European Licensee of Pure-Pak (ELOPAK), buying a Pure Pak franchise for packaging that later benefitted from the association of ELOPAK with the Japanese company Shikoku. At a regional level, the company *Envases Especializados de La Laguna* was founded as a part of the LALA group (Pruneda and Wong 1995). Thus, the company was able to reduce its production costs by finding an alternative technology that allowed it a certain degree of autonomy in an input.

On the other hand, milk that was being produced in the region by this group had saturated the local market and it was necessary to find other markets by venturing into Durango, Monterrey and eventually into Mexico City. Today, the group's milk is sold practically nationwide through regional pasteurizing plants or through distributors all over the country in the case of their ultrapasteurized package.

Currently, LALA collects approximately 2 million liters of milk daily and

processes it in its different plants. The milk comes from approximately 460 LALA partners, which are distributed in 172 dairy farms with an average of 570 cows each. It is important to point out that the average yield often surpasses 30 liters per cow a day, which shows the importance of intensification and the kind of producers associated with the group.

The distribution pattern of LALA's partners by size is: 3 percent have herds of more than 2,000 cows, 20 percent have between 1,500 and 2,000, 15 percent have between 1,000 and 1,500, 40 percent between 500 and 1000, and 23 percent have less than 500 (the summed percentages exceed 100 due to rounding). Dairy farms associated with LALA range from 10-cow herds to those with 2,500 cows in production, but we must note that even the smaller ones have to be technologically up-to-date because producers must use mechanical milking devices and deliver milk that has been cooled.

All of LALA's partners, notwithstanding their size, receive the company's services, particularly those regarding technological advances which tend to support the modernization of production for both small and large producers. As Herrera notes:

Every one of them is a priority, all our partners receive service. Technical support regarding feeding, nutrition, handling, breeding, sanitation, reproduction and quality control of the milk are areas where they receive services. Besides, they have the credit union service, a milk collection service and services of other companies such as LALA chemical products, in the area of sales and assistance regarding chemical products, detergents, etc. They have LALA tires service and car tune ups, and food plant service.

Raw material quality is a central concept rising from the competitive conditions imposed by the market and has been a pivotal point for the consolidation of *Grupo LALA*. Special programs have been implemented to give the partners needed support in the handling and nutrition of cattle, as well as in technological aspects including individual cold thermoses, mechanical milkers, and automated vacuuming, but mostly for, says Herrera, "... a very strict quality control based on a system of rewards and punishments, so that milk keeps its quality standards. Standards we have today are superior to average standards of the states." This quality is reflected in the price producers are paid for their milk, and it is here where the system of rewards and punishments is applied. At the time of our research, LALA was paying 2.52 pesos per liter as a base price plus bonuses for fat and an equation that considers somatic cells, total bacteriology, protein content, milk temperature and cleanliness.

We may conclude that LALA, which started as a cooperative society, has made its way through different stages in the development of a regional dairy system and market by turning first into a conglomerate company, and then into a holding company. This group of companies is committed to different links in the milk chain, that is, from input supply to the production of raw material, then to its transformation, industrialization, commercialization, marketing, and distribution domestically and abroad.

Distribution and Marketing

Products sales to companies are found at three different levels, depending on the size of the company. First, there is a local market where all companies working in

the region participate indiscriminately and where it is very difficult to find companies from outside the region. The regional milk market in 1997, mainly in pasteurized milk, is segmented as follows: Grupo LALA, 70 percent; Chilchota, 15 percent; Bell, 8 percent; and Lerdo, 7 percent.

The second market for fluid milk and other derivatives for LALA implies placement of the product in the main cities of Mexico City, Monterrey and Acapulco, from which retailers, such as supermarkets, can be supplied. Companies in La Laguna participate with 30 percent of the pasteurized milk and UHT market at a national level, with Mexico City as the most important market.

The third level consists of the foreign market. The most important products exported from La Laguna are natural and flavored milks, UHT and other derivatives, with the almost exclusive participation of LALA.

We must keep in mind that in this region there is no competition among the TNCs regarding milk. The presence of TNCs in the milk market is found elsewhere in Mexico. Nestlé, for example, has most of its suppliers in los Altos de Jalisco and in the area around the Gulf of Mexico. Its main product is powdered milk (Nido) as well as a number of food products that require this ingredient. A second example is Parmalat, an Italian company that recently arrived in Mexico. It gets its milk from los Altos de Jalisco, and its main product is liquid milk. In other words, there is competition for milk as an input for the transnational dairy industry, but this is centered in the state of Jalisco. What we want to highlight here is that the market for liquid milk is held mainly by national companies, and only one transnational company competes in this area, but its presence is limited to the state of Jalisco.

CONCLUSIONS

LALA, since the 1970s, at the forefront of the region's dairy chain transformations, has made much effort to achieve greater vertical integration with primary producers. It promotes fodder production and the adoption of an intensive production model in milk processing plants. It supports farm modernization, providing dairy farmers with credit to purchase inputs and equipment, as well as with technical and managing support so the herds produce the required volumes of milk, thus ensuring the timely availability of milk for its plants. In this way, LALA has turned into the protagonist in the productive chain, through fodder and balanced feed supply to dairy industrialization and distribution systems that reach important urban centers that constitute its markets.

LALA also has promoted the horizontal integration of producers. This can be seen in associations among producers, including among ejido members, small and large capitalist and agroindustrial producers, or between private sector and ejido farmers. These associations have given rise to the establishment of *Sociedades de Producción Rural* (Rural Production Societies), *Asociaciones en Participación* (Associations in Participation), *Sociedades de Solidaridad Social* (Social Solidarity Societies), *Sociedades Mercantiles* (Mercantile Societies), *Grupos Solidarios* (Solidarity Groups), and *Cooperativas* (Cooperative Societies). Agroindustries impose on primary producers the conditions for the purchase of milk, including requirements for the installation and use of cooling tanks to deliver cold milk. This encourages producers to gather together in one of the above associational forms.

These organizations are good for the permanence and expansion of the dairy agroindustry, as well as for helping primary producers survive in this branch of production. This development of a regional agroindustry shows the adaptability of local producers and their ability to act when confronted with modernizing and globalizing processes within the Mexican economy.

As we mentioned above, there is no competition for the collection of milk by the TNCs or from foreign firms in the primary phase. These companies have a special interest in introducing their technologies as goods or services in the region and, to achieve this in the milk agroindustrial chain, they turn mostly to the input phase, though they are no less important in subsequent phases. We should mention that in these, a link is established with large regional pasteurizers who will be the promoters and buyers of a TNC's products.

As a general conclusion, we can state that the presence of TNCs in the region has been regulated and has developed because producers were able to organize some time ago. Through their own company (LALA) they were able to place themselves at the critical points in the dairy food chain: production, commercialization, industrialization and distribution. Their own organization has integrated milk producers vertically through a cooperative organization, forcing the TNCs to restrict their field of action fundamentally to inputs and primary production. On the other hand, the globalization process allows for a wide technology supply in terms of quality and price, in a world where distance is no longer a limitation, so that technology is easily substituted allowing for quick upgrades to the milk producing system. In other words, today it is possible for dairy farmers in the region to acquire technological innovations not only from large TNCs but also from a number of small foreign firms that have discovered alternatives at varying costs, because of the ease of transportation and computer technology.

From information and evidence presented in this document the following specific conclusions may be drawn:

- (1) TNC and foreign firm participation in specific phases of production, such as inputs, equipment, packaging, has made it possible to achieve the high technological levels in La Laguna, turning it into one of the main intensive dairy regions in Mexico. Thus, we can state that there is a strong foreign capital presence in the "backwards" articulation, that is, in the supply of imported inputs.
- (2) Globalization as a process allows small firms that have been able to produce technological innovations in dairy activities to compete with the large TNCs, and each one in this way satisfies its niche in the market. For producers, this implies having access to all kinds of technology as long as they have the necessary capital, without getting vertically integrated with large corporations.
- (3) The capability to attain a comparative advantage, competitive or acquired, in La Laguna region in general, and in LALA's case in particular, is due to a permanent increase in the quality and volume of milk produced, where one fundamental element has been the forms of articulation between producers and agroindustries as well as between national and transnational companies.

LALA's development has resulted from a visionary strategy of adaptation to changing global market conditions and from the development of competitive strategies of articulation with TNCs. This includes "backwards" strategies in input

provision and “forwards” strategies towards markets where the main competition lies with other national companies like Alpura, and transnationals like Nestlé or Parmalat. However, there are different scenarios, with each firm distinguishing preferential regions to sell its products and looking to reinforce key elements, such as, in this case, pasteurized milk. The important and outstanding development of LALA must not be confused with an already obsolete corporate strategy consisting of monopolistic attitudes, although it might be timely to warn of this danger that would break the scarce and costly equilibrium achieved up to now in La Laguna.

Finally, it is very important to point out that two questions have emerged from this investigation that will guide our future research. One is understanding exactly how relationships between foreign firms in the region and LALA have been built in historic terms. The other is knowing the relationships between these firms and national companies that, as we saw, also operate in the region in the supplying of inputs to the dairy chain.

REFERENCES

- Alvarez, Adolfo, Luis A. García, Carmen del Valle, and Estela Martínez. 1997. “Análisis de los sistemas nacionales lecheros de México, Canadá y Estados Unidos.” Pp. 17-45 in *Los sistemas nacionales lecheros de México, Estados Unidos y Canadá y sus interrelaciones: un enfoque socioeconómico*, edited by Luis A. García Hernández, María del Carmen del Valle, and Adolfo Alvarez Macías. México, D.F.: UNAM, UAM-Xochimilco.
- Beck, Ulrich. 1998. *¿Qué es la globalización? Falacias del globalismo, respuestas a la globalización*. Barcelona: Paidós.
- Benko, Georges. 1996. “Organização econômica do território: algumas reflexões sobre a evolução no século XX.” Pp. 50-71 in *Território, Globalização e Fragmentação*, edited by Milton Santos, Maria de Souza and Maria Silveira. São Paulo: Hucitec, ANPUR.
- Bonanno, Alessandro, Douglas Constance, and Mary Hendrickson. 1995. “Global Agro-Food Corporations and the State: The Ferruzzi Case.” *Rural Sociology* 60(2):274-96.
- Bonanno, Alessandro, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione, eds. 1994. *From Columbus to ConAgra: The Globalization of Agriculture and Food*. Lawrence: University Press of Kansas.
- Burrell, Alison. 1997. “Tendencias del mercado mundial de productos lácteos.” *Revista Española de Economía Agraria* No. 181:243-272.
- Dobson, William D. 1995. “Competitive Strategies of Leading World Dairy Exporters.” Babcock Institute Discussion Paper 95-1. Babcock Institute for International Dairy Research and Development, University of Wisconsin.
- Frobel, Folker, Jürgen Heinrichs and Otto Kreye. 1977. *The New International Division of Labour*. London: Cambridge University Press.
- García, Luis A. 1996. *Las importaciones mexicanas de leche descremada en polvo en el contexto del mercado mundial y regional*. México, D.F.: UAM-Xochimilco and US Dairy Export Council.
- García, Luis A. and Estela Martínez. 1997. “Globalización del sistema alimentario y su impacto en la política comercial.” Pp. 47-64 in *Los sistemas nacionales lecheros de México, Estados Unidos y Canadá y sus interrelaciones: un enfoque socioeconómico*, edited by Luis A. García Hernández, María del Carmen del Valle, and Adolfo Alvarez Macías. México, D.F.: UNAM, UAM-Xochimilco.
- García, Luis A., Estela Martínez, and Hernán Salas. 1999. “La transformación de la actividad lechera en México en el contexto de la globalización y la regionalización actual.” Pp. 63-86 in *Dinámica del sistema lechero mexicano en el marco regional y global*, edited by Estela Martínez B., Adolfo Alvarez M., Luis A. García H., and Ma. del

- Carmen del Valle. México, D.F.: Plaza y Valdés, UNAM.
- Giddens, Anthony. 1994. *Consecuencias de la modernidad*. Madrid: Alianza Universidad.
- Harvey, David. [1989] 1992. *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford: Basil Blackwell.
- Hiernaux, Daniel. 1996. “*¿Tempo, espaço e apropriação social do território: rumbo à fragmentação na mundialização?*” Pp. 85-101 in *Território. Globalização e Fragmentação*, edited by Milton Santos, Maria de Souza and Maria Silveira. São Paulo: Hucitec, ANPUR.
- LALA. 1998. *El impacto social y económico de la ganadería lechera en la región Lagunera*. Torreón, Coahuila: LALA.
- Martínez, Estela, Luis A. García, Adolfo Álvarez, and Carmen del Valle. 1997. “Los sistemas nacionales lecheros y el desarrollo tecnológico en América del Norte en el contexto de la globalización: problemática y propuesta metodológica.” *Revista Mexicana de Sociología* 59(2):251-267.
- McMichael, Philip, ed. 1994. *The Global Restructuring of Agro-Food Systems*. Ithaca: Cornell University Press.
- Pruneda, A. and L. Wong. 1995. “Máquinas envasadoras-cartón. Historia PURE PAK/ELOPAK.” *Revista Así Somos LALA* 2(6):9-11.
- Rodríguez, Guadalupe and Patricia Chombo. 1998. *Los juegos de poder. globalización y cadenas agroindustriales de la leche en Occidente*. México, D.F.: CIESAS.
- SAGAR. 1998. *Boletín Mensual de Leche*. México, D.F.: Centro de Estadística Agropecuaria.

**THAILAND AND THE WORLD TOMATO: GLOBALIZATION,
NEW AGRICULTURAL COUNTRIES (NACs)
AND THE AGRARIAN QUESTION***

Peter Rosset

Food First/The Institute for Food and Development Policy

Robert Rice

The Smithsonian Institution

Michael Watts

University of California at Berkeley

The fact is that the food business is entering a period of unprecedented turmoil.

—*The Economist* (1993)

Thailand has figured centrally in the catastrophic economic events of the last several years. The widely recognized problems of the Thai banking sector in 1996 and 1997 triggered a devaluation of the Thai baht in July 1997, which was followed by currency crises in Indonesia, Malaysia, Philippines, Taiwan, Korea, Estonia, Russia and Brazil. What began as a southeast Asian crisis became a Great Asian Depression, the “Asian economic flu.” In spite of the devaluations and the financial problems, however, Thailand continued to run a current account surplus. While this surplus reflects import contraction more than export expansion, the reality is that exports have not altogether collapsed despite low commodity prices.

A part of the Thai growth machine, and a sector which remains a source of exports even during the crisis of the last two years, has been the agro-food sector. Thailand emerged not only as an erstwhile aspirant to the mantle of “a new NIC” (new industrial country), but also as an aggressive player in the new global agro-food economy, the “food business” as *The Economist* calls it. In this article we explore the genesis and character of the so called “new agricultural countries” (NACs), focusing on Thailand in particular and exploring some of the dimensions of both turmoil and growth in the agro-food economy. We begin with a brief overview of the rise and character of the NACs, turning then to the Thai case and its peculiarities and form. The second section explores the general question of how

* Direct correspondence to: Peter Rosset, Food First/The Institute for Food and Development Policy, 398 60th Street, Oakland, CA 94618 USA. Telephone: 510-654-4400, Fax: 510-654-4551, E-mail: <rosset@foodfirst.org>. The authors would like to express their thanks to Banpot Srichantrantit for field assistance, and to the staff of Focus on the Global South at Chulalongkorn University in Bangkok, for logistical support. This work was funded by the Pacific Rim Research Program of the University of California.

and in what senses are the NACs genuinely global in their agro-food sectors and what are the sorts of production and institutional relationships which characterize agro-food *filières* or commodity chains. These questions are then explored in detail using the case of hybrid tomato seeds and processing tomatoes in Thailand. We end this piece by drawing connections between our findings and Kautsky's "agrarian question" of a century ago.

HIGH VALUE AGRICULTURES AND NEW AGRICULTURAL COUNTRIES [NACs]: WHAT SORT OF NAC, THAILAND?

An assumption of research on transnational processes and agrarian-food orders is that the "old" or classical international division of labor within the agro-food system has been irretrievably altered in the last twenty-five years. Classical export commodities like coffee, tea, sugar, tobacco, and cocoa have been increasingly displaced by so-called "high value foods" (HVF) such as fruits and vegetables, poultry, seeds, dairy products and shellfish. During the 1980s, the aggregate value of world trade in cereals, sugar and tropical beverages declined, quite dramatically in some cases; conversely HVF grew by 8 percent per annum. In 1989 HVF represented 5 percent of world commodity trade, roughly equivalent to crude petroleum (Jaffee 1994). Developing economies currently account for over one-third by value of HVF production, roughly twice the value of Third World exports of coffee, tea, sugar, cotton, cocoa and tobacco. In 1990 there were 24 low and middle income countries which annually exported more than US\$500 million of HVFs, mostly located in Latin America and Asia. But four of these countries actually account for 40 percent of total HVF exports from developing states. These countries correspond to what Friedmann (1993, 1994) refers to as "new agricultural countries" (NACs), the agro-industrial counterparts of the NICs, who occupy a central location in what she calls the durable foods, fresh fruits and vegetables, and livestock/feed complexes. Archetypal examples of these new agro-food systems are Brazilian citrus, Mexican "non-trationals" and "exotics," Argentinean soy, Kenyan off-season vegetables and Chinese shrimp (see Watts 1994a, Kimenyi 1993, Jaffee 1994, Friedland 1994).

The debate over the rise of the NACs, parallel in some respects to the 1980s work on the Asian Tigers of Taiwan, Singapore, South Korea and Hong Kong, turns on the purported successes of commodities such as Mexican tomatoes, Central American exotics, Brazilian soy, Thai poultry and seed multiplication (see McMichael 1995). What is striking in all of these cases is: (i) the extent to which, in some cases, domestic consumption was key in a purportedly export-led strategy, (ii) the importance of local private, as much as foreign, capital, (iii) a high degree of concentration in export-oriented production, processing and marketing (Heffernan and Constance 1994), and (iv) the prominence of contract production and/or vertical integration in linking farm-level production and downstream processing and trade (Watts 1994a). Of course the emergence of high value agriculture is highly uneven, like "Third World" manufacturing itself, and the underbelly of new agricultural countries is agricultural marginality.

Thailand offers an intriguing case which has been put forth both as an example of a second or third generation NIC (Muscat 1994; Phongpaichit and Baker 1995; 143), and as a quintessential NAC (Burch 1996), or NAIC (new agro-industrializing

country; see Bello et al. 1998). For while Thai manufactured exports multiplied an astounding twelve times between 1985 and 1996, Thailand had earlier achieved a preeminent position as the world's number one rice exporter and had diversified its agroexport economy from there (Phongpaichit and Baker 1998:5-6.). While the Thai export boom, and indeed the bust that followed, were certainly impressive by any standards, a close examination of the evolution of post-war development policy by the Thai state reveals, in contrast to the typical NICs, a heavy emphasis on agroexport promotion, with input substitution manufacturing, as the *sine qua non* of modernization (Phongpaichit and Baker 1995, 1998). This provided the basis for the boom in manufactures, which began with forward and backward linkages to agriculture via inputs and processing. Many of the key domestic conglomerates who participated in the manufacturing boom cut their teeth in agroindustry.

While high population densities and scarce land helped push the four Asian Tigers toward a central role for manufactured exports, the extensive, unopened agricultural frontier in the northeast made agricultural development the most logical policy for Thailand. During the Vietnam war, US aid reinforced this tendency, as strategic air bases were located in the northeast, also the site of a guerrilla insurgency led by the soon-to-be smashed Communist Party of Thailand (CPT) (Phongpaichit and Baker 1995, 1998). The later boom in manufacturing may be more attributable to the relocating of Japanese capital following appreciation of the Yen than to NIC-style development policy, in contrast to the Thai government's more active early role in setting the table for various stages of agricultural export diversification (Phongpaichit and Baker 1995, 1998; Burch 1996).

Massive forest clearing and population resettlement and many large, medium and small-scale irrigation projects during the 1960s and 1970s opened the northeast region, known as Isaan, to rice cultivation, helping Thailand hold onto and consolidate its position in the global rice trade (Table 1; Phongpaichit and Baker 1995, 1998). A wave of state supported diversification which began in the 1970s built upon the rice economy through this dry season irrigation, tied to the promotion of HVF commodities such as frozen and canned fruits and vegetables, vegetable seeds and poultry, most of them contract farmed. Between 1981 and 1990, the export of poultry and poultry products grew by 55 percent annually, that of canned pineapple by 27 percent and canned baby corn by 17 percent, also annually (Burch 1996:323).

Yet Burch (1996) points out that while this spectacular growth fits the NAC model in many respects, in other ways it deviates from a more simplistic interpretation of it. Thailand has, for example, remained a dominant exporter of basic foodgrains, in contrast to the NAC model under which we might have expected it to become dependent on northern countries for the import of essential foods. Perhaps most surprising is the predominance of Thai, rather than transnational, capital in most of the HVF commodities, as seen in Table 2, contrary to the expectation of subordination to transnational enterprises.

In fact the whole pattern of export growth, both in manufacturing and in agriculture in Thailand, is quite different from the state-led, or 'governed market', experience of the first wave of NICs (i.e. Korea), from the state and foreign capital-led pattern of the second generation NICs (i.e. Malaysia), and from the foreign

Table 1. Growth of Irrigated Area in the Northeastern Region Thailand (millions of Rai)

Year	Large- and Medium-scale	Small-scale
1961	0.658	n.a.
1967	0.688	n.a.
1972	1.281	n.a.
1977	1.395	0.033
1982	2.002	0.809
1987	2.478	1.471
1988	2.428	1.537
1989	2.468	1.659
1990	2.547	1.759

Note: 1 rai = 1600 m².

Source: Royal Irrigation Department.

Table 2. Thai Capital as Percent of Total Investment in Selected Agri-Food Sectors, 1990

Sector	Percentage of Thai Capital in Total Investment
Large-scale cultivation	88
Processing of:	
rubber	88
tobacco	63
woodchips	77
fruit & vegetables	86
seafood	84
milk & dairy products	48
poultry for export	84
Animal feed	77
Cooking oil	77
Aquaculture	79
Vegetable seeds	61

Source: after Burch (1996: table 18.2).

capital-led model in Latin America. For manufactured exports, Phongpaichit and Baker (1995, 1998) describe a Thai pattern with a state that is far less interventionist than some Asian counterparts, though certainly playing a stronger role than in Latin America. The lead role in each wave of export diversification has been taken by domestic Thai capital, usually associated with powerful Chinese-immigrant capital groups. Typically, domestic investors have pushed the state to support activities that they are already undertaking.

For the most part, these capital groups extended backwards or forwards from existing enterprises through upstream production of components or downstream

value-added. They usually purchased foreign technology, or actively sought out joint ventures to supply technology. Only later have certain sectors been thoroughly penetrated by foreign transnational corporations (TNCs), who have sometimes then pushed out or bought out the Thai pioneers. In this regard Thailand resembles South Korea but without a dirigiste/military state apparatus and without the Korean type of state ownership of industry and tight regulation of credit.

Table 3 shows the recent history of the export agriculture economy, which accounted for fully 70 percent of export earnings as recently as 1970. With the manufacturing boom of the 1980s and 1990s the contribution of agricultural exports to total exports dropped to 16 percent by 1995. This was not due to stagnation of the agricultural economy, as agricultural exports continued to grow at a rapid clip; they were simply dwarfed by the growth in manufactured exports, which did include some agro-industrial exports. Rice maintained a key position throughout this time period, fluctuating between a one-quarter and one-fifth share of agricultural exports, while HVF exports took off in the late 1970s with fruit and vegetable products, whose export share actually exceeded that of rice during much of the late 1980s and early 1990s, and meat and poultry products.

Rice was the first major agricultural export, and early on rice trading conglomerates back extended into agricultural inputs (Phongpaichit and Baker 1995, 1998). With state supported irrigation they then diversified into dry season crops in a series of investment waves. Table 4 shows how Thailand first achieved global dominance in canned pineapple, followed by diversification into poultry meat and frozen vegetables. Fresh tomatoes were the basis for backward extending into seeds and forward extending into tomato juice and paste, followed by canned baby corn. Baby corn began as a way to utilize idle machinery at tomato canning plants, as the harvest seasons do not overlap, but eventually eclipsed tomato products in terms of dollar value (Table 4; and Yao and Chiou interview 1998).

The Northeast Agriculture Co. Ltd. (NACO) built the first tomato processing plant in the northeast, which opened in 1987. The technology was bought on a turn-key basis from a leading Italian manufacturer (Becker 1989). The principals included leading Thai producers of canned pineapples (31.5 percent) and processed tuna (10 percent), as well as a local landowner (20 percent), and counted on additional financing from the Asian Development Bank (15 percent), the International Finance Corporation of the World Bank (13.5 percent), and the Thai Military Bank (10 percent) (Asian Agribusiness 1987). This was a typical Thai case with domestic capital taking the lead, building on experience in related industries, and seeking foreign sources of technology and capital.

More recently, market forces have affected the tomato paste industry in the northeast. Rising labor costs in Thailand and competition from China in the low grade end of the paste market caused four of Thailand's fourteen tomato processors to go out of business between 1995 and 1998 (Yao and Chiou interview 1998; and Kowithayakorn interview 1998). Perhaps the strongest competitor among those left is a relatively late arrival, the Thai Soon Co., which is owned from Taiwan and partially financed from Japan. Thai Soon is a premium, "custom" paste manufacturer for high-end clients in Japan and elsewhere. Each batch is custom ordered by buyers, at a premium price, with the buyers specifying all details of the produc-

Table 3. Total and Selected Agricultural Exports from Thailand, 1970-1995 (in millions of US dollars)

Year	Total Agricultural Exports		Rice Exports		Fruit and Vegetable Products		Meat and Poultry		
	Value	Percent Of Total	Value	Percent Of Ag. Exports	Value	Percent Of Ag. Exports	Value	Percent Of Ag. Exports	
1970	708	494	70	121	24	78	16	0	0
1975	2377	1490	63	287	19	281	19	1	0
1980	6505	3344	51	953	28	922	28	33	1
1985	7122	3202	45	829	26	885	28	63	2
1990	22972	5388	23	1086	20	1521	28	314	6
1995	56442	9022	16	1952	22	1492	17	550	6

Source: FAO-STAT, 1990-1998.

Table 4. Selected "High Value" Agricultural Exports from Thailand, 1970-1995 (thousands of US dollars)

Year	Canned Pineapple	Poultry Meat	Frozen Vegetables	Fresh Tomatoes	Tomato Juice and Paste	Canned Sweet Corn
1970	2661	0	0	0	0	0
1975	16971	560	0	0	0	0
1980	69948	32508	34	1	65	0
1985	121219	63048	159	592	14	0
1990	216788	308358	9722	232	3714	26
1995	234125	533483	47216	298	3478	9204

Source: FAO-STAT, 1990-1998.

tion process, from seed variety and soil preparation, to agrochemical use and processing specifications. Japanese customers make frequent and long site visits (Yao and Chiou interview 1998). Foreign companies are now beginning to displace the Thai pioneers as happened often in the manufacturing sector, even as the basis of Thai competitiveness may be evolving from cheap labor to quality.

The Thai HVF model clearly differs from the classic Brazil-style NAC model in a number of ways. The persistence of basic grain production, the dominance of manufacturing over agriculture, the persistence of domestic capital, though that may change, and the step-by-step evolution from one related industry to another are all key 'deviations'. Yet Thailand is not a typical NIC either, with its strong base in agriculture and a weaker state role. However, world market conditions have recently had dramatic impact on the Thai economy. Rising labor costs and the impact of competitors, like China, have damaged the competitiveness of Thai companies, just as the market forces, and the aggressive role of hedge funds in particular, played a role in the much heralded collapse of the larger Thai economy in late 1997 (Phongpachit and Baker 1998; Bello et al. 1998).

The Thai 1997 economic collapse, ironically, may have benefited HVF exporters. Interviews in mid-1998 with tomato processors (Yao and Chiou interview 1998) and seed industry representatives (Chompradit and Kowithayakorn interviews 1998) revealed that baht export earnings from sales were up as a result of the devaluation. Costs had risen somewhat, but had not kept pace with sales, as only part of production costs, such as agrochemicals supplied to growers by purchasers, had foreign exchange components. Furthermore, the collapse of industrial and other urban employment had reversed rural-urban population flows, with as many as 20 percent more able bodies now present in villages and available for agricultural labor. This reversed a situation observed only three years earlier when seed companies and processors reported difficulty in find enough farmers to take contracts. In 1998 the farmers were queuing up and the purchasers could have their pick, thus enabling them to suppress production costs.

GLOBAL FILIÈRES, GLOBAL COMMODITIES: ARE THE NACs GLOBALIZED?

The Thai experience and the debates over HVFs and the so-called “new agricultures” pose a number of questions concerning the relations between the NACs, HVFs and the globalized and de-regulated agro-food system of the 1990s. The first concerns the relation between agricultural restructuring and regulation. The food regimes literature (Friedmann 1993, 1994), which starts from the presumption of a relatively stable, rule-governed food order, has seen the period since the oil/wheat crisis in 1972/73 and the collapse of Bretton Woods as a transitional period in which the dominance of transnational agri-capital and de-regulation are the precursors of a new, if unstable, food regime. This transition has necessitated “the restructuring of national agricultures and shifts in the regulation of food production and consumption” (Raynolds et al. 1993:1106). Implicit in this sort of analysis is the hegemonic role of global capital circuits (transnational agri-capitals), the standardization of diets, new forms of international division of labor, a distinctive social economy, regional specialization, global sourcing, the homogenization of production conditions, and the undermining of state autonomy (Raynolds et al. 1993:1103). The role of GATT, NAFTA and the hegemonic role of multilateral lending agencies signals, in this view, the ascendancy of “private global regulation” (Friedmann 1993:52).

While it would be wrong-headed to deny the extent to which agricultures have been de-regulated in the last decade, the pace and direction of liberalization remains uneven and underdetermined. The NAFTA reforms are far from an unalloyed championing of tariff reduction and free trade (Goodman and Watts 1994). According to an OECD study (*The Economist* 1995), total state support to agriculture in 1994 was, with one exception, *higher* than the 1979-1981 average. By the same token, de-regulation in the agrarian sector has typically been accompanied by re-regulation elsewhere within the sector, especially in the area of diet, health and the environment (Marsden and Wrigley 1994).¹ In this sense, Raynolds et al. (1993) are right to point to the multiple trajectories associated with

1. Some interesting applications of French regulation theory to the re-regulation of national agricultures have been undertaken by a group of INRA in Toulouse (Allaire and Boyer 1994).

agrarian internationalization in which the state continues to play a central role in domestic restructuring and negotiating a competitive global environment.

A second concern speaks to the nature of globalization and global commodity chains in agro-food. Globalization of agro-industrial corporations has clearly accelerated; the affiliates of the world's one hundred largest firms increased in number from 2070 in 1974 to 5173 in 1990 and in value from US\$121 billion to US\$517 billion. The number of sources and host countries also increased. However, growing competition within this sector has produced increased cross-investments within OECD, more than a search for global sources or new markets in the South (Rama 1995). Indeed, partly due to the 1980s recession, there was a *reduction* in direct agro-food investment in Latin America, Africa and South Asia. While this capital mobility has resulted in the centralization of power by retailers, with the share of the ten largest food retailers in Belgium, the UK, Spain and the US amounting to 79, 78, 66 and 65 percent of total sales respectively, it does not suggest the uniform emergence of global commodity chains in agriculture along the lines argued by Gereffi (1994) for automobiles (producer driven) and textiles (retail driven).

Indeed the very nature of globalization with the agro-food system is problematic and often confusing. If globalization is to refer to the spatial configuration of markets, deterritorialized corporations, new forms of corporate and inter-firm organization exemplified by strategic alliances and networks, with the paradigmatic cases being electronics and automobiles, then the agro-food sector is clearly *not* global in any simple sense. In spite of the claims by Bonanno et al. (1994) and Friedland (1994) that fresh fruits and vegetables are "truly transnationalized" and "global production systems," it is clear that the industry is not characterized by intra-firm, vertically-integrated, transnational production systems. Neither do key firms centrally coordinate global intra-firm divisions of labor involving global outsourcing (Goodman in press). The likes of ConAgra and Cargill are in many cases exemplary of multinational "multi-domestic" strategies rather than sourcing through centralized, global intra-firm production systems. Work by Gouveia (1994) suggests that the much vaunted parallel between the world car and the world steer is also misplaced; the key corporate actors have greater similarity with mercantilist trading companies and "Swift-type ventures minus the direct overseas investment" (Gouveia 1994:136). Some of the food processors and retailers have been and are aggressively global, Kentucky Fried Chicken, McDonald's and so on, but they must be located on a much more nuanced and heterogeneous map of commodity *filières* or chains within the agro-food system (Storper and Salais 1997).

Examining cross-border integration mechanisms and international production organization more closely, the UNCTAD-PTC (1993) refers to a spectrum from stand-alone or "multi-domestic" affiliates to "simple integration" and, more recently, "complex integration."² The TNCs provide the formative dynamic element

2. Briefly, in the case of "simple integration," parent firms integrate specific production activities performed by their affiliates into their value-added chain, notably through outsourcing. In contrast, the more recent "complex integration" strategies potentially integrate all parts of the value-added chains of both parent firms and their affiliates through vertical and horizontal production and functional linkages. Affiliates thus become more highly specialized as their activities are subordinated to the demands of firm-wide strategy.

in this movement as they respond to competition, policy developments, and institutional change, and so, in turn, help to shape and deepen international economic integration. There are, in short, a number of varied forms of corporate international production subsumed under the composite label of globalization: “multi-domestic” affiliates, simple integration through outsourcing, and complex, vertically and horizontally integrated systems, exemplified by leading TNCs in electronics and automobiles. These differences across sectors are significant in conceptual and empirical terms; nevertheless, the label “globalization,” with its allusions to outsourced international production and intra-firm integration, has become common currency in agro-food studies. Admittedly, a select group of giant food TNCs, like Coca Cola, McDonald’s, Kellogg’s, Nestlé, Unilever, with global brand names, have evolved global marketing strategies, albeit with adaptation to local tastes, but production typically is locally based. Few food manufacturing companies or retailers conform to the industrial model of transnationalization; that is, centralized, global intra-firm divisions of labor, with production-based sourcing of intermediate components from specialized sites for final assembly.

This raises the question, then, of the senses in which the Thai NAC strategy, as atypical as it is in relation to other classical NACs, is globalized, or put differently, can be understood as a sort of exemplary case of globalization comparable to the world car or the world steer. In addition, the following account of tomatoes highlights some of the other key characteristics of the HVF sector, namely forms of vertical co-ordination through contracting, the dispersion of risk and costs onto the growers, and the institutional ways in which local and foreign capital collaborate.

THAI AGRO-FOOD AND GLOBALIZATION: THE WORLD TOMATO IN NORTHEAST THAILAND

“Hybrid seeds built this house...”
—*a village farmer*³

The northeastern Thai region of Isaan is a low-lying zone long characterized by rain-fed rice production, harsh living conditions, and grinding poverty (Boontawee

UNCTAD-PTC (1993) estimates that roughly 35 percent of the productive assets in the United States and Japan “are potentially part of integrated international production,” while “the share of world output potentially subject to integrated international production may well be around one-third.”

3. The comment of a woman (Mrs. Hom) in the village of Ban Non Wamphai, as she talks about pesticide use in the production process. Her husband, Mr. Hom, said the Department of Health tested his blood and told him they detected pesticides – suggesting he stop his exposure. He says he can’t. Hybrid seeds are his livelihood. There is no other job he can do. He rents land (he’s landless) and has become a fairly good hybrid seed producer. His 11 kilograms per 120 wah² (equivalent to more than 36 kg per rai) represent the highest yields of the entire village (for the year 1995). It is a distinction of which he is obviously very proud. Yet, he, too, must borrow money. He borrows from one source to repay another, maintaining a constant cash flow into and out of his family finances.

1994). Rainfall distribution allows for one rice crop per year, a factor that has led to tremendous outmigration from the region to other parts of Thailand and neighboring countries. The introduction of water management schemes since the 1950s has allowed for two rice crops in some areas, as well as the establishment of contract farming in the dry season. At the national level, the Isaan has traditionally been a backwater region neglected by the central Thai government. Thai experience with dry season tomato production provided the basis for seed production, and later diversification into tomato processing. The former case departed from the typical Thai export development pattern described above, as the initial impetus and production experiences came at the hands of transnational companies. But Thai sub-contracting companies later came to dominate the seed sector (Table 2). Processing tomatoes, on the other hand, have more closely adhered to the typical pattern, as discussed in the first section above.

In the specific case of quality hybrid vegetable seeds, the production process is complex and delicate. Operation sites and production conditions linked to major transnational seed companies provide a glimpse of the ways in which production and distribution of an increasingly important upstream component of the agro-food complex, hybrid fruit and vegetable seeds, fit into recent changes associated with the global complex. The commercial production of hybrid seeds for certain crops, among them tomatoes, cucumbers, cantaloupes, watermelons and peppers, relies upon the tedious operations of hand emasculating and pollination of individual flowers. These labor intensive tasks have led internationally positioned seed companies to seek cheap labor markets in the developing economies of the South.⁴ Since the 1950s, when hybrid tomato seed production was driven from Japan's rural sector because of competing industrial wages, companies have either located their own production, or more commonly contracted with local companies, successively in Taiwan, Chile, Thailand, and, most recently, Vietnam and China.

A common production arrangement in each of these cheap labor markets features some form of contract farming with small producers. At the same time, however, the ecological conditions, usually a pronounced dry season during which disease-free production can occur, must suit the demands of seed companies. The production of hybrid fruit and vegetable seeds in northeast Thailand, contoured by the concerns capital interests maintain about product quality, suitable ecological conditions for production, and labor discipline, offers a window through which to view a small portion of the global organization of this specialized and profitable sector.

Before focusing on the production conditions of hybrid fruit and vegetable seed in this region, it is worth exploring the consumption of such products, using tomato seeds as an example, at a global scale.

Seeds: Assessing the Market

Industry representatives refer to the North American market for hybrid tomato seeds as being saturated. Whether seed for fresh market or processing tomatoes, upwards of 90 percent of all tomatoes produced in the United States are hybrid varieties.

4. The term "the South" here refers to developing countries, those which have heretofore fallen within the category "Third World."

Similar conditions hold true for the European market. Yet, the current status of demand for high-value hybrid tomato seed is seen as being linked to a market in ascension. Recent decades have seen a substantial increase in the production and trade of fresh fruits and vegetables. Total world exports of fresh fruits and vegetables have grown at an average annual rate of 3 percent since 1979, reaching 41.5 million metric tons and valued at US\$18.6 billion in 1988 (Buckley 1990:17). But seed trade data *per se* remain elusive at all levels. Moreover, hybrid seed sales and trade are not separated out from those scant data that do exist, making accurate assessment of the hybrid fruit and vegetable seed market very difficult.

A survey aimed at the major hybrid vegetable seed companies based in North America, Asia, and Europe in 1994 addressed this issue. Marketing and sales division representatives, as well as industry researchers, were asked to estimate the degree to which hybrid tomato seeds dominant total tomato seed sales by “developing world” region. The estimates in Figures 1 and 2 reflect sales data, and represent the “best estimates” available from company personnel positioned to provide such information. Given that the global hybrid vegetable seed industry derives from the three industrialized centers of the globe, Japan, North America, and Europe, the survey responses are grouped by geographical headquarters of the company personnel providing the estimates. A total of fourteen international seed firms responded, with four, five, and five companies giving percentage estimates from Japan, Europe, and North America, respectively. The results show that indeed there is substantial room for growth for hybrid seeds for both fresh market and processing tomatoes in the non-industrialized economies around the world.

Exploring Seed Production

The case of northeast Thailand provides an example of how NACs participate in the global agro-food complex, and how this participation relates to the transnational seed companies’ goal of remaining competitive in a specialized market through capturing low cost production conditions in a remote area, while at the same time insisting upon and obtaining a quality product in the form of hybrid tomato seeds. Production relations pass through contract agreements between individual peasant farmers and the companies. Northeast Thailand has emerged over the last fifteen years as one of the most important locations on the globe for production of hybrid vegetable seeds of specific families demanding intensive labor. Some of the world’s largest seed firms have appeared upon the scene, taking advantage of the ecological and labor conditions that characterize the Isaan. International companies from the United States, Europe and Japan have representation in this heretofore neglected and agri-capital-poor region of Southeast Asia. Since its inception, the model has relied heavily upon “surrogate” companies of local (Thai) or regional (Taiwanese) origin to handle the headaches of production.

Efforts to initiate production began in the 1970s. Early interest by companies like Goldsmith and Petoseed placed northeast Thailand high on the list of possible areas for expanding production. A symposium in Taiwan at the Asian Vegetable Research and Development Center sponsored a field trip to the area in 1976, generating increased interest on the part of other international companies. Major concerns included honesty of potential contractees and manual dexterity for the work involved. Training of villagers interested in producing seed proved possible, while

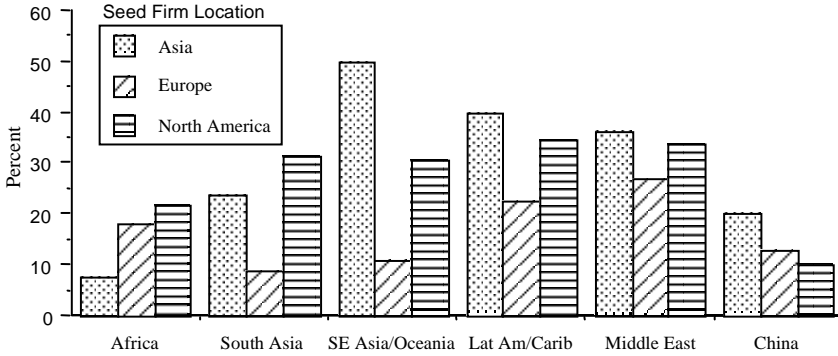


Figure 1. Regional Estimates of Hybrid Fresh Tomato Use, by Location of Seed Firm (based on market sales)

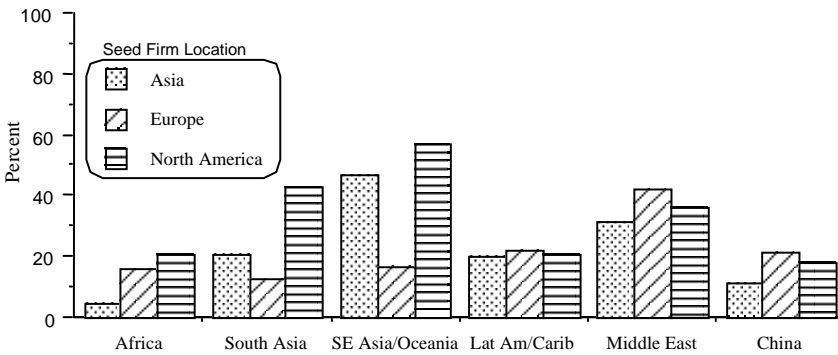


Figure 2. Regional estimates of Hybrid Processing Tomato Use, by Location of Seed Firms (based on market sales)

remote villages attracted attention because of firms’ concerns about trust around the issue of emasculation of flowers. In 1977, with a target quota of 500 kg of seed production, Petoseed managed to obtain only one tenth that with four or five villages participating. The following year saw the 500 kg goal reached, with 1970 seeing production exceed 2000 kg. By 1980, with production aimed at 3000 kg, the area apparently secured its place on the world map of hybrid seed operations when 9000 kg left the villages. The rush was on for other companies to get into northeast Thailand (Thaworn Kowithayakorn, personal communication).

Near the regional center of Khon Kaen, the US-based seed company Petoseed, then owned by the George Ball Seed Company, began producing hybrid tomato seed in 1979 by contracting with Adams International via a third company from Taiwan. By 1984, Asgrow had initiated relations with local Thai firms such as Uni-

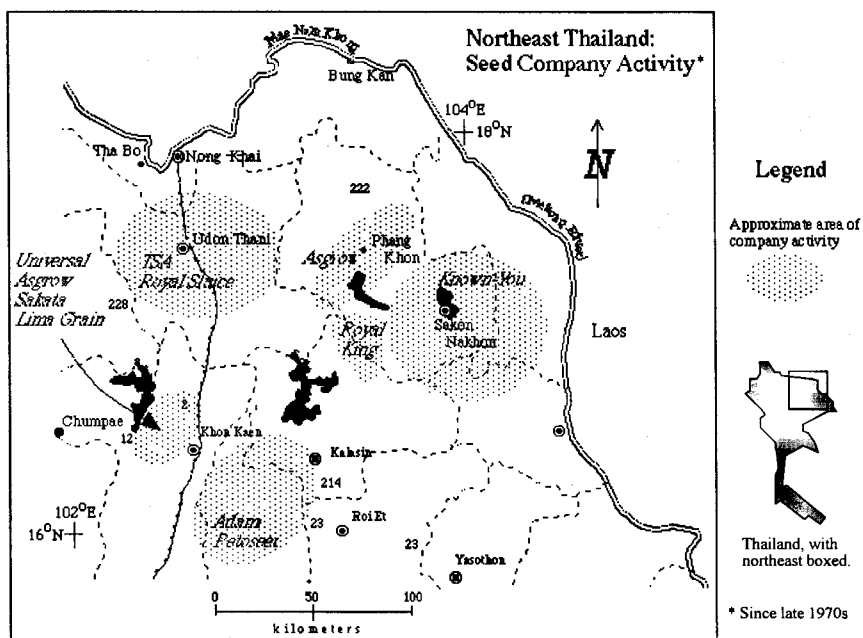


Figure 3

Figure 3. Seed Company Activity in Northeast Thailand

versal Seeds, with operations in the Khon Kaen area, and Thai Seed and Agriculture Company (TSA), active to the north around Udon Thani (Figure 3). Two years later, Asgrow Thailand was founded and direct contracting with growers began in earnest.

Today, most local firms continue to have production arrangements with foreign interests, with Taiwanese firms playing a major role. Known-You Seed Company of Taiwan established a subsidiary in Thailand in 1984 and still operates around Sakon Nakhon (Figure 3), producing for its parent company. That same year Hsin Seeds Company was founded as a joint venture between Thai and Taiwanese (Ching Chong Seeds) interests. For the first two years, Hsin contracted no growers, as attention and efforts went to train the staff. The first year of farmer contracts for Hsin saw only 150 growers producing seed for the company. Today, some 1000 farmers produce for Hsin under contract on about 1700 to 1800 rai. The lion's share of this area is planted in watermelon and cantaloupe, plants that, due to the size of the flowers, are easier to work with than the smaller-flowered solanaceous crops like pepper and tomato (Table 5). Tomato area contracted by Hsin Seeds has fallen from 300 rai (1 rai = 1600 m²) three years ago to only 50 today (Watcharawut Sawamis, personal communication).⁵ Sakata Seeds of Japan associates with Ag-

5. Other Thai capital has also taken advantage of the seed production conditions of this area. The Known-You Seed Company, for instance, located in Chang Mai in northern Thailand, ranks as the largest seed company in the country in terms of sales. Many of its seeds are

Table 5. Area contracted (in rai) for Hybrid Vegetable Production in North-east Thailand by Hsin Seed Company, 1995

Seed Crop	Area (rai)
Pepper (sweet/bell)	300
Cantaloupe	550
Watermelon	550
Cucumber	150
Eggplant	20
Tomato	50

Note: 1 rai = 1600 m².

Source: Field notes and interview with Watcharawut Sawamis, Managing Director of Hsin Seeds in Khon Kaen, August/September 1995.

Universal Seeds via a joint venture called Sakata Siam, while Japan's other seed giant, Takii, works closely with TSA. Adams Enterprises Ltd. holds shares in East-West Seed Co., producing for a wide range of US and European customers. Sluis and Groot, a Dutch firm, has production relations with Hsin Seeds Company (Simon Groot and Thaworn Kowithayakorn, personal communication).

Asgrow obtains 90 percent of its hybrid tomato seed for global sales from Thailand, with most of this production derived from the Isaan. Throughout the country, Asgrow draws from 5000 rai, or 800 hectares. About 2000 rai are planted in this region, with 450 devoted to tomato seeds and the remainder divided between watermelon and cantaloupe seeds. Production upon these 2000 rai in northeast Thailand is mediated through 2000 individual contracts with growers in the region, and overseen by some 200 field technicians. Twenty percent of this production area falls around the city of Khon Kaen, and 80 percent lies in the Sakon-Nakon region to the east (Visut Chompradit, personal communication).

Thus we see a strong presence of foreign capital in the hybrid seed business of northeast Thailand, the activities of which are colored by the unusual demands of the production. Production of certain hybrid vegetable seeds, especially tomato seeds, is difficult. Given the physiological constraints of the plants involved, and what has to be accomplished in order to make the genetic crosses for the desired hybrids, intensive and dexterous manual labor forms the central core around which production revolves. Tomato flowers are small. In order to create a hybrid cross, plant breeders develop two "parent lines." These are lines that breed true for specific traits, such as color, shape, skin thickness, solid or sugar content, that plant geneticists want expressed in the hybrid. Such lines are selected and developed by the research and development section of the seed companies and usually perfected in corporate greenhouses facilities. Once these lines are developed, the pollen from one line is placed onto the flowers of the other line. The fruits that set and grow from such a cross contain seeds that produce plants and fruits with the desired characteristics.

produced in northeast Thailand, especially around Sakon-Nakon and Kalasin – towns to the east of Khon Kaen.

The nature and success of hybrid tomato seed production, as well as that of a number of other vegetables, rests upon intensive manual labor. The heavy labor demand stems from tomato breeding techniques, the structure of the tomato flower, and the temporal aspects associated with flowering. Growers must conform to the companies' designated tasks in terms of actual physical operations and strict schedules. For instance, the first several flowers to emerge on a tomato plant must be removed, an operation that corporate researchers have determined increases the overall production of given plant, yet a practice that a grower might see as contradictory to production. Furthermore, once an average of 40 to 45 flowers have successfully been crossed and the fruit set, subsequent flowers must be removed.

The actual crossing of the lines demands intensive, back-breaking labor. The two lines are grown in separate plots or rows. The labor involves collecting the pollen from the "father" line and keeping it dry and viable until the cross is to be made, usually a matter of days. All flowers belonging to the "mother" line, those plants designated to receive the pollen and produce fruit and ultimately the hybrid seed, are emasculated. Emasculation entails opening the flower about three days prior to its natural flowering date and removing the anthers. This operation assures that no self-pollination occurs, a process that would produce non-hybrid seed and affect the purity of the final product. Diligence and honesty on the part of the farmer, and any family or hired labor involved in this stage, is of utmost concern to the company.

Issues of the purity and germination rate of the final seed product fuel the quality control and farmer discipline concerns of the companies. A company selling hybrid seed around the world cannot afford to have (1) low germination rates or (2) non-hybrid plants associated with the seed they sell. To that end, contract agreements stipulate a host of conditions to protect the company against having to pay for low-quality product or worry about germplasm – i.e., parent line materials – getting into the public domain where costly research/development of a particular hybrid could be thwarted in a matter of years through unregulated production. To protect against the "escape" of germplasm, such that production of certain hybrids could occur outside a company's control, firms insist upon the destruction of parent lines in the field once crosses are made. After pollination operations are completed by farmers, companies retrieve the equipment used in these activities.

Once hybrid seeds are harvested and processed, which involves holding the picked fruit for three days in bags, screening and washing the seeds with water, another washing with carbolic acid, and drying them for three days in the open and dusting them with fungicide, a grower delivers the seeds to the company. Producers rarely receive full or immediate payment. Payment schedules are linked to tests that determine germination percentages and purity of the hybrid seeds. Some contracting companies allow for partial payment to be made upon delivery; others insist upon tests being conducted prior to any payment. Often the first payment (50 percent of the contracted price) is made shortly after delivery, once germination percentage is determined. Companies demand 90 percent germination. The balance payment comes after purity tests are conducted. Purity of a farmer's seed is determined by sampling the entire batch, and either growing tomato plants from the seed sampled, or conducting electrophoresis on the seed sample (Visut Chompradit, personal communication).

Of course, not all farmers can live with such conditions. Whether due to inability or unwillingness to conform to company demands, companies generally see a 12 percent attrition rate from year to year with farmers involved in production. Moreover, demonstrated success in production is rewarded only up to a certain point. For instance, once the price is set at the time of the contract, a company pays said price for up to the 120 percent of the contracted amount, a figure calculated from the number of plants put in the ground. If a grower delivers more than 120 percent of the anticipated weight, the company pays about 30 percent less than the set price for anything up to 150 percent of the contracted amount. The price paid for any production exceeding 150 percent of the anticipated weight is negotiated.

Tomato Farmers

In 1995 and 1996 we surveyed 111 tomato farmers in the Isaan, including 35 seed producers and 76 growers of processing tomatoes (Table 6). Of the seed producers, 75 percent contracted with two seed companies, and contract farming, whether for seed or fruit production, accounts for the primary source of income for 80 percent of them. Those involved in tomato seed production devote an average of 0.39 rai, an area equivalent to 25m by 25m, to this effort. The net income derived from tomato seeds averages slightly more than 17,000 baht, equivalent to US\$680 at the 1995-96 exchange rate of 25 baht to the dollar. Growers of processing tomatoes devote seven times more land, an average of 2.72 rai, to this much simpler and more extensive form of tomato cultivation. Their net incomes are higher, averaging 30,000 baht.

For those farmers producing tomato seed, interview data reveal that 69 percent of the total income comes from contract farming, while 69 percent of respondents have grown cantaloupe for seed and 26 percent have grown tomatoes for processing. All other farming, including rice production, accounts for just under 25 percent of total income. Overall, more than 85 percent of the tomato seed farmers report that they feel wealthier at present than in the past. As for plans related to future planting of tomatoes for seeds, 49 percent responded that they plan to increase the area currently devoted to seed production, while 11 percent said they would decrease it. Twenty-nine percent reported that they would leave it the same. Processing tomato growers earned 63 percent of their total income from contract farming, with 24 percent coming from all other farming. Eighty-four percent of the respondents reported feeling wealthier now. Only 38 percent said they would increase the area devoted to tomatoes, while 49 percent said they would leave it the same.

More than 97 percent of seed producers receive inputs from the contracting buyer, and the same percentage report that credit or advances are conditional upon using pesticides in the production process. While growers belong to village associations and groups are well organized around many local issues, the vast majority of contracted seed producers (94 percent) negotiate the terms of their contracts as individuals. Reflecting a lower intensity relationship, only 33 percent of processing tomato growers received inputs from the buyer, while 55 percent received credit from cooperative banks and only 65 percent of their credit was conditional upon use of pesticides. Unlike their seed producing counterparts, only 51 percent negotiated their contracts alone while 41 percent did so as part of a vil-

Table 6. General Profile of Farmers Involved in Hybrid Tomato Seed or Processing Tomato Production in Northeast Thailand, 1995-1996

	Tomato Seeds	Processing Tomatoes
Number of observations	35	76
Years involved in contract farming	5.2	7.4
% for whom contract farming is primary source of income	80	68.4
% who planted tomatoes for seed/processing*	58	67
Area planted (rai)	0.39	2.72
Typical yields (kg/rai)	13.15	n.a.
Typical prices (baht/kg)	2274	n.a.
Net income from tomatoes for Seeds/processing (baht)	17135	30107

* averaged over three years (interview year plus two previous years).

village group or cooperative.

The importance of contract farming in general and of tomato seed production in particular is obvious from Table 6. Yet, the rural sector is obviously composed of farmers with differing access to resources. Dividing the tomato farmers into categories based on access to land, the most precious resource in an agrarian setting, we find added texture to the characterization given above. Table 7 provides a profile of the farmers' contract history and activities associated with production tomatoes, broken down by farm size category. As it shows, the majority of those involved in seed production belong to the smallest farm size category of 10 rai or less. The average area devoted to seed production in this category is quite small at 0.28 rai, or the equivalent of a 21m by 21m area, a testament to the labor intensive nature of the work involved. Processing tomatoes, on the other hand, are more evenly distributed across farm sizes. While the smallest size category accounts for more farmers than any other size, this still reflects less than half of the growers (41 percent). Surprisingly, farmers in the largest size category devote the least land to processing tomatoes.

Of note is the fact that the seed producers in the smallest farm size category weigh in with the highest average yields, as well as with relatively high prices paid for their seeds. The higher yields are probably associated with the greater attention given to production by smaller producers. Higher prices are usually associated with degree of difficulty associated with the labor process, which can vary even within tomatoes, depending upon the seed variety being produced. This same group of producers reports the highest percentage of total income (72 percent) being generated by contract farming, and the lowest percentage (20 percent) derived from all other farming, including rice production. In the case of processing tomatoes, it is the second from the smallest size category which reports the highest yields, and it is the largest farmers who receive the highest price. The latter feature is more in accordance with reports on contract farming prices elsewhere in the world, where the larger volume offered and stronger negotiating power reported by larger growers

Table 7. Profile of Farmers Contracted to Produce Hybrid Tomato Seeds or Processing Tomatoes in Northeast Thailand, by Farm Size, 1995-1996 (averages)

		Farm Size			
		<=10 rai	11-20 rai	21-30 rai	>30 rai
Number of observations	<i>seeds</i>	19	8	4	4
	<i>processing</i>	31	25	12	8
Years involved in contract farming	<i>seeds</i>	4.4	5.9	5.2	7.5
	<i>processing</i>	9.4	5.8	6.5	6.0
% for whom contract farming is primary source of income	<i>seeds</i>	74	100	75	75
	<i>processing</i>	68	84	58	37
% who planted tomatoes for:*	<i>seeds</i>	66	54	42	42
	<i>processing</i>	70	69	67	46
Area planted (rai)	<i>seeds</i>	0.28	0.33	1	0.44
	<i>processing</i>	2.48	3.30	2.58	1.88
Typical yields (kg/rai)	<i>seeds</i>	14.67	13.14	8.05	11
	<i>processing</i>	5513	6656	5758	2887
Typical prices (baht/kg)	<i>seeds</i>	2447	1713	3025	1667
	<i>processing</i>	3.09	4.47	n.a.	6.18
Net income from tomatoes for seeds (baht)*		18117	12688	20,000	18,500
Net income from processing tomatoes (baht)**		30251	38244	20717	18200

Note: 1 rai=1600 m².

* averaged over three years (interview year plus two previous years).

** 25 baht = US\$1.00 in 1995/96.

translates into a price premium, as in the example of melons in Central America (Conroy, Murray and Rosset 1996). In the case of tomato seeds there is a strong diseconomy of scale due to the intricate labor involved, while in processing tomatoes a more typical marketing economy of scale seems to act.

The issue of access to land and the tendency of villagers to contract their labor out to seed companies poses some intriguing patterns when we consider the participation of landless villagers as part of the equation. Village leaders were asked about the landless families in their villages, and specifically about their participation in contract farming. There are two ways to examine the importance of contract farming to this resource-poor group. One is to calculate the fraction of the total number of contract farmers who are landless peasants, that is, how do landless villagers contribute to contract farming? Averaging across the six villages for which we can make such a calculation, we find that 19.5 percent of all villagers participating in contract farming of some kind are landless. The data do not allow for determining the percentage involved expressly in processing tomato or seed production, but we do find that within those four villages in which tomato seed production is contracted, 23.6 percent of those involved in contract farming are landless. The more widespread distribution of processing tomatoes in seven of the

eight villages surveyed makes a similar calculation meaningless.

Another way to assess the linkages between landless farmers and contract farming is to determine the proportion of landless families who do contract farming arrangements; that is, how important is contract farming to landless peasants in the area? We find that for all eight villages combined, an average of 96 percent of the landless farmers contract with companies during the dry season to produce a crop of some kind. Again, the data do not allow for calculation of those involved directly in tomato seed production, but for those surveyed villages involved in producing hybrid tomato seed, 93 percent of the landless families are involved in contract farming of some sort.

Economically, peasants involved in contract farming in northeast Thailand appear to be reaping a number of benefits. Empirically it is obvious that substantial quantities of cash are flowing within the villages involved, with new pickup trucks, communal projects, and private building efforts in evidence. A 1992 study focusing on contract farming in the Sakon Nakhon province of northeast Thailand, an area of active hybrid seed production, observed similar consequences linked to what that author called "managed production," with home improvement, increased levels of spending on "large ticket" items,⁶ and a general increase in financial resources on the part of many villagers involved in contract farming (Dolinsky 1992). This same study reported higher levels of indebtedness since managed production emerged on the scene.

Today, although we find banks more willing to lend to farmers who have joined with a company in a contracted situation, growers involved in seed production rely heavily upon the companies with which they contract to provide credits. These take the form of cash advances and/or agrochemical inputs. Whether examined from the standpoint of villages involved in seed production or by farm size categories, more than 95 percent of the respondents identify the companies as the source of credit. Less than 6 percent make use of private banks, in contrast to the processing tomato growers who rely much more on bank credit.

In light of this detailed examination of tomato production in northeast Thailand we can return to our earlier questioning of the degree to which HVF production represents the popular notion of a "globalized" sector. If we examine the corporate structures of the tomato seed and processing tomato industries in northeast Thailand we see two very different patterns. The former case is very textured, but at one extreme offers a case of much greater vertical and intra-firm integration. Quality-control and proprietary germplasm in seed production requires a high intensity contractual relationship with farmers. The majority of the Thai seed industry that is domestically owned encompasses seed companies that produce seed on contract for several transnational seed companies. On the other hand, the largest seed operation in Thailand is that of Asgrow, which recently merged with Petoseed into Seminis Vegetable Seeds, and is part of a complex, vertically and somewhat horizontally integrated system (Chompradit interview 1998).

Asgrow has subsidiaries around the world, though northeast Thailand dominates for hybrid tomato seeds, serving as channels to bring various products to market.

6. Such items included televisions, sewing machines, and gasoline-powered hand tractors.

Many of these “channelers” produce the same seed varieties, all of which are shipped to a central plant in California for “conditioning” and packaging. Packaged seeds then go out around the world under a variety of different brand names having been “conditioned,” treated with pesticides, and packaged according to local market requirements.

And at least within the hybrid vegetable sector, global agri-capital has seen its affiliates proliferate and sometimes prosper in northeast Thailand in what qualifies as “simple integration” for the specific operation of delivering a hybrid seed product to California for conditioning. Asgrow Thailand is an arm of Asgrow USA’s global system and solely devoted to production. As such it sells the seed produced under its direction to Asgrow USA. As an in-house transaction, profit is supposedly saved for the consumer end of the chain. “We are an expense center [for Asgrow USA], not a profit center” (Chomparadit, personal interview). The consumers do indeed pay. A Thai farmer receives the equivalent of US\$100 to US\$200 per kilogram for hybrid tomato seed produced on his plot, an amount which the international firm sells for anywhere from US\$1000 to US\$3000, depending upon the variety.

The late 1990s may represent a transition period in which the dynamic force of competition is operating. In 1995 interviews, all reports pointed to the eventual migration of hybrid seed production and tomato processing to China, where costs of production are significantly less than in northeast Thailand. Due to the inexperienced labor force and corruption involving export licensing and other government controls, however, we find a selective migration occurring. Newer, more popular varieties of tomatoes seeds are staying in northeast Thailand. Production of older varieties, as well as that of easier-to-produce seeds such as melons and other cucurbits is moving to China and Vietnam (Kowithayakorn, personal interview).

At the other extreme, Thai production of tomato paste produced for export is controlled almost exclusively by domestic capital, with little international intra-firm integration, and reflects a relatively low degree of contractual intensity with farmers. Again, lower production costs in China act to attract regular, non-specialized, paste production. As work force knowledge, experience, and discipline deepen, we might well expect the eventual migration of all tomato paste, and perhaps even the high-end, difficult tomato seed, production to China.

While unanswered questions remain as to the type and degree of Thailand’s globalized condition, clearly the incorporation of Isaan peasant families into what is an economic force of the region by means of contract farming with international ties, underscores the persistence and continued importance of peasant production. The science-based details of hand pollination for hybrid seed production, the transportation and communication linkages of the late twentieth century, irrigation technology for dry-season production, and speed with which financial decisions and action are taken, all converge to make this incorporation into the agro-food sector possible. Yet, whether the product is the regionally important processed tomato or the internationally valuable hybrid seed, we find the small, often landless peasant, working long hours alongside spouse and children, forming the social platform of production.

CONCLUSION: THE NACs AND THE LATE TWENTIETH CENTURY AGRARIAN QUESTION

Kautsky's *The Agrarian Question* (1906), published a century ago, was framed by two key processes: on the one hand, the growth and integration of a world market in agricultural commodities, especially staples, and the international competition which was its handmaiden, and on the other, the birth and extension into the countryside of various forms of parliamentary democracy. Both forces originated outside of the agrarian sector but lent to agriculture its particular political and economic visibility. International competition in grains was driven not only by the extension of the agricultural frontier in the United States, Argentina, Russia and eastern Europe, or what Kautsky called the "colonies" and the "Oriental despotisms," but also by improvements in long distance shipping, changes in taste, such as from rye to wheat, and the inability of domestic grain production to keep up with demand. As a consequence of massive new supplies, grain prices, as well as rents and profits, fell more or less steadily from the mid-1870s to 1896 (Konig 1994). It was precisely during the last quarter of the nineteenth century when a series of protectionist and tariff policies in France (1885), Germany (1879) and elsewhere, were implemented to insulate the farming sector. New World grain exports were but one expression of the headlong integration of world commodity and capital markets on a scale and with an intensity then without precedent and, some would suggest, unrivaled since.

The Agrarian Question spoke, in other words, to the consequences of the European farm crisis at a moment of globalization: falling prices, rents and profits coupled with transnational market integration and international competition. The crisis of European peasants and landlords in the late nineteenth century was "resolved" by *intensification*, particularly in cattle and dairying, in a new ecological complex, and by the *appropriation of some farming functions by capital* in processing and agro-industry (Goodman et al. 1987; Hussain and Tribe 1981:70). Kautsky concluded that industry was the motor of agricultural development, or more properly agro-industrial capital was, but that the peculiarities of agriculture, its biological character and rhythms (Wells 1996), coupled with the capacity for family farms to survive through self-exploitation, by working longer and harder to in effect depress "wage levels," might hinder some tendencies, namely, the development of classical agrarian capitalism. Indeed agro-industry, which Kautsky saw in the increasing application of science, technology and capital to the food processing, farm input and farm finance systems, might prefer a non-capitalist farm sector.

Kautsky's book was remarkably forward-looking and prescient and indeed has much to offer an analysis of the NACs in general and Thailand in particular. Kautsky was of course writing toward the close of an era of protracted crisis for European agriculture, roughly a quarter of a century after the incorporation of New World agricultural frontiers into the world grain market had provoked the great agrarian depressions of the 1870s and 1880s. A century later, during a period in which farming and transportation technologies, diet and agricultural commodity markets are all in flux, the questions of competition, shifting terms of trade for agriculture, and subsidies remain politically central in the debates over the European Union, GATT and the neo-liberal reforms currently sweeping through the

Third World.

But what does the Thai case have to say to Kautsky's argument, to the late twentieth century agrarian question? We shall briefly focus on three issues. First, the Thai case obviously confirms the general argument of periodic waves of globalization and free-trade reform, but in a way which extends beyond trade *per se* which dominated the 1890s discussion. In ways that Kautsky did not and could not predict, the transnational flows of capital and investment have laid the groundwork for more integrated production circuits which link local and foreign capital in complex configurations, but we have emphasized that these global tendencies have limits. Second, the dynamism in technology which Kautsky saw in its infancy is now central to agro-food dynamics, and the case of the Thai tomato industry reveals the ways in which the life science companies and the agro-food companies work together in complex global production circuits. And third, Kautsky's concern with forms of integration, primarily with how finance capital was "vertically" integrating the small scale agricultural sector, remains central to the late twentieth century agrarian question. Thailand's tomato industry, and one might as well invoke its poultry sector, is constituted by forms of vertical co-ordination and sub-contracting in which contracted growers are especially significant. These institutional relations in which the company displaces the market to some extent, makes Kautsky's argument about exploitation and self exploitation, and the purported autonomy of the farmer, more relevant today than ever.

It is sometimes said that Kautsky's political economy was deterministic and retrograde, but his analysis of agriculture always grappled with, and admitted, the complexities and paradoxes of the agricultural sector in which it was, as he argued, unlikely that the world would follow in the footprints of the English model of agrarian capitalism. There are unevennesses within the agricultural sector as the current phases of globalization demonstrates. Nonetheless, his focus on how capital is, and is not, directly taking hold of the point of production, is surely as relevant in 1999 as in 1899 when his book first appeared. A century ago of course there were no obvious equivalents to Tyson or Asgrow or General Foods and the advances in biotechnology and agricultural sciences have been unprecedented. In fact it is to the question of these differences that current agro-food studies must speak.

REFERENCES

- Allaire, G. and Boyer, R. 1994. "Régulation et conventions dans l'agriculture et les IAA." Pp. 9-29 in *La grande transformation de l'agriculture. Lectures conventionnalistes et régulationnistes*, edited by G. Allaire and R. Boyer. INRA Editions/ECONOMICA Collection Economie Agricole et Agro-alimentaire.
- Asian Agribusiness*. 1987. "Tomato paste factory for Thailand." 4(4), July/August:5.
- Becker, Truman 1989. "Asia's Most Modern Tomato Paste Factory." *ADB Quarterly Review* (Asian Development Bank), January:11-13.
- Bello, Walden, Shea Cunningham and Li Kheng Poh. 1998. *A Siamese Tragedy: Development and Disintegration in Modern Thailand*. London and Oakland: Zed and Food First Books.
- Bonanno, Alessandro, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione, eds. 1994. *From Columbus to ConAgra: The Globalization of Agriculture and Food*. Lawrence: University Press of Kansas.
- Boontawee, Kampon. 1994. *A Child of the Northeast*. Translated by Susan Fulop Kepner.

- Editions Duangkamol: Bangkok.
- Burch, David 1996. "Globalized Agriculture and Agri-food Restructuring in Southeast Asia: The Thai Experience." Pp. 323-344 in *Globalization and Agri-Food Restructuring: Perspectives from the Australian Region*, edited by David Burch, Roy E. Rickson and Geoffrey Lawrence. Aldershot, England: Ashgate Publishing.
- Buckley, Katharine C. 1990. *The World Market in Fresh Fruit and Vegetables, Wine, and Tropical Beverages – Government Intervention and Multilateral Policy Reform*. Washington, DC: Commodity Economics Division, Economic Research Service, USDA.
- Chompradit, Visut. Interviews with Mr. Chompradit, Seed Production Manager of Asgrow Thailand (now called Seminis Vegetable Seeds), September 1995 and June 1998.
- Collins, J. 1993. Gender, Contracts and Wage Work: Agricultural Restructuring in Brazil *Development and Change*, 24(1):53-82.
- Conroy, Michael, Douglas Murray and Peter Rosset. 1996. *A Cautionary Tale: Failed U.S. Development Policy in Central America*. Boulder: Lynne Rienner/Food First Development Studies.
- Heffernan, William and Douglas Constance. 1994. "Transnational Corporations and the Globalization of Food." In *From Columbus to Conagra: The Globalization of Food an Agriculture*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- Dolinsky, Diane J. 1992. "Contract Farming at Lam Man Oon: An Operational Model for Rural Development." Institute Report, East Asian Institute, Columbia University.
- The Economist*. 1993. Special Supplement on the Food Industry. November 16:18.
- The Economist*. 1995. June 3:97.
- Friedland, William. 1994. "The New Globalization: The Case of Fresh Produce." Pp. 210-231 in *From Columbus to Conagra: The Globalization of Food an Agriculture*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- Friedmann, Harriet. 1993. "The Political Economy of Food." *New Left Review* No.197:29-57.
- Friedmann, Harriet. 1994. "Premature Rigor." *Review of International Political Economy*, 1(3):552-561.
- Goodman, David and Michael Watts. 1994. "Reconfiguring the Rural or Fording the Divide?: Capitalist Restructuring and the Global Agrofood System." *Journal of Peasant Studies*, 22(1):1-49.
- Gouveia, Lourdes. 1994 "Global Strategies and Local Linkages." Pp. 125-148 in *From Columbus to Conagra: The Globalization of Food an Agriculture*, edited by Alessandro Bonanno, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione. Lawrence: University Press of Kansas.
- Groot, Simon. 1999. Written correspondence with Mr. Groot, President of East-West Seed Company in Thailand, March.
- Hussain, A. and K. Tribe. 1981. *Marxism and the Agrarian Question*, Vol. 1. Atlantic Highlands, Humanities Press.
- Jaffee, S. 1994. *Exporting High Value Food Commodities*. Washington, DC: World Bank.
- Kautsky, Karl. 1906. *La Question Agraire*. Paris: Maspero.
- Kimenyi, L. 1993. "The Economics of Smallholder Flower and French Bean Production and Marketing in Kenya." Ph.D. dissertation, Michigan State University.
- Konig, N. 1994. *The Failure of Agricultural Capitalism*. London: Routledge.
- Kowithayakorn, Thaworn. Interviews with Mr. Kowithayakorn, Professor of Horticulture at Khon Kaen University in Khon Kaen, Thailand, February, 1996; and June, 1998.
- Marsden, T. and N. Wrigley. 1994. "Regulation, Retailing and Consumption." Paper delivered to the Association of American Geographers Meeting, San Francisco.
- McMichael, Philip, ed. 1995. *Food and Agrarian Orders in the World Economy*. New York: Praeger.
- Muscat, Robert J. 1994. *The Fifth Tiger: A Study of Thai Development Policy*. New York

- and Tokyo: M. E. Sharpe and United Nations University Press.
- Phongpaichit, Pasuk, and Chris Baker. 1995. *Thailand: Economy and Politics*. Oxford and Bangkok: Oxford University Press and Asia Books.
- Phongpaichit, Pasuk, and Chris Baker. 1998. *Thailand's Boom and Bust*. Chiang Mai, Thailand: Silkworm Books.
- Rama, Ruth 1995. "Latin America and Geographical Priorities of Multinational Agroindustries." Unpublished manuscript. Paris: OECD.
- Raynolds, Laura T., David Myhre, Philip McMichael, Vivian Carro Figueroa and Frederick Buttel. 1993. "The 'New' Internationalization of Agriculture: A Reformulation." *World Development* 21(7):1101- 21.
- Sawamis, Watcharawut. 1995. Discussion and interview with Watcharawut Sawamis, Managing Director of Hsin Seeds in Khon Kaen, August/September.
- Storper, M., and R. Salais. 1997. *Worlds of Production*. Cambridge: Harvard University Press.
- Watts, Michael. 1994a. "Life Under Contract: Contract Farming, Agrarian Restructuring, and Flexible Accumulation." In *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, edited by Peter D. Little and Michael J. Watts. Madison: University of Wisconsin Press.
- Watts, Michael. 1994b. "Contracting, Social Labor, and Agrarian Transitions." In *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, edited by Peter D. Little and Michael J. Watts. Madison: University of Wisconsin Press.
- Wells, Miriam J. 1996. *Strawberry Fields: Politics and Work in American Agriculture*. Ithaca: Cornell University Press.
- Yao, Chin-Tsai, and Milton Chiou. Discussion and interview with Chin-Tsai Yao and Milton Chiou, General Manager and Marketing Manager, of Thai Soon Food Products Co., Ltd., Nong-Khai, June, 1998.

AGRIBUSINESS CONTROL IN PHILIPPINE CONTRACT FARMING: FROM FORMALITY TO INTERVENTION*

Sietze Vellema

Wageningen Agricultural University

The most southern island of the Philippines, Mindanao, is known for the presence of agri-based transnational corporations and national agribusinesses. Pineapples and bananas have been the main commodities produced and marketed by companies with multinational marketing tie-ups to firms like the Del Monte group and the Dole Food Company. In the late 1980s, the New Product department of Dole Philippines ventured into the production of a package of other high-value crops mainly exported to the Japanese market. At a later stage, the newly established TropiFresh division became responsible for this diversification program. This company's most important operation was the production and marketing of asparagus. In 1995, TropiFresh was the second largest supplier of fresh asparagus to Japan. The company also eyed the commercialization of anthuriums and other cut flowers, and of *gobo*, a vegetable highly favored by the Japanese.

For sourcing this variety of products, Dole Philippines used a combination of plantation agriculture and several forms of contractual arrangements with a diverse group of landowners. This was the result of the company's changing access to land, which depended on government policy, management decisions and social tensions. Since the implementation of Aquino's land reform program in 1988, the company leased land from the pineapple workers cooperative, who had become the collective owner of the pineapple plantation. The expansion of pineapple production was realized through management contracts with, usually, large landowners. In the banana plantations, former workers were turned into contract growers, although most of the work was still organized by the company. The company was also engaged in marketing arrangements with locally owned banana plantations. For the asparagus production scheme, the company relied on contract growing with established farms.

By signing a contract, asparagus growers became institutionally captured by the company, but the dynamics of contract farming are not defined by a single piece of paper. In contract farming schemes, the company's main objective is to control and coordinate a whole range of agricultural activities. The practice of control, however, is not a fixed feature. This article describes how the company's control in this

* Direct correspondence to Sietze Vellema, Technology and Agrarian Development, Wageningen University, Nieuwe Kanaal 11, 6709 PA Wageningen, The Netherlands, E-mail: <sietze.vellema@tao.tct.wau.nl>. The research project is funded by Wageningen University; additional funding has been received from Netherlands Organization for Scientific Research (NWO) and LEB foundation. I thank two anonymous reviewers for their helpful comments.

Philippine contract farming scheme shifted away from hands-off management to a more interventionist hands-on style of management. It also shows the different dimensions of the company's control over agricultural production: technical, organizational, and socio-economic and political (for a similar discussion on water control see Mollinga 1998:25-30).

The main purpose of this case-study of asparagus farming is to contribute to a more precise understanding of the interaction between agribusiness and growers. Its emphasis is on the socially constructed nature of contract farming. The case-study highlights the social and technical shaping of control and reveals the negotiated nature of farming practices. I use the example of weeding, which involves both the management of farm labor and the application of certain technologies, to illustrate the evolution of control in contract farming. It indicates that this particular contract-farming scheme was not designed originally to command farming and labor practices. The main purpose of the scheme was to link small-scale farms to the operations of a company whose main strategic activity lay in marketing and processing of agricultural commodities. Along the way, the company was forced to reshape its involvement in the actual farming operations. In the beginning of the contract farming scheme, the company mainly focused on commercialization, quality control, and credit flows. These are aspects of agricultural production located at higher levels in the production chain. Later, the company decided to intervene in labor management practices and to introduce new technologies in an effort to sustain the profitability of this production scheme.

To understand the actual design of this specific growing-scheme, I will first describe the corporate and institutional context in which asparagus farming has been introduced. Secondly, the design of control over the production process will be discussed, and, finally, the practice and effectiveness of this set of control mechanisms will be analyzed.

RESEARCH APPROACH

The general approach used in this research included an ethnography of contract farming through participant observation, semi-structured interviews, situational analyses, and life and farm histories. This approach involved the use of qualitative methods to examine both the farming practices and the labor processes of contract growers, as well as the institutional dynamics and the politics of production

Interviews with growers, laborers, and technicians were crucial for understanding the actual practice of contract farming. Since contract farming is such an innovative process, many interviewees were eager to share their experience or to explain to me what they were doing and why. I tried to discover how growers adapted themselves to the prescribed farming systems and how they organized their workforce. Likewise, I discussed with technicians how they intervened in the fieldwork or in the application of certain agricultural technologies. I also observed the interactions between growers, technicians and superintendents in the field, at the office of the association, or during one of the meetings I attended.

The combined focus on both technology and society allowed me to understand the different dimensions of farming practices and managerial control. To understand this rather fluid reality, I had to understand the agricultural knowledge prevalent in the company, the learning processes of company researchers and technicians, and

the specific but diverse farming practices in the field. In the study of asparagus farming, a combination of detailed case studies of five producers and a survey among farm workers generated the main body of data about technology adaptation, organization of work, natural and technical conditions of production, and the company's control over farming practices. Life histories of these producers were documented, and included the history of land ownership, business ventures, work experience, and political careers.

CONTRACT FARMING AND CORPORATE STRATEGIES

Dole Philippines is one of the biggest transnational corporations active in Philippine agriculture. Its operations are mainly concentrated in Mindanao and involve the production of pineapples and bananas, and, recently, a diverse package of high value crops largely marketed in Japan. In 1963, the company arrived in Mindanao where it started to operate a large-scale pineapple plantation. At the end of the 1980s, the company tried to diversify the commodities it offered to global markets. The profitability of the company's main crops, pineapples and bananas, was stagnating. Dole's banana and pineapple divisions experimented with several crops, especially vegetables and cut flowers. Asparagus appeared to be one of the promising crops for production in southern Mindanao. Since 1989, the production of asparagus has been contracted out to six to eight hundred farmers. In the beginning, the banana division was responsible for introducing and marketing this new crop. Some years later, a new division of Dole Asia, TropiFresh, was created to market and produce new, high-value crops.

The asparagus venture was started at the end of the 1980s in the vicinity of the pineapple plantation, which occupies around 16,000 hectares and is operated by Dole Philippines in a municipality where almost two-thirds of the area was planted with pineapples (Table 1). The expansion program benefitted from the existing distribution system and Dole's shipping facilities. Due to the proximity of the Japanese market, asparagus could be transported by vessel, which meant huge savings for the company. Furthermore, the natural conditions of this volcanic region were suitable for asparagus production: rain is evenly spread over the year, typhoons do not pass by the region, and the sandy loam soil is loose and has good drainage.

No vacant land was available for the asparagus venture. Therefore, the company had to introduce the new and high-value crop on established farms that were planted mainly with corn and coconut. Starting in 1989, the company contracted with several groups of corn and coconut farmers (Table 2). The company offered farmers a ten-year contract. The duration of the contract reflected the expected life span of the perennial crop. In the beginning, company officials had to make a huge effort to convince local leaders and farmers of the potential benefits of a contractual arrangement. Later, the increasing incomes of neighboring farmers was enough evidence for many suspicious farmers to sign a contract. As a result of their efforts, the company was able to integrate a diverse group of small and medium farmers, and some absentee landowners, into their agribusiness operations.

Table 1. Distribution of Agricultural Land by Crops Planted in the Municipality in 1995

Crops	Percent of Total Planted Area (23,200 hectares)
Pineapple	64
Corn (yellow and white)	18
Asparagus	7
Other commercial crops	7
Other food crops	3
Coconut	1

Source: Municipal Department of Agriculture

Table 2. Expansion of the Asparagus Program

Batch	Year	Size of Expansion (ha)	Total Production Area (ha)
1	1989	195	195
2	1991	52	247
3	1991	200	447
4	1993	140	587
5	1994	183	770
6	1994	550	1320
-7	1997	-189	1131
(abandonment)			

Source: Dole-TropiFresh.

This development in Mindanao is associated with a general shift in the corporate strategy and in the international operations of Dole Food, the Los Angeles-based mother company. In 1989, the American mother-company was, according to Villarejo (1992:3), “the first company to market a full line of fresh vegetables under a brand name.” The main focus of the company became distribution and marketing. Notably, one single company, Dole Food, combined large-scale farming of a wide range of high-value crops with vertically integrated services, which included labeling, marketing, shipping, and, in some cases, financing for growers under contract. Worldwide, most of the company’s produce is grown on land belonging to independent growers or on leased land. “This could be understood in terms of the desire of a firm to keep its capital commitments as low as possible in a highly competitive and high-risk business [...] Leaseholds on land provide a way to maintain access to land but at the same time avoid the kind of investments that would otherwise be needed” (Villarejo 1992:4-5). Thus, contract farming of asparagus fitted into a global marketing scheme and was, for the contracting firm, a convenient way to secure a steady supply of high-quality commodities.

However, the institutional and organizational configurations of contract farming are varied. A wide range of production and marketing arrangements can be

combined in a single company. The asparagus production scheme in Mindanao was distinct from projects meant to complement or partially replace plantation agriculture. In general terms, contracting out of asparagus led to further social and technical integration of independent growers into complex production and marketing schemes adopted by an internationally operating agribusiness firm. Managers believed that the company's strength was found in marketing and transport, and the corporate strategy was designed accordingly. Major efforts were made to establish a strong position in the Japanese vegetable market. This required a method to guarantee a sufficient and stable supply of quality asparagus spears. Contract farming supposedly contained enough control mechanisms to reach this objective. Furthermore, research and experiments were expected to guarantee productivity and quality, as long as growers would follow advice given to them by company technicians. Apparently, the company found no need to invest directly in agricultural production, but opted for 'control at a distance'. In the following section I will describe how company management had originally designed its control over growers and their farming practices. Later, I will analyze why this form of control proved to be insufficient.

THE MAKING OF CONTROL

At the start of the asparagus project, the institutional contours of asparagus farming were in shape: the company held a firm grip on financial aspects of production, the research department had designed a farming system for asparagus farming in the tropics, and technicians were assigned to monitor farming practices in growers' fields. In the scheme's original design, the company's capability to exert control over farming practices in the field was based on:

- (1) The company's authority to handle the financial aspects of production, which included purchasing and providing inputs, a form of material credit, and giving cash advances for labor costs.
- (2) The company's knowledge about how to grow asparagus, a crop unknown to growers, in the tropics.
- (3) The daily presence of technicians in asparagus fields.

The contract for asparagus production left control over day-to-day activities to growers. Growers were, however, obliged to follow instructions given by the company and they had to use inputs provided by the company. The contract also specified quality and prices of different classes of asparagus.

This suggests that the contractual arrangement is an essential mechanism for control. However, a close examination of the company's and growers' behavior in asparagus production reveals that control cannot be reduced to one single mechanism, namely a formal say over production and marketing based on financial power. On the contrary, control has different forms, and is related to institutionalized divisions of labor inside a company (e.g. accounting and technical supervision). Table 3 (adapted from Mollinga 1998) summarizes the three interrelated dimensions of control in contract farming.

The actual design of a contract-farming scheme, which includes both material and social elements, determines what a company is capable of controlling. As will

Table 3. Three Dimensions of Control in Contract Farming, with Special Reference to Weeding

Dimension	Meaning and Practice
Technical control	Regulating-guiding-manipulating biological processes Managing natural conditions Designing technical methods to control weeds Engineering farming practices
Organizational or managerial control	Commanding-managing-administering people's behavior Organizing farm workers and recruiting labor Monitoring financial flows and production costs Changing the areas of responsibility Advising and supervising growers by technicians
Socio-economic and political control	Regulating social processes Creating consensus Dominating people's work Directing people's decisions Differentiating between growers

be made clear below, the management of the company balanced between leaving a certain autonomy to growers and exercising direct control. My argument is that managerial control over growers can best be understood as a continuum of practices (cf. Thompson 1983), which reflects management's endeavor to direct the supply of high-quality asparagus. In the following, I will focus on the company's capacity to steer farming practices.

FINANCIAL TROUBLE

For realizing the contract farming scheme, a third party became involved. The Development Bank of the Philippines (DBP) offered growers' associations the opportunity to enroll in a social lending program. Individual growers, as members of the associations, could acquire loans for planting and producing asparagus without any collateral. The bank found the reputation of the company enough assurance that debt obligations would be fulfilled. It was the bank's idea that the contract itself would act as a kind of collateral. Moreover, loans were guaranteed for 85 percent by the government owned Guarantee Fund for Small and Medium Enterprises. The company agreed to carry 15 percent of the risk.

Initially, this seemed to be a profitable arrangement for the company. Unlike before, Dole's management was no longer prepared to invest directly in agriculture. A company lawyer described the situation, "In bananas we financed ourselves, when there was still enough money. Nowadays there is no money available for direct investments, hence we sought for a new arrangement in asparagus. But we should have had better financial monitoring." Through the financial arrangements with the DBP, the company was able to finance its diversification program without high production investments.

Formally, the growers borrowed money from the Development Bank of the Philippines. The growers had a term loan of eight years to finance the initial phase of land conversion and planting, and they had a line loan to finance regular

production costs, which had to be renewed on a yearly basis. The practical arrangement, however, was that the credit flows passed through the company, whose financial department handled the accounting. The company took care of input delivery, credit in a material form, weekly labor advances based on forecasting by a technician, and cash advances, as part of the harvest proceeds.

Monitoring the financial viability of every individual grower proved to be a difficult task and this task done was done with little accuracy in the early years. Labor costs formed a substantial part of total production costs; ranging from 56 percent to 75 percent on a number of farms I investigated. Asparagus is a very labor intensive crop. Three main tasks were performed in the field: harvesting (daily for six months a year), field maintenance and weeding (continuous, less intensive during the rest period), and spraying (weekly). The application of fertilizer and manure was done a couple of times every year. On average, a grower employed three workers per hectare. Company technicians made a weekly budget for labor needs; the grower received cash advances for labor at the bank. It was common practice for growers to negotiate higher labor budgets with their technician.

By advancing labor costs and delivering inputs, the company set the financial conditions for the production process, and consequently, determined the amount spent in production. The research departments and agricultural managers gave directions to technicians on how to perform technical tasks or what inputs to use. These prescriptions were relayed to growers by the technicians, either during field visits or during one of the regular group meetings.

Technicians discussed with growers what work had to be done the coming week and what inputs were needed. One of their important tasks, aside from technical supervision, was to fill in all the necessary forms and to fulfill other bureaucratic requirements. This was supposed to facilitate the monitoring and administering of production costs by the financial department. However, interviews with employees of the financial department revealed that they had no idea what was happening in individual fields or what inputs and labor were really needed to guarantee good quality and productivity. Technicians were the ones most knowledgeable about problems and events in asparagus fields. Their confined communication with the financial department, mostly restricted to forms and requests, hampered a close monitoring of the performance of individual growers.

With the arrival of a new manager, the financial figures of growers began to play a more prominent role in the management of the scheme. After six years, the views inside the company on the financial viability of the scheme altered, and the actual control over the production process on growers' farms became a major concern for the managers. One company manager explained his understanding of the company's control:

Control is essential, we need to control to avoid stress of plants. Control refers to nature; the crop must be in good condition. An additional aspect of control refers to growers themselves. They show great inconsistency, which can easily cause stress in addition to the natural constraints. In fact, the company only has convincing power. We are a recommendation agency. We have no control. I would like to change the system. I want to go to a system in which we decide when and where to do something. I would like to control fertilization, pests, diseases, cutback and the preparation for harvest. This leaves weeding, harvesting, cultivation and maintenance to the grower.

An important reason for the shift in management policy was the increasing number of growers heavily indebted to the company. In many cases the production costs exceeded the bank's loan. While the company continued to provide inputs and cash advances for labor, a large number of growers' proceeds were no longer sufficient to support the production costs. Consequently, people inside the company began to feel the need to increase their control over what was happening in the growers' fields, especially because it was felt that the company was subsidizing the production of an increasing number of growers.

In sum, the combination of poor financial monitoring, decreasing production and quality levels, and production costs exceeding loans, endangered the company's profitability. As a result, a series of interventions started. These interventions targeted both the reduction of production costs and the improvement of yield and quality. To realize this, the company had to change its control over what happened in the fields, and thus reshape the contours of the contract farming scheme. I will use the changes in the practice of weed control to demonstrate how the company redesigned control mechanisms in contract farming.

WEED CONTROL

In 1996, company managers realized that on a number of farms yield and quality were no longer balanced with production costs. As a response to the problems in individual farms, management implemented a general change in their financial policy; it revised the financial conditions of production. As a start, the company started to reduce the number of man-days budgeted for weeding and removed field maintenance from the budget entirely. The reduced labor budgets would only be provided under the condition of 'work done'; technicians had to monitor actual work done on farms. Growers expressed their concerns about the reduction in labor budgets; they expected not to be able to keep their fields clean of weeds, especially during rainy days when weeds grow faster and growers have to hire additional labor to control the weeds.

In spite of the complaints, the shift in financial policy was enforced rather strictly. The agricultural manager consistently sought the explanation for decreasing profitability in a lack of control over labor budgets:

Production costs rose, especially due to an increase in the use of labor. Growers started to demand more and more; average yearly labor budgets rose from 25,000 to 30,000 up to 40,000 pesos. This could happen because our staff was never in the field, they were not able to judge whether the budgets allocated by technicians were really necessary. Technicians gave growers the budgets they asked for. Many of the growers did not pay their workers on time or the right amount. Growers put the money in their own pockets. That is why we want to go back to the family farm: it must be members of the family who work on the farm, then they will be paid for their efforts on the farm. We took over management of some farms, the main problems appeared to be labor management. Our technicians paid on time and supervised performance of laborers, and our experience showed that yields doubled within two months. We try to reduce costs in weeding by turning to chemical weeding in between the rows, between the plants we have to continue doing it by hand because otherwise the plants will die.

This explanation indicates that the company arrived at the conclusion to take a more interventionist approach. Changing the financial conditions, which the company had

substantial control over, proved to be insufficient to handle the problems in asparagus growing. Costs pressures and decisions by higher management forced the Agricultural Department to make an effort towards re-organizing the labor process and improving profitability. Budget cuts were one way to handle this. Another way was to 'drive' growers back to their farms. Family members had to participate in asparagus farming again. For the company, however, it was difficult to direct how growers managed their workforce. Management worked on two solutions: (1) a change in the practice of labor management and farm supervision, and (2) the introduction of labor saving technology. I will now elaborate on these issues.

Interventions in Labor Management

The designers of the asparagus scheme, the company and the bank, shared one basic assumption with many writers on contract farming; the basic production unit was a family farm. It was expected that the farmer's family would do most of the work, as one company official expressed it,

In the beginning we used a small grower concept, because many farmers here are agrarian reform beneficiaries. Only if you are wealthy will you have 15-20 hectares left after land reform. We wanted to bring these farmers together, to farm in business. It was supposed to be a 'ma-pa' operation. The parents were expected to use their family labor on the farm. All they needed was to have a land title, to be clear of debts, and to provide the labor. The company would give technical assistance, provide inputs, and arrange plowing.

All labor payments, advanced by the company, should go to the farmer's family, as well as the weekly cash advances for harvest deliveries, and the excess payment at the end of the year, from which production and labor costs were deducted. It was expected that growers would be able to finance asparagus production themselves after approximately eight years. This was based on the assumption that the family provided most of the labor, and that no additional labor costs were incurred. In order to give the project a 'developmental' label, the contract farming scheme had been promoted as a 'family affair' by both company and bank.

Reality confronted the company with a different set of labor relations. In asparagus contract farming, the majority of farm work was done by hired labor. Only supervision, and sometimes classification of spears, was done by the growers themselves. This confirms the observation made by White for contract growers in Java, that in many cases, 'small holdings' in contract farming schemes are not actually 'family farms' (family-labor based production units), but small or medium-scale enterprises based mainly on wage labor (White 1997:106).

Although the company seemed to work with the concept of a family farm, it was also obvious that management had anticipated that through contract farming the company could stay away from any farm labor problems. Through the contracts with individual growers, the company could also evade minimum wages and other regulations concerning plantation workers. Formally speaking, the grower was the employer, not the company. The company was able to shift all labor management and recruitment problems to the grower. But after a couple of years, this had a reverse effect; poor labor management resulted in lowering productivity and higher production costs.

Unintended Consequences for Productivity

Tatay was one of the dignitaries of the settler village. He was one of the old settlers

and owned a big area. Most of the land was divided among his children, but Tatay insisted to be in control of daily management. He belonged to the first batch of growers, but his farm did not yield well. One of his daily problems was to find enough workers. He recruited workers from an area near his cattle farm, but they were an unreliable workforce. Sometimes workers did not show up. Only one old woman, who had worked for this family for a long time, was always present.

His supervisor was the wife of his mechanic; Tatay also owned a truck and several tractors he rented out. The supervisor complained that the temporary workers did not perform well; they did not clean the hills, worked much too fast, and damaged the plants. She did not like the piece rate system, which Tatay preferred to use. Tatay always tried to save on labor. From the start he used a plow to do the weeding between the asparagus hills: this saved labor and was cheaper. His mechanic had invented a small cultivator, which could ride between the rows, which was also used for weeding.

The way weeding was handled by Tatay had unintended consequences for productivity and quality. Most of his asparagus fields showed very high hills due to plowing. By plowing, soil is transferred from the inter-row to the top of the hills. The result was that the crown had less volume of soil available for retrieving water and nutrients. In addition, the high beds eroded quickly after rains, especially because high beds entailed a mobile soil. The asparagus crowns floated in the high beds, which exposed the roots, and the crown had little contact with the topsoil. The reduced volume of soil available for the crown was easily heated, and the hot temperatures resulted in thin spears.

Another problem was that Tatay often delayed weed control; the weeds stood high on his fields and developed an extended root system. Removing these weeds also reduced the soil available for the plant because topsoil is removed together with the extended root system of the weeds.

Both plowing and delayed weeding resulted in an exposure of the crown, which has an immediate negative impact on plant productivity. The exposed crowns reduced the quality of spears and limited the growth of the plant. The spears harvested in Tatay's fields were short or thin, had open tips, or, even worse, were malformed. Tatay's harvests were of low quality, and, consequently, his proceeds from asparagus production decreased substantially.

Still, Tatay continued to practice plowing and using a cultivator on his farm. One of his main problems was labor. Laborers on his farm complained that Tatay never paid on time, and he paid less than other growers. He had to employ children, but they appeared to be an unreliable workforce. The company technicians had observed this situation for a long time; they gave advice, but Tatay was reluctant to change his practices. The technicians continued to complain about the state of his fields. According to the company technicians, they observed these practices in the fields of growers who did not spend their entire budget for weeding. But Tatay complained that the budget provided by the company was insufficient to meet his labor requirements.

Labor Recruitment

Recruitment of workers became a major problem for the growers after the

expansion of 550 hectares in 1994. This expansion was strongly motivated by the arrival of a competing company, Marsman Drysdale. Marsman also ventured into the production and marketing of asparagus and surveyed the area for suitable farms to plant asparagus. Dole TropiFresh was afraid to lose control over the area and decided to offer new contracts. This resulted in a substantial increase in the area planted with asparagus; from 770 hectares to 1320 hectares (Table 2). Generally speaking, this expansion demanded an additional 1650 new workers. As a consequence, an increasing number of growers faced difficulties in finding workers.

The problem increased when, two years after the expansion, the company decided to reduce significantly budgets for labor. They decreased the budget for weeding by 25 percent fewer man-days per hectare per year. Field maintenance was removed from the budget, and budgets for other tasks were reduced too. Growers strongly complained about the sudden change in budgets:

The company changed the wages for our maintainers abruptly. But we have to continue paying our workers, we have to treat them as family, otherwise they will look for other employment. We have difficulties in keeping workers at our farm, they return to their hometowns, or move to the cities, to look for work.

I observed that the experienced workers became more selective and many of them decided to transfer to other farms, for example the ones paying better and on time. In addition, wages in asparagus remained at a very low level and farm workers started to look for employment opportunities elsewhere. Since the beginning of the 1990s, the province and especially the city close to the scheme had generated an increase in economic activity and investments. Hence, poorly paid farm workers applied for better paying jobs in the city.

Particularly in weeding, problems occurred because of the labor scarcity. This situation forced growers to introduce new labor arrangements. A majority of the growers (74 percent) began to use some kind of a piece-rate-system for weeding, which, in some villages, resulted in a fierce competition between growers for labor. Unlike previously, weeding was considered as an additional job, paid per row, and was no longer included in the daily wages. Some growers relied almost entirely on so-called 'strikers' for weeding: workers who complemented their daily wages by taking up additional, temporary jobs. Other growers only hired temporary workers if their permanent labor could no longer cope up with weeds. Sometimes children were hired to do the weeding. The amount paid to the weeders depended on the height of the weeds, so high labor costs resulted from a grower's decision to delay weeding, e.g. to reduce his spending of cash advances.

Growers had difficulties finding enough workers for weeding and relied strongly on flexible workers. For these reasons, growers had a hard time to maintain their fields and to keep their farms free from weeds, which had an impact on yield and quality.

The Farm Management Seminar

The mode of labor use and labor management in asparagus farming which was partly responsive to the financial policy implemented by the management, increasingly became a concern for the company. Due to its impact on yield and quality, it was one of the factors leading to a reduction in the whole operation's profitability. During this period, the company decided to organize a farm

management seminar to discuss problems in asparagus farming: low productivity, low quality, and high production costs. But many growers disagreed with the problem as defined by the company. Like many other contract farming schemes, the growers distrusted both the company's accounting procedures and the asparagus grading qualifications at the packing plant. Growers insisted on discussing these matters during the seminar. Nevertheless, the company pursued its original plan and made farm management the key issue; all financial problems would be discussed at another occasion.

The company's goal for this seminar was to discuss problems with regards to labor management on the asparagus farms; growers did not pay their workers on time, or paid too little; growers were hardly present on their farm to supervise the work; growers did not give benefits to their workers, for example snacks, to stimulate their effort. Formally, the company had no say in these 'internal' affairs, although technicians advised growers about how to coordinate tasks at the farm, or about how to pay their workers. The company wanted to turn growers into "better" farm managers, but as one company manager observed, "Established growers have their own ideas and concepts, these are difficult to change."

During their assessment of asparagus production problems, company officials started to differentiate between losing, break-even, and gaining farmers. Some growers were busy with other ventures and new opportunities became available to them thanks to capital accumulated in asparagus. Others were de-motivated because rising production costs led to a drainage in their incomes. Some even ran into debts with the company and bank. According to the company, many growers did not pay enough attention to their asparagus farms, and during the seminar several managers tried to restore the growers' interest in asparagus farming. Later, at regular meetings, company employees tried to convince growers of the importance of labor management and of the fact that asparagus still remained the base for their newly gained wealth. They thought that the solution to low productivity and to high costs was a simple one; be present at your farm and supervise farm operations closely, otherwise asparagus farming is a losing business.

In its approach towards the problems in asparagus, the company tried to build a consensus around how to manage farms efficiently. Together with growers, the company tried to construct a workplace for growing asparagus. In this approach the growers were considered as business partners. In a parallel approach, however, the company tried to reduce the number of tasks coordinated by growers and introduced a labor saving technology. This technology may significantly reduce the numbers of tasks performed by a grower, and transform him from a manager of the farm to a worker on his own farm. Due to the ambiguity of the company, there seemed to exist two contradictory, but coexisting, approaches to handling the problems of profitability, rising production costs and financial monitoring. I will now discuss the second approach; the introduction of new technologies.

NEW TECHNOLOGIES: CHEMICAL WEED CONTROL

Until recently the company did not use herbicides in asparagus production, because the Japanese market has strict regulations concerning chemical residues. Any herbicide residues on asparagus carrying the company's brand name would certainly

undermine its carefully established position in the market. Nonetheless, the problems with labor use made the company settle for spraying the inner-rows with a herbicide widely used in the production of bananas. This technical intervention was approved after an internal investigation which showed that chemical weed control would substantially lower production costs (Table 4). Spraying of herbicides was introduced gradually and did not yet cover the whole 'plantation'. Weeding between the plants continued to be done manually.

The adoption of chemical weeding as a solution to labor problems in weeding removed a basic task from the grower's supervision. Sprayers of herbicides were hired by the company and paid according to minimum wage standards. Their work was supervised by specially assigned technicians. Thus, growers' responsibilities were narrowed to harvesting, some weeding, and field maintenance. This externalization of tasks would give company management effective control over an increasing number of activities in the production process. This might have been an implicit consideration for the company. Table 4 shows that mechanical weeding would also reduce labor costs. A locally-manufactured hand plow, invented by one of the growers, proved to be very effective, but mechanical weeding would leave more control in the hands of growers.

In sum, together with efforts to turn growers into better managers, the company introduced a labor-saving technology, chemical weed control, which would confine the responsibility of growers to some basic activities in the asparagus fields. In addition, the company tried to command fertilization and application of fungicides and pesticides more directly. This alteration might radically reshape production relations in asparagus farming and represents a tendency towards homogenization of farming practices. Management may opt for a direction in which the production process is standardized in an effort to cope with increasing cost pressures. This reflects the company's belief in its managerial and technological capacities. However, asparagus farming is difficult to standardize, and growers are best able to tackle specific field problems. I did not observe a definitive impact of the company's interventions. The growers were reluctant to comply with the possible changes in the social relations in contract farming. Furthermore, it was the company's main concern to restore their control over the supply and quality of asparagus, and to reduce production costs. It was not their explicit objective to transform social relations with growers. This explains why the company also tried to improve the growers' management capabilities.

DISCUSSION

This article discusses the capacity of a division of the Dole company to direct farming practices, labor management, and production costs in contract farming in the Philippines. The contract farming scheme suited the company's new global corporate strategy towards diversification. This contract farming scheme originated at a time when the transnational food corporation began to focus much of their resources on distributing and marketing their products on a world-wide basis. Asparagus were discovered to be a highly profitable niche in the Japanese market.

Table 4. Monthly Costs for Weeding (pesos per hectare; estimated by company)

Costs	Manual Weeding	Mechanical/Manual Weeding	Chemical Weeding (hills not included)
Labor	P 1800 (30 man-day/ha)	P 1080 (18 man-day)	P 234 (2man-day/minimum wage)
Material	none	P 120 (2 man-day/hand plow)	P 380 (herbicide)
Total	P 1800	P 1200	P 614
Savings (compared to manual weeding)	-	P 600	P 1186

Source: Dole-TropiFresh.

The company's attention shifted away from farming, and it became engaged in global sourcing, for which a steady supply of high-quality commodities is needed. The asparagus production scheme originated in this corporate context, but the specific terms of the scheme were formulated by the company's local division and reflected the existing land tenure situation. One major concern in the company's expansion program was to get access to suitable land, which is scarce in southern Mindanao.

Offering contracts to small and medium farmers provided the solution. Contract farming facilitated the introduction of asparagus production on established farms and the company's diversification program could proceed. The pre-existing land tenure situation resulted in a diverse population of 6,800 contract growers. In the beginning, the company believed that financial control, prescriptive farming practices, and agronomic research would be sufficient to guarantee a stable supply of asparagus and, at the same time, maintain the profitability of the contract farming scheme. However, along the way management encountered difficulties to sufficiently control and coordinate production tasks and related activities. It was a complicated task to manage the diversity of farming practices and labor practices on the farms. This diversity was related to farm size, labor management by the grower, sharing of farm income with workers, and technical skills of grower and laborers. The formal arrangement could control field activities and financial flows only to a limited extent. When the company became aware of rising production costs, lowering productivity and decreasing profitability, management decided to take a more interventionist approach.

In this article, the practice of weed control has been examined to illustrate how the company intervened in the production process in growers' fields and how it re-designed its control mechanisms. This examination suggests that contract farming can best be understood as an evolving and complex institutional arrangement which engineers both the regulation of various natural conditions as well as the management of labor on dissimilar landholdings. Contracting out of asparagus production obviously led to 'distinctive work routines, new on-farm technologies, and labor processes' (Watts 1994:34), but farming practices, field productivity, and quality

of asparagus spears were extremely varied; an exclusive technological dominance of the company did not exist in asparagus production. In this article I argue that this variation is a cause and effect of the way the company tries to materialize its control over the labor process of contract growers.

The study found that the company exercised varying forms of control, and varying degrees of coercion, over the production process. In the case of the contractual production of asparagus, control balanced between the implementation of a formal institutional arrangement and the direct supervision over specific tasks. The reconstruction of the practice of weed control showed that, initially, contract farming allowed the company to reduce risks, to cut fixed costs and investment, to enlarge flexibility, and to shift the responsibility for labor discipline to growers, while at the same time it could retain effective control over the production and marketing processes. However, due to unforeseen increases in labor costs, company managers decided to alter their relationship with growers, although their actions revealed an ambiguity about how to approach the growers. The company's approach to engineering social and technical control over asparagus production contained two contradicting but coexisting tendencies.

On the one hand, growers were trained to become better managers; that is, to be independent farmers who organize and coordinate the production process. This was part of an effort to re-establish the family as the basic production unit in which it is the grower's responsibility to manage labor and productivity. The company realized that they needed a motivated grower who would take good care of the sensitive plants, make difficult agricultural decisions, and supervise field maintainers and harvesters. In this sense, contract farming is confined to linking independent small holders to a larger agribusiness which requires specific forms of control.

On the other hand, the company tried to externalize and to alter the practice of weed control by introducing herbicides into the farming system. The company took over certain aspects of production in an effort to regain control over what actually happened in the field. An increasing number of tasks became directly supervised by company personnel, which restricted the grower's involvement to only a few aspects of primary production. In this sense, contract farming moves closer to a plantation-like production form, in which labor and production are coordinated centrally and in which the grower's responsibility is limited to basic farm work. Whether the growers will confirm these changes remains to be seen.

In my view, asparagus growers will not easily be turned into workers on their own land. Entering the growing scheme transformed farmers into managers of a complex farming system. Many of these growers became successful commercial producers who relied heavily on hired labor. The article shows that asparagus farming required a large number of hired laborers, a number the grower's family could not provide. Most likely, cheap labor will continue to be available for growers due to unemployment and landlessness in the villages, and due to the continuing marginalization of farmers in the nearby provinces. This is the reason why we have to combine an analysis of contract growers with an 'awareness of tendencies to differentiation and wage labor within contract-farming communities' (White 1997:104).

REFERENCES

- Mollinga, Peter. 1998. "On the Waterfront: Water Distribution, Technology and Agrarian Change in a South-India Canal Irrigation System." Ph.D.dissertation, Department of Irrigation, Wageningen Agricultural University, Wageningen, the Netherlands.
- Thompson, Paul. 1983. *The Nature of Work: an Introduction to Debates on the Labor Process*. London: MacMillan.
- Villarejo, Don. 1992. "Labeling Dole; Some Thought on Dole Food Company's Expansion in World Agriculture." Fresh Fruit and Vegetable Globalization Network, Working Paper No.6, University of California Santa Cruz.
- Watts, Michael. 1994. "Life under Contract: Contract Farming, Agrarian Restructuring, and Flexible Accumulation." Pp. 21-77 in *Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, edited by Peter D. Little and Michael J. Watts. Madison: University of Wisconsin Press.
- White, Ben. 1997. "Agroindustry and Contract Farmers in Upland West Java." *The Journal of Peasant Studies* 24(3):100-136.

THE LOCAL IN THE GLOBAL: AGRICULTURE, STATE AND REVOLUTION IN IRAN*

Farshad Araghi
Florida Atlantic University

THE THREE COLONIALISMS OF HISTORICAL CAPITALISM

This article explores the local dimensions of a global process, namely the reorganization of world agriculture in the second half of the nineteenth century and its connection with the transformation of state and society in Iran. While this work is a prelude to an analysis of global agrarian change and revolution in Iran in the late twentieth century, space allows me to focus only on the late nineteenth century.

Methodologically, advances in the sociology of agriculture and food in recent years (McMichael 1994, 1995; Friedmann 1993; Araghi, 1995, 1997, forthcoming; Bonanno et al. 1994; Goodman and Watts 1997) inform this analysis. While the new literature does not provide a single analytic framework unified by common assumptions, the following reconceptualizations – some of which are nascent and some more developed – represent a break with traditional rural sociology and are important for my analysis:

- (1) Reconceptualizing “place” as a *global* and *uneven* process; that is, social and political spaces, such as “the nation-state” or the “agrarian sector,” do not simply exist, they are *produced, reproduced, constructed and deconstructed* through social struggles. Globalization involves “uneven space formation” such as “Colonization,” “Third-Worldization of parts of the First World,” “super-urbanization of the Third World,” and “global deruralization.” Rather than being assumed, place, and its process of formation and differing forms, are the subject of historical analysis.
- (2) The bringing of rural and agrarian phenomena from the margins to the center; the hegemony of modernism together with the rise to dominance of urban industrial capitalism in the late nineteenth century Europe led to the equation of “civilization” and human progress with urban phenomena. Industrial capitalism, however, transformed world agriculture not only technologically, but also in connection with lowering and rationalizing the reproductive costs of labor power. The restructuring of world agriculture, in turn, led to global class restructuring and a radical transformation of state, economy, and society in the colonies and semicolonies.

* Direct correspondence to Farshad Araghi, Chair, Division of Social Science, 2912 College Ave. Florida Atlantic University, Davie, FL 33314 USA. E-mail: <araghi@fau.edu>. All translations from Persian language sources are mine. I wish to acknowledge the valuable comments of Ray Jussaume and the journal’s anonymous reviewers.

- (3) The question of “agency;” paying attention to the politics of class struggles within and without the state avoids both the reification of the world economy, as in the early world-system analyses, and teleological reasoning, i.e., making deterministic assumptions about the direction and outcome of social transformation.
- (4) Seeing the local within the global and vice versa; examining such “politicomic” movements and struggles, allow us to see the contradictory unity of local and global phenomena; that is, divergent local conditions within a unified, but not uniform, global process. Much of the controversy on the relationship between the local and the global stems from a mistaken equation of the global with the general and the local with the particular, and thus a replication of the nominalist-realist debate. Seeing the global in the local and vice versa means seeing the particularity of the global and the generality of the local and vice versa. This perspective is an alternative to modernist views, which privilege generality, and its postmodern critiques, which privilege particularity.

I begin my analysis by briefly distinguishing among what I call “the three colonialisms of historical capitalism.” This will allow us to specify the global and local coordinates of social transformation in nineteenth century Iran.

The First Colonialism extended from the sixteenth century up until the nineteenth century and was the *condition* of the rise of European industrial capitalism. It was highlighted by “primitive accumulation” of capital at the national level, such as the dispossession of peasantries in Tudor and Elizabethan England, and at the international level, the dispossession of Native Americans in the Americas and enslavement of African labor. The latter was characterized by violent confiscation of non-European lands and resources, especially precious metals, the subjugation of native crafts and industries, and forcing a specialization of labor and trade in primary agricultural products.

The Second Colonialism was a *consequence* of the rise to dominance of industrial capital in the nineteenth century. As European industrialization, proletarianization, and urbanization matured in the nineteenth century, trade with colonies was reorganized in accordance with the law of value. Thus mercantilist trade in luxuries gave way to trade in agricultural commodities that subsidized the reproductive needs of European labor and capital. The international integration of nonwage and wage-labor systems is what Friedmann and McMichael (1989) have called the first food regime, which was the distinguishing feature of the Second Colonialism. Beginning in the 1930s and culminating after World War II, a rising wave of anticolonial movements led to the collapse of the Second Colonialism. A three-decade long transition period separated the fall of the Second Colonialism and the Rise of the Third Colonialism. This was an extended process which began in the 1930s and culminated in the post World War II period with the rise of a powerful wave of national liberation movements. Between the fall of the Second Colonialism and the rise of the Third Colonialism came a transitory stage, from the early 1940s to the late 1970s when, in a competitive context, the United States, the Soviet Union and European states accommodated the yearnings of the postcolonial peoples for national independence and “inward-oriented” economic development.

The Third Colonialism has been emerging since the 1980s. The Third Colonial-

ism is structurally similar to the Second Colonialism with one similarity and two major differences (Araghi forthcoming). Ideologically, both the Second and the Third Colonialisms have relied on comparative advantage arguments and laissez faireism as a means of institutionalizing their respective world economic orders. However, whereas under the Second Colonialism the international division of labor was organized by the British state to satisfy the reproductive needs of British industrial capital, under the Third Colonialism, transnational corporations and their agencies, including the IMF, World Bank, and World Trade Organization, are primarily responsible for organizing the global division of labor around the reproductive needs of transnational capitalism. We also can distinguish between the “*visible colonialism*” of the nineteenth century, where Britain controlled its colonies primarily through the “visible hand” of the state, and the “*invisible colonialism*” of the late twentieth century, when the transnational corporations and their agencies control the weaker states primarily through the “invisible hand” of the market and the debt regime.

The above distinctions, I should emphasize, are only meant to provide a heuristic tool for detailed historical/comparative analysis of divergent outcomes within each general category (Weber 1949:90-103; Marx 1973:100-110) As we will see, the local transformations in agriculture, social classes, state, and society, and the rise of urban movements in late nineteenth century Iran can be better understood in connection with the rise of the second colonialism. Nonetheless, Iran was culturally a unique case in that its brand of nationalism merged modernist ideals with pan-Islamic, Shi’ist, discourse. As Iran was never formally colonized, in some respects it revealed the character of invisible political subordination under the third colonialism and the future pan-Islamic reaction.

THE SECOND COLONIALISM, AGRICULTURE AND SOCIAL CHANGE

By the second half of the nineteenth century, major defeats in military confrontations with Russia and Great Britain had led to the subordination of the Iranian state. Politically independent, but financially dependent on foreign loans, the Iranian state partially represented the interests of the international merchants and industrial capitalists. The commercial treaties, *Gulistan* and *Turkmanchai*, and the Anglo-Persian Commercial Treaty, fixed customs duty for imported goods at 5 percent for foreign traders and exempted them from road tolls and internal transit taxes. These treaties spurred foreign trade which increased twelve times during the nineteenth century (Stavrianos 1981:225). The bulk of Iranian exports consisted of agricultural raw materials, especially cotton, rice, tobacco and opium which were traded by foreign and Iranian merchants. The increasing integration of sections of Iranian agriculture into the system of world trade under the second colonialism profoundly affected class and state restructuring in Iran.

For the purpose of this analysis there were several important changes associated with this process. First, the social structure of land ownership changed as land became a commodity. From the 1870s onwards, the state, facing financial distress, raised revenue through sale of state lands to merchants and traders. Second, responding to world market demand, merchants invested in landed property and cash cropping with three related consequences: (a) the composition of products

changed as cultivation for domestic consumption gave way to export cropping, (b) export crops became world commodities produced by unfree labor, and (c) peasant labor, as commodity producing labor, was intensified due to competitive commercial pressure (Araghi 1987). Third, Iranian merchants, while in a less favorable position than foreign merchants operating in Iran, benefitted from the expanding world trade in export crops and became increasingly self-conscious as a class. Fourth, following their unsuccessful attempts at finding representation within the state, the Iranian mercantile class joined the emerging pan-Islamic movement to give rise to the social upheavals of the late nineteenth century and eventually to the constitutional revolution of 1905. Fifth, as the demands of the pan-Islamic movement and those of the merchant bourgeoisie merged, nationalism in late nineteenth century Iran came to be both modern *and* nonsecular.

THE RISE OF COMMERCIAL AGRICULTURE IN IRAN

As trade expanded in the nineteenth century, so did the state's need for money. The commercial treaties that were signed following defeats by Russia obligated the state to pay indemnities in cash. The humiliating defeats had also made it clear that the state's reliance on tribal forces was no longer adequate, and that modern warfare required a standing army equipped with modern weaponry. The military reforms which followed increased the government's need for cash as did other attempts at imitating the west, such as creation of new civil institutions, like the *Dar al-Funun* (House of Sciences), in the second half of the nineteenth century. The transition from a closed to a commercial economy brought the state aristocracy in contact with the modern world, leading to new demand for European luxury goods. The Shah himself borrowed vast amounts of money from Britain and Russia to finance his extravagant tours of Europe. At the same time, the currency was devalued, as the world price of silver declined. The exchange value of Iranian coinage, based on silver, steadily declined, falling by 1914 to one-fifth of its exchange rate in 1800.

Hence the state, in constant need of cash, raised money through: (1) the sale of state lands, (2) borrowing from British and Russian banks which had been granted the right to issue banknotes in Iran, and (3) the sale of monopolies and concessions to foreign capitalists (Avery 1965; Issawi 1991). Old ways of obtaining money by the state from merchants and creditors through extortionist methods survived (Ashraf 1980:39), but especially in the second half of the century, the commercial methods of raising revenue (borrowing, selling and renting) came to prominence. State lands (or *khaliseh* land) which were formerly only granted for services to the state became commodified as they were increasingly converted to private property for sale. This was a dominant tendency in the late nineteenth century (Lambton 1953).

The demand for land by merchants and other wealthy individuals originated in the second colonialism's world agricultural policy, which gave cash cropping for export new importance. The way to affluence now passed through the world market, and increasingly merchants, traders, and landed classes turned to international trade in agricultural raw produce. As merchants purchased land for commercial purposes, the land in possession of the traditional landlords (*arbabi lands*), the religious establishment (*vaghf lands*), the tribal leaders, and the military officers (*toyoul*

property) went under cultivation for export cropping. Toward the end of the century the fortune of the mercantile and landed classes had become tied to cash cropping.

The export-led character of commercialized agriculture in Iran is reflected in the composition of its products. Several crops had come to dominate Iran's export trade, including cotton, raw silk, rice, dried fruits, tobacco and opium. By the end of the century Iran derived 85 to 90 percent of its foreign exchange from the export of agricultural commodities (McDaniel 1971:37). An exception to the export of cash crops was export of carpet, which amounted in 1914 to about one-eighth of Iran's total exports. Carpet weaving expanded after 1870s as improved steam navigation reduced transportation costs and as the growing affluence in Europe and America increased the demand for Persian carpets. Here again "the bulk of the production continued to come from the traditional centers, financed and supervised by merchants" (Issawi 1991:598). Cash crops, however, comprised more than 85 percent of Iran's exports (Nowshiravani 1981:564). Silk production rose to a peak of one thousand tons in 1864, but it sharply declined afterwards when the marsecure disease reached Iran (Issawi 1991:599). Production of grains for export began in this period as wheat and rice were wanted in Russia, where they had been replaced by cotton cropping. Tobacco also was introduced in the 1870s primarily for the Ottoman, Indian, and Egyptian markets. By the late 1870s, upwards of one hundred tons of tobacco were raised (Issawi 1971:247-8). Cotton was a very old crop, but its new, particularly American, varieties were introduced when the "cotton famine" resulting from the American civil war led to a sharp increase in prices and a significant rise in Iranian exports. Between 1863 and 1865, the exports of cotton (mainly to Britain and Russia) increased by 500 percent. In 1896, McDaniel (1971:43) writes, "Persian cotton sold in Russia for nearly two rubles per pud (unit of 36 lbs.) less than American cotton and a ruble less than Russian. The response was so vigorous that there was some concern in Khorasan (province in north eastern Iran) that cotton cultivation was completely replacing grain and that in a bad year Khorasan would starve."

The commercial significance of opium began in the 1860s, when it became a major export crop. In the early 1860s exports amounted to about 60,000 lbs., rising to 1,600,000 lbs. in 1880. With a monetary return three times as high as wheat, opium increasingly displaced wheat in many areas (Issawi 1991). As one British consul reported, "[a] few years ago the profits of the opium attracted the attention of the Persians, almost all available or suitable ground in Yazd, Isfahan, and elsewhere was utilized for the cultivation of opium to the exclusion of cereals and other produce ... [this], combined with drought and other circumstances, resulted in the famine of 1871-2" (cited in Issawi 1971:238). In 1886, Iran exported more than twenty-six times more opium than it did in 1859 (Table 1). Compared to other cash crops such as cotton, opium's high value per pound and easy transportability made it one of the most significant cash crops in Iran.

While the role of drug trade as a component of the world trade system under the second colonialism remains understudied, it should be pointed out here that the exchange value of opium was not only based on its use value as a narcotic. Opium was also an important means of payment, particularly in connection with Chinese tea export to Britain. With the unpopularity of most British products in China and Britain's reluctance to pay by means of silver and gold, opium became the means

Table 1. Production of Opium for Export, 1859-86

Year	Cases of Opium Exported	Percentage Increase
1859	300	
1871	870	190
1876	2570	195
1881	7700	200
1886	8000	3.9

Source: Adapted from McDaniel (1971:43).

of financing British trade with China. By the late nineteenth century, Iranian opium trade had been well integrated into the India-China-Britain trade triangle. Later, I will point out the importance of the opium trade in mobilizing the merchants against the state in the Tobacco Rebellion of 1892.

New crops were introduced by foreign and domestic merchants who advanced funds or seeds to the growers. The practice of *salaf-khari*, or pre-harvest purchase of crops as a condition for supply of seeds, made the use of money and credit widespread in the export-led sector of Iranian agriculture. In the case of cotton, for example, merchants and speculators advanced money, distributed seeds and set up gineries. Funds were advanced either directly or through small merchants (Issawi 1991). In their confidence in the marketability of export crops, merchants sponsored the penetration of monetary relations in the Iranian countryside and helped the transformation of subsistence agriculture to commercial enterprise.

In 1904, the British official MacLean (1971:137), in his "Report on the condition and prospects of British trade in Persia" summarized Iran's trade with the British Empire, Russia, and other countries. An excerpt of MacLean's report is shown in Table 2.

PRODUCTION FOR PROFIT AND THE IRANIAN PEASANTRY

Not only was the produce of agriculture commodified and its composition changed via the mercantile connection with the world market of the second colonialism, but also, and of equal importance, is that the character of Iranian "serfdom" changed after the 1850s. Historically, peasants' dependency and bondage were not formally codified in Iran; substantively, however, peasants were tied to the soil and dependent on the landlords (Lambton 1953; Petrushevski 1966; Fazlullah 1939). Petrushevsky (1966:606-608) argues that the situation of Iranian peasants was similar to that of *landhonger* peasants in Germany at the beginning of the sixteenth century. Unlike *lei beig* peasants who were legally tied to the soil, *landhongers* had the formal right to leave one village for another, although in practice they weredependent and subordinated. In Iran, the so-called sharecropping system (*mozare-e*) effectively bonded peasants to the soil (cf. Poliak 1939:64-73). With their monopoly on land and water, the landlords subjugated the peasants as (hereditary) tenants who held cultivation rights (*haghe nasaq*) at the mercy of the lords (Araghi 1987).

Table 2. Iranian Trade with Britain, Russia, and Other Countries, 1904

Trade	Exports	Imports
British Empire	Chiefly raw products: Dried fruits, opium, gums, pearls, raw hides. Manufactures are carpets and some silk tissues for India.	Three-fourths, cotton yarns and tissues, which form also quite two-thirds of the total imports of these commodities to Persia. One-eighth or less, other manufactures; and the rest tea, coffee, spices, etc., from India.
	Total: £500,000 per annum.	Total: £2,000,000 per annum.
Russia	Five-sixths, raw or agricultural products, of which the most important are dried fruits, raw cotton, and rice, then hides and peltries, wool, cocoon silk, and gums. One-sixth, manufactures: Leather, carpets, and various tissues.	One-half, sugar. One-fourth, cotton tissues, one-fourth, other manufactures.
	Total: £1,500,000 per annum.	Total: £ 2,000,000 per annum.
Other countries	Opium to china, cocoon silk to France and Italy, carpets to Turkey, Europe, and America, cotton, silk, and woollen tissues to Afghanistan and Turkey.	Sugar from France and Austria, Woolen, cotton, and silk tissues from France and Austria, tea from China and Latvia, raw materials from Turkey and Afghanistan, other manufactures, chiefly from France, Austria, and Germany.
	Total: £1,000,000 per annum	Total: £1,000,000 per annum.

Source: Adapted from MacLean (1971:137).

The introduction of the profit motive and competitive pressure via the world market (cf. Tomich 1988) expanded and intensified the serf-lord relations in Iran. Even the formal cultivation rights were abrogated (Keddie 1980:164) and as Avery (1965:78-96) aptly noticed:

The age had come when the Iranian nobleman ceased to be to the peasants of his district a remote and a patriarchal figure contended with annual tribute in kind to feed his dependents; while taxes were also payable in products, so that the cultivator was spared the opportunities for oppression afforded by sales of crops for conversion into cash. The landed classes became magnates who could profit from the sale of bulk crops for export; especially cotton, tobacco, and rice. Their interest in the land assumed a new vitality as the possibilities of its exploitation for cash income were opened to them. *The cultivators became little more than slaves.* Their shares in the land remained the same or were rendered insecure while their masters found they could extract large profits. Their masters' overseers began to compel the cultivators to change from cropping on a level sufficient to satisfy the owner's, the government's and the cultivator's needs alone, to working *to meet a new type of commercial requirement* ... To be a land-owner was no longer to be part of an internally interdependent scheme. It was to be a profiteer, dependent upon foreign markets (emphasis added).

This new "vitality" of interest in land and its produce by merchant capital

amounted to attempts at increasing profits by increasing the volume of trade and “squeezing” peasant labor through cutting down into peasant subsistence and more intense exploitation of the peasantry. In other words, in so far as they raised profits, the agrarian merchants, of both landed and urban origins, did so on the basis of the extant relations in Iranian agriculture (*mozare-e*), that is through intensifying the exploitation of coerced labor (Araghi 1987, 1999). Numerous evidences exist to support this conclusion. “That the period of Western impact,” one historian points out, had “a worsening of peasant conditions and not simply a maintenance of traditional standards is suggested by comparing Western travelers’ reports before the mid-nineteenth century with later conditions” (Keddie 1980:160). Lambton’s (1953:143) research on the history of agrarian relations in Iran has also documented the “gradual worsening in the position of the peasant that took place in the nineteenth century.” These studies also suggest that merchants and landlords strengthened their hold on the land (Keddie 1980:164) and intensified coercive mechanisms of raising profit. As McDaniel (1971:40-41) states, “In agriculture, the peasant was more tightly squeezed either by the tax collector or the landlord, or both. The long-range effect of this pressure was to cause a steady accumulation of the land in the hands of the powerful.” Similarly, according to Keddie (1980:164):

The Western impact, at the same time that it helped the wealthier groups, and by the very fact of doing so, also helped to create a largely destitute peasantry. During the late nineteenth and early twentieth centuries traditional land rights were abrogated, and the growth of market economy enabled landlords, money lenders, and few peasants to enrich themselves at the expense of peasant majority.

The peasant-based uprisings of the early twentieth century, especially in the export cropping areas of Northern Iran, were partially a response to the landlord-merchant production regime. The fusion of the mercantile and landed interests restructured class relations and presaged the anti-peasant, anti-government, pan-Islamic, liberal coalition that formed during the Tobacco Rebellion and the Constitutional Revolution of 1905.

THE RISE OF PAN-ISLAMIC NATIONALISM

The relations of the Iranian state and the mercantile class with the world market under the second colonialism led to contradictory developments. On the one hand, the rapid expansion of world demand for raw materials opened to the merchants new opportunities for expanding their economic horizons. Emulating European practices, the Iranian merchants, despite some hard lessons, quickly gained financial strength. Besides being active in domestic and international trade in agricultural products and manufactured goods, they were, in the absence of a banking system, also involved in financial activities including lending, exchanging currencies, handling of commercial papers and buying and selling bills in other countries. They lent money to the state and state officials, and financed urban construction projects.

On the other hand, the opposite was true for the Iranian state as it came into contact with the colonial powers. It was militarily defeated, politically weakened, and financially destabilized. Through debt financing and imposition of commercial treaties that safeguarded the interests of foreign merchants, bankers, and industrial capitalists, the colonial powers had a representation within the Iranian state that the domestic merchants and capitalists could only dream of having. Toward the end of

the century, even the appointment of important ministers could not have taken place without the Shah's prior consultation with imperial powers. That this made Iran's formal independence devoid of content is reflected in the Shah's order to his chief minister: "You should speak with the British and Russian ambassadors. Ask them, 'do we have independence or not?! And why so much interference in our internal affairs?'" (Ravandi 1975:515).

Inevitably, the representation of foreign commercial interests within the state, with its domestic policy implications, created tension between the merchants and the state. In the beginning of the century, in fact, the merchants had a good working relationship with the court. By the second half of the century, there were signs of resentment. Having become familiar with the kind of support and protection that the European states provided their merchants and capitalists, they were increasingly displeased with the Iranian government's unwillingness or inability to secure property rights, to invest in the infrastructure, to enforce tariffs and to protect domestic trade and industry from growing foreign competition, to reform the monetary system, and to provide capital and credit for expansion abroad.

Iranian merchants felt indignant about competing with foreign merchants who had special rights and privileges, whose life and property were protected by capitulation rights and who were exempt from paying road taxes and other levies. They wanted the state to sponsor the construction and the unification of the *home* market, rather than to support the expansion of the *world* market. At times, the state seemed sympathetic toward the merchants and their needs, but in reality it frustrated all attempts at reform. Three times chief ministers who represented mercantile interests were appointed. Amir Kabir, the first minister, was later murdered by the direct order of the Shah, and the other two were forced to resign. A "Council of Merchants" was appointed to make policy recommendations, but the state ignored all the council recommendations.

The opponents of reforms were imperial powers and their representatives in the court, the conservative wing of the religious establishment and the mullahs who saw the reforms as leading to the emergence of modern civil establishments, mainly educational and judicial institutions, which would undermine their power and authority, and the Shah himself, who already shared power with foreign interests and, as with the conservative mullahs, feared that modernization would eventually weaken traditional sources of power and lead to the subversion of the throne's power. In a personal letter written in 1896, the Shah expresses his deep anxieties about more Iranians traveling to Europe as he thought: "This will have an extremely bad effect" [on Iranians as they will become aware of alternative social orders and forms of government] (Ravandi 1975; 544). By the last decade of the century it was becoming clear to the merchants and other pro-reform forces that the state neither intended, nor had the capacity, to carry out economic and social reforms.

To understand the forming alliance between the merchants and the pro-Islamic forces against the state in the late nineteenth century we need to distinguish between two factions within the religious establishment: (1) the reactionary conservatives, and (2) the realist pan-Islamists. The confusion of the two currents often obscures the nonsecular character of the nationalist movement in late nineteenth century Iran.

The reactionary conservatives, as pointed out above, consisted of those mullahs

and religious leaders who allied themselves with the state against all modern demands for *social* change. At times, this allied them with the policies of imperial powers; the issue for them was not colonialism or imperialism, but keeping intact the traditional structures of power, like contemporary Saudi Arabia.

The pan-Islamic movement, on the other hand, was a movement which sought to provide an Islamic alternative to Westernization. It was “realist” in the sense that it took account of the modern conditions and aimed at adapting modernity to Islam. Emerging in the context of European colonialism, the pan-Islamic movement was anti-European and anti-Christian in essence, and its political program was to revitalize Islam so that it would regain its lost power and reemerge as a world alternative to expanding Christendom. A precursor to the rise of pan-Islamic sentiments was the rise of the Babi Movement in Iran in the late 1840s. Sprung from among the mercantile classes, Babism proposed radical theological reforms, comparable to Protestantism in the West, and proposed an “evolutionary” understanding of Islam. Bayat (1991), in fact, has suggested a connection between the Babi (and in particular the *Azali* faction) and the rise of pan-Islamism in the late nineteenth century. Culturally and ideologically, pan-Islamism exerted a powerful influence within the Iranian nationalist movement at the end of the century. The merger of the merchant-landlord and the pan-Islamic opposition movements in discourse, rhetoric and practice was first crystalized in the popular protests against the Tobacco Concession of 1890.

THE TOBACCO REBELLION AND PAN-ISLAMISM IN WORLD HISTORICAL CONTEXT

In *The Great Transformation*, Polanyi ([1944]1994) argued that the successful imposition of market liberalism gives rise to its opposite, a protectionist countermovement to save society from the disruptive effects of market relations. The rise of protectionist counteraction also expressed, in Hobsbawm’s (1989:42) terms, “a situation of international economic competition,” following the multiplication of the “workshop of the world” model. The rising national competition among the industrial powers derived expansionism in non-European territories and the completion of the second colonialism. Protectionism at home and expansionism abroad were the two sides of the same coin, as the British prime minister implied when he told the French ambassador in 1897, “If you were not such persistent protectionists, you would not find us so keen to annex territories” (cited in Hobsbawm 1989:67).

In Iran, formal colonization, due to the countervailing influence of Russia and other factors, was not an option. Formal colonization, as Gallagher and Robinson (1976:61) pointed out in their influential work, depended on such factors as “the economic value of the territory, the strength of its political structure, the readiness of its rulers to collaborate with British commercial or strategic purposes, the ability of the native society to undergo economic change without external control, the extent to which domestic and foreign political situations permitted British intervention, and, finally, how far European Rivals allowed British policy a free hand.” Hence, in Iran, the growing expansionist tendency took the form of acquiring economic concessions. The state, on its part, saw granting of concessions as a way of raising revenue, perhaps a way that had less strings attached than foreign loans.

Typically, a concession brought a lump sum in advance and a portion of future revenues. The number of European concession hunters skyrocketed toward the end of the century. There were fifty Europeans in Tehran in 1865. By 1889, as Lord Curzon reported, there were more than five hundred, many of whom were “would-be concessionaires, wandering *chevaliers d’industrie, et hoc genus omne*” (cited in Avery 1965:89). Not all concessions were opposed by the merchants. The Reuter concession, put through by a chief minister who was an advocate of mercantile interests in the state, was extremely large in scope, as it included the right to build railways, to mine, and to establish a national bank. The big merchants, who did not have the capital to undertake such projects themselves were fully in support of this concession. This was not the case with the Tobacco Concession.

The Tobacco Concession was granted to an English company in 1890. The company acquired a fifty-year monopoly for the curing and sale, domestic and international, of Iran’s entire tobacco crop. In exchange, the government of Iran was to obtain an annual rent of £15,000 plus 25 percent of net profits each year and a 5 percent dividend on the capital. The concession outraged the merchants who controlled the domestic sale and distribution as well as the export of this popular product. Between 1881 and 1892, the export of tobacco from two port cities of Southern Iran had increased by 38 percent (Azhand 1988:40; Issawi 1971). Iranian merchants involved in tobacco export had agencies in major cities such as Cairo and Beirut and exported to Britain, the Ottoman Empire, Egypt, Afghanistan, and other places. Besides the like of the Amin al-Zarb brothers, two of the most affluent and internationally active Iranian merchants, thousands of smaller merchants, middlemen, and local distributors were involved in and benefitted from the tobacco business. There are documents which estimate that at least one-fourth of the Iranian population, nearly two and a half million people, were directly affected by the tobacco commerce, either as consumers or as producers and traders (Lambton 1965:128-9). As the historical documents of this period demonstrate, the merchants’ protest against the Tobacco Concession went beyond this particular crop. As one tobacco merchant put it:

We had the tobacco trade, and now we have lost it to a European. What should Iranians do from now on? Do nothing, or become servants or thieves? What else is there to do? Tomorrow, another foreigner will come and obtain the monopoly of trade in opium, cotton, gum, wheat and rice (Adamiyyat 1979:16).

In their fight against the state’s granting of the tobacco concession, merchants were accompanied by the pan-Islamic movement whose leaders, with the merchants’ initiative and support, declared a religious ban on the usage of tobacco, equating any violation of the ban as tantamount to war against god and religion. Claiming that Islamic Iran was being sold bit by bit to foreigners, merchants and pan-Islamists expressed their national consciousness in religious terms. By putting forth a religious nationalist discourse they gave the anti-concession struggle an ethical dimension that mobilized the whole population in their support. The ban on tobacco, it is reported, was even extended to the Shah’s harem:

The nation reacted with astonishing single-mindedness; all the pipes and cigarettes which were such an essential part, as essential as tea, of any Persian gathering or recreation were abandoned, even in the royal household. It was the first lesson in united action against the Shah and his Minister and the Concession was canceled in

January 1892 (Avery 1965:104).

In a sense, it is misleading to conceive of the anti-state movement of this period as a “coalition” of the merchants and the “religious leaders,” as most analyses of the Tobacco Revolt tend to argue (e.g., Keddie 1966). Such a formulation ignores the interconnectedness, both economic and moral, of the mercantile classes and the pan-Islamic movement. Of course, there were direct economic ties, such as the dependence of the Shi’a Islamic establishment in Iran on religious taxes from the public, and not the state, and on revenues from agriculture and export cropping on the endowed (*vaghyf*) land. But such economic reductionism misses the point. Just as the merchants of this era were deeply religious men who came to see the struggle for nationhood in religious terms, the pan-Islamists were nationalists who came to recognize the economic dimension of the “decline of Islam” under European hegemony and, more important, to a realization that countering modernity was not possible except on its own terms. This was a brand of nationalism which, in the words of one of its proponents, “wanted modernity *and* religiosity, ... wanted railroads and trains, but *also* a place of prayer inside the train, ... wanted liberty, but a kind of liberty that was rooted in the love of nation *and* pride in Islam” (Zarinkoob 1972:11). It was this historical and specific brand of nationalism, culturally nonsecular and economically modern, that came to power in the aftermath of the Constitutional Revolution of 1905. The composition of the national assembly that was formed following the revolution gives a clear picture of who was defined as part of “the people” under pan-Islamic nationalism: the typical representatives was Moslem, male, merchant or landlord or clergy. The assembly excluded peasants, wage-workers, non-Moslems, and women, all of whom were deprived of voting rights. The secularization of Iran did not begin until the early twentieth century, initially through the influence of Russian social democracy and later through the adoption of the pro-Western developmentalist model.

CONCLUSION

This study has focused on the interplay among economic, political, and cultural forces at a specific time period and locality, while analyzing the larger context in which local social transformation occurs. In emphasizing the interconnectivity of the local and the global levels of analysis, my aim has been to provide an alternative to abstract globalism and essentialist localism. Using this framework, I have tried to show the dynamic and contradictory linkages among the supranational structures of accumulation under the second colonialism, the changing balance of forces in the state and the changing character of the state, local class restructuring and alliance formation, and culturally specific social movements.

I began my analysis by specifying the three historical forms of colonialism. What I termed the second colonialism expressed the conditions of metropolitan capital accumulation and the hierarchical relationship between the dominant and subordinated states in the second half of the nineteenth century. Central to the pattern of trade under the second colonialism was the new role of agriculture in provisioning the reproductive needs of metropolitan capital and labor, and the reconstruction of the world division of labor.

Following its military defeats in the first half of the nineteenth century, the

Iranian state was increasingly incorporated into the larger political structure of the second colonialism as it came to represent the interests of international merchant and industrial capitals. On the commercial front, the emerging world division of labor transformed Iranian agriculture. As cash cropping for export grew, so did the economic strength of the landed and mercantile classes. As they grew in self-consciousness, they articulated and asserted their interests. By this time, however, the internationalization of the Iranian state was already underway. The double restructuring of the state and social classes created tension between the two. With their attempts at finding a voice within the state failing repeatedly and with the increasing penetration of their sphere of operation by politically privileged and more competitive foreign capitals, the Iranian merchants were driven into opposition and demanded a constitutional state. In the course of their struggles for state representation, they merged with the rising pan-Islamic reaction against European colonialism. Pan-Islamism, by its capacity for articulating the economic nationalism of the mercantile classes in ethical terms, mobilized the masses of people for struggle for the nationalization of the state. Precisely for this reason, nationalism in Iran at the end of the nineteenth century took a nonsecular character.

The rise of pan-Islamic nationalism, in turn, shaped international politics in the twentieth century (Araghi 1989). With the rise of socialism, pan-Islamism found a double function. The West came to see it as a countervailing influence on the expansion of socialist nationalism in the Middle East, just as the Soviet Union came to appreciate the anti-Western bent of pan-Islamism as a force on the side of socialism. Cold War politics strengthened pan-Islamism, as the latter came to strongly assert itself following the fall of communism, Western developmentalism, and the rise of the third colonialism in the late twentieth century.

REFERENCES

- Adamiyyat, F. 1979. *Shuresh Bar Emtiyazname Rezhi* (Rebellion Against the Tobacco Concession), Tehran, Iran: Payaam.
- Araghi, Farshad. 1987. "Agrarian Class Structure and Obstacles to Capitalist Development in Iran." *Journal of Contemporary Asia* 17(3):293-319.
- . 1989. "Land Reform Policies in Iran: Comment." *American Journal of Agricultural Economics* 74(4):1046-1049.
- . 1995. "Global Depeasantization." *Sociological Quarterly* 36:337-368.
- . 1997. "Two Theories of Development: Development as a 'Thing' Versus the Relation of Development." In *The Living Legacy of Marx, Durkheim, and Weber*, edited by Richard Altkhuler. New York: Gordian Knot Books.
- . 1999. "Food Regimes and the Theory of Value: Some Theoretical Remarks." Unpublished manuscript.
- . Forthcoming. "The Great Global Enclosure of Our Times: Peasants and the Agrarian Question at the End of the Twentieth Century." In *Hungry for Profit: Agriculture, Food, and Ecology*, edited by Frederick H. Buttel, Harry Magdoff, and John Bellamy Foster. New York: Monthly Review Press.
- Ashraf, A. 1970. "The Persian Land Reform, 1962-1966." *Iranian Studies*, 3:50-54.
- . 1980. *Mavne-a' Tarikhi Roshd Sarmayedari dar Iran: Dorehe Ghajariyeh* (The Historical Obstacles to the Development of Capitalism in Iran). Iran, Tehran: Zamine
- Avery, P. 1965. *Modern Iran*. New York: Praeger Publishers.
- Azhand, Y. 1988. *Ghiyaame Tanbaku* (The Tobacco Uprising). Tehran, Iran: Shokufe.

- Bayat, M. 1991. *Iran's First Revolution*. Oxford: Oxford University Press.
- Bonanno, Alessandro, Lawrence Busch, William Friedland, Lourdes Gouveia and Enzo Mingione, eds. 1994. *From Columbus to ConAgra: The Globalization of Agriculture and Food*. Lawrence: University Press of Kansas.
- Fazlullah, Rashid al-Din. 1939. *Taarikhe Mobarake Ghaznavi* (The History of Ghaznavids). Leyden: E. J. Brill.
- Friedmann, H., and P. McMichael. 1989. "Agriculture and the State System: The Rise and Decline of National Agricultures, 1870 to Present." *Sociologia Ruralis* 29:93-117.
- Friedmann, H. 1993. "The Political Economy of Food: A Global Crisis." *New Left Review* 197:29-57.
- Gallagher, J. and R. Robinson. 1976. "The Free Imperialism of Free Trade." Pp. 53-72 in *Imperialism: The Robinson and Gallagher Controversy*, edited by W. M. Roger Louis. New York: New Viewpoints.
- Goodman, D. and Michael Watts. 1997. *Globalising Food: Agrarian Questions and Global Restructuring*. New York: Routledge.
- Hobsbawm, E. J. 1989. *The Age of Empire: 1875-1914*. New York: Vintage Books.
- Issawi, C. 1971. *The Economic History of Iran*. Chicago: The University of Chicago Press.
- . 1991. "European Economic Penetration: 1872-1921." Pp. 590-607 in *The Cambridge History of Iran*, Vol. 7, edited by P. Avery, G. Hambly, and C. Melville. Cambridge: Cambridge University Press.
- Keddie, N. R. 1966. *Religion and Rebellion in Iran: The Tobacco Protest of 1891-1892*. London: Cass.
- . 1980. *Iran: Religion, Politics and Society*. London: Frank Cass and Company.
- Lambton, A. K. S. 1953. *Landlords and Peasants in Persia*. London: Oxford University Press.
- . 1965. "The Tobacco Regie: Prelude to Revolution, Part I." *Studia Islamica* 22:119-157.
- Marx, Karl. 1973. *Grundrisse*. New York: Vintage.
- MacLean, H. W. 1971. "Report on the Conditions and Prospects of British Trade in Persia." Pp. 136-142 in *The Economic History of Iran: 1800-1914*, edited by C. Issawi. Chicago: The University of Chicago Press.
- McDaniel, R. A. 1971. "Economic Change and Economic Resiliency in 19th Century Persia". *Iranian Studies* 4:36-49.
- McMichael, P. 1994. *The Global Restructuring of the Agro-Food System*. Ithaca: Cornell University Press.
- . 1995. *Food and Agrarian Orders in the World-Economy*. Westport: Praeger.
- Nowshiravani, V. F. 1981. "The Beginnings of Commercialized Agriculture in Iran." Pp. 547-591 in *The Islamic Middle East, 1700-1900: Studies in Economic and Social History*, edited by A. L. Udovitch. New Jersey: The Darwin Press, Inc.
- Petrushevski, I. P. 1966. *Keshvarzi Va Munasebate Arzi dar Irane Ahde Moghol* (Agriculture and Agrarian Relations in Iran in the Mongol Period). Translated by Karim Keshavarz, Tehran: Tehran University Press.
- Polanyi, K. 1994 [1944]. *The Great Transformation*. Boston: Beacon Press.
- Poliak, A. N. 1939. *Feudalism in Egypt, Syria, Palestine, and Lebanon*. London: The Royal Asiatic Society.
- Ravandi, M. 1975. *Tarikhe Ejtema iye Iran*. Vol. 2 (The Social History of Iran). Tehran: Amir Kabir.
- Stavrianos, L. S. 1981. *The Global Rift: The Third World Comes of Age*. New York: William Morrow.
- Tomich, Dale. 1988. "The 'Second Slavery': Bonded Labor and the Transformation of the

-
- Nineteenth-Century World Economy.” Pp. 103-117 in *Rethinking the Nineteenth Century: Contradictions and Movements*, edited by Francisco O. Ramirez. New York: Greenwood Press.
- Weber, M. 1949. *The Methodology of Social Sciences*. Glencoe: The Free Press.
- Zarinkoob, A. 1972. “Dar Piramoone Enteshare Az Saba taa Nima” (On the Publication of From Saba to Nima). *Rahmamaye Ketaab* (Mordad/Shahrivar):1-35.