

EDITORS' INTRODUCTION

We welcome readers to Volume 9 of the *International Journal of Sociology of Agriculture and Food* (IJSAF). In keeping with the journal's international focus we have selected, for this edition, a diversity of papers from authors throughout the world dealing with such topics as the strategies of corporate hog producers in the U.S., the reforming of New Zealand agriculture, the symbolic transformation of Australian rural environments, and community forestry in Mexico. We conclude with an important contribution from Bill Friedland on commodity systems methodology. We thank the authors for submitting their papers to the IJSAF and ask readers to consider the journal as an outlet for their own work. We intend, for example, to compile a special edition (or part of an edition) on the sociological aspects of agro-biotechnology and encourage those researching in that area to submit material.

As most readers know, the IJSAF is concerned with a critical, sociological, understanding of food, of agriculture, and of relations between the two. It covers issues of policy, market, technology, labor – as well as the wider concerns relating to all aspects of production and consumption. It provides a forum for scholars whose research can provide insights into contemporary agri-food restructuring in a globalising economy. It also promotes, where possible, comparative and historical analyses that can contribute not only to a broader political economy and political ecology of agri-food issues, but also to progressive social action.

The new editorial team which is now in place (and will be for the next two years) has sought to streamline the processing of papers that have been submitted to the journal. We are now doing all the 'work' of the journal electronically. When we receive a paper (as a Word attachment) we quickly examine it for content and style. If the paper is clearly not appropriate for the Journal we send an email to the author – usually identifying a more appropriate outlet for publication. If the paper's content is acceptable we check for style. If the author has not conformed to the new style guide we send it back to be reformatted. Once the paper has been received in an acceptable format we provide the paper in electronic form to three reviewers, along with an electronic proforma. Once the reviews of each paper are received, the editors synthesise the comments, and send these back to the author of the paper. If the paper has been accepted for publication, we ask the author for a quick turnaround – of about one month. While this process is still 'on trial' we believe that it will allow us to publish our target of two editions per year.

Readers may be unaware that the Research Committee on the Sociology of Agriculture and Food (RC40) is the only research committee of the International Sociological Association with its own journal. We are very proud of this and hope that we can seek greater participation by RC40 members in the various activities of the journal. We have, for example, begun to identify the main areas of academic strength of members as a prelude to targeting particular people to undertake reviews

of papers. We acknowledge the assistance provided to date, but also ask for increased participation for the future.

Finally, the smooth transition from the previous editor to the current editorial team could not have occurred without the support of Mustafa Koc, David Myhre, Ray Jussaume, Jr., and Phil McMichael. Special thanks also go to Simon Kitto of Central Queensland University who worked, tirelessly and professionally, as editorial assistant for this volume.

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CORPORATE STRATEGIES IN THE GLOBAL ERA: THE CASE OF MEGA-HOG FARMS IN THE TEXAS PANHANDLE REGION*

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INTRODUCTION

Employing the case of the expansion of mega-hog production facilities in the Texas Panhandle region, this paper contributes to the globalization of agriculture and food literature by illustrating the strategies employed by transnational corporations (TNCs) to advance their economic and social interests and respond to emerging resistance. We argue that – rather than substantively addressing property, quality of life and environmental concerns raised by rural activists and residents – TNCs complement their hyper-mobility with corporate actions at the legitimative, political and economic levels which support their plans. At the legitimative level, hog-producing TNCs reacted to the challenges of local residents by presenting a “green” image which indicates conformity to good practices of environmental stewardship, narrows the definition of sound environmental actions and devalues opposition’s claims. Politically, TNCs modified existing environmental legislation to fit their agenda. By exercising direct control over the polity, TNCs were able to eliminate citizen participation from decision making processes concerning environmental issues. Additionally, they were able to further depoliticize environmental and property issues by shifting them from the political realm to the administrative sphere. Economically, TNCs stressed the benefits that communities received from the relocation of mega-hog operations in their areas in a context characterized by a high demand for corporate investments from other regions. Additionally, TNCs employed their economic clout to exploit communities’ needs in order to gain acceptance of corporate positions.

This case study is grounded on a Critical Theory framework (Antonio 1983; Horkheimer 1972; Wiggershaus 1994). While sharing the Marxian tenets of economic domination and class struggle over of the control of the means of production, Critical Theory pays attention to the cultural and ideological sides of class domination. For Critical Theory mature capitalism is characterized by the cultural hegemony of dominant classes and the economic and ideological oppression of subordinate groups. Though the use of Immanent Critique, critical theorists document the false unity of theory and history, the claim that current social arrangements correspond to the bourgeois ideals of universal equality, justice and

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freedom. Accordingly, our study of TNCs is framed in a context in which the corporate search for more profitable forms of production is accompanied by similarly important actions at the cultural and ideological levels. In this context, culture and ideology are contested terrains in which hegemonic discourses support but also legitimize the interests of dominant classes. These assumptions allow us to approach domination and resistance from an economic as well as cultural and ideological levels without having to commit the ontological primacy of one of the other components. For Critical Theory the relationship between economy and ideology is a dialectical one.

A case study methodology featuring content analysis is employed to examine the discourses and actions of TNCs and their opponents. These data were generated through keyword searches of available data bases at the Sam Houston State University Library and the internet. Key words included "CAFOs," "Seaboard Farms," "Texas Farm," "Premium Standard Farms," and "ACCORD." Data consist of the universe of published works and documents available on the subject from 1995 to 2000. The majority of the data for construction of the case were obtained from internet versions of local, regional and national newspapers that provided balanced accounts of the controversy. Documents generated through these searches were organized and analyzed for content focusing on the debate over the impacts of swine CAFO location in the Panhandle region of Texas.

The paper is divided into four sections. The first section reviews salient literature on the globalization of agriculture and food and of the primary tenets of the literature of the globalization of the economy and society. The latter is employed to frame the discussion of the former. Moreover, the major findings of this literature are employed as departing points for the analysis of the case. The second section presents the case study. Here, the illustration of the events follows more an analytical than a chronological pattern, although some faithfulness to the events time sequence is maintained. After a brief description of the expansion of the industry in the region, the section explores the actions taken by TNCs at the political, economic and legitimative levels along with local resident's responses. The third section consists of an analytic discussion of the case study. It is maintained that TNCs employ an array of strategies to advance their agenda. These strategies transcend hyper-mobility and involve control of the polity, TNCs' use of economic clout, and attempts to legitimate their actions to broader segments of society. The fourth and concluding section discusses the impact that corporate strategies have vis-a-vis the issue of democracy in the global era.

THE GLOBALIZATION OF AGRICULTURE AND FOOD LITERATURE: A BRIEF REVIEW

One of the major tenets of the now vast literature on the global economy and society (see Cox 1997; Carnoy, Castells, Cohen and Cardoso 1993; Dicken 1998; Harvey 1990; Lipietz 1992; Sassen 1996; Sklair 1993; Spybey 1996) is that transnational corporations are among the most powerful agents in today's society. They are entities endowed with powers which shape contemporary patterns of socio-economic development. Some view TNCs as key vectors for the expansion of the economy and the creation of better socioeconomic conditions (e.g., Kindleberger 1986; Strange 1996). They believe that the TNCs' ability to bypass state imposed

laws and regulations is an indication of the problems that state intervention has generated in socioeconomic matters and, ultimately, a solution to this issue (Friedman 1982; Rubner 1990). They generally hold that TNCs should be allowed to freely maneuver if better socioeconomic conditions are to be sought.

Diverging positions stress that newly created jobs do not transcend low to minimum wage levels and their existence is subjected to corporate relocation strategies (Bluestone and Harrison 1986). When pressures to raise wages and/or to conform to existing state imposed regulations emerge, corporations can exercise their enhanced global mobility to relocate in areas characterized by less expensive labor pools and more favorable political climates (Lash and Urry 1994; Sassen 1996). *Hyper-mobility* of capital is the term employed to refer to the now expanded capacity of TNCs to move about the globe in search of more favorable factors of production and sociopolitical climates (Harvey 1990). Pitelis (1993), for instance, argues that the desire of TNCs to control labor and diminish production costs motivate them to consider alternative production sites. This situation increases their bargaining power over nation-states which compete for direct investments. The nation state is, consequently, faced with a contradictory situation in which its desire to attract investments limits its responsibility to monitor TNCs' actions. Locals within nation-states are forced to compete with each other in order to attract TNCs' investments. In so doing, however, they discount local resources for corporate use. Recent studies (see, for example, Barlett and Steele 1998) indicate that communities' efforts to provide incentives for corporations do not necessarily net job increases. This corporate welfare is simply a system to shift public resources toward the corporate side with minimal – and often negative – results for communities. Despite this evidence,¹ TNCs' ability to move, and/or threat relocation, has been a powerful tool for the generation of less expensive and/or more convenient factors of production (Sassen 1996; Sklair 1998; Storper 1997).

Works in this camp also argue that the transnationalization of economic relations weakens the ability of the nation-state to monitor groups and resources which, in turn, compromises the maintenance of established forms of democracy. Because nation-states have historically been the vehicles of self-government, they have been able to allow citizens – albeit in different degrees – to bring their judgments and

1. According to Barlett and Steele (1998) the practice of “corporate welfare” has skyrocketed in recent years in the United States. Corporate welfare refers to the wealth of state subsidies, tax abatements and general incentives that corporations receive in order to invest, create employment and limit disinvestments in local areas. These authors also demonstrate that despite the heralded benefits that corporate welfare was supposed to generate, evidence indicates that it is rarely responsible for employment growth. Some among the many examples of corporate welfare include: a \$10 million incentive package provided by the city of Jonesboro, AK to Frito-Lay, a subsidiary of the powerful PepsiCo Inc; \$16.9 million in tax exemption and \$3 million in property sale tax reduction to General Motor from the state of New York; \$29 million of tax and investment credits and \$2.5 million for job training programs to the meat packing company Nebraska Beef Inc from the state of Nebraska; \$253 million to the automobile giant Mercedes from the state of Alabama; \$355 million from the state of Ohio to General Motors; a \$2 million a year sale tax exemption to Time Warner from the state of Florida; an \$80 million incentive package to UPS from the state of Kentucky (Karmatz, Labi, and Levinestein 1998).

values to bear on the economic forces that dominate society. The ability of economic actors to transcend national domains has greatly diminished the historical capabilities of citizens to participate in decision making processes, a situation which redefines the limits and scope of democracy (Danley 1994; Sandel 1996).

Complementing contributions referring to other productive sectors and society as a whole, the literature on the sociology of agriculture and food has provided numerous analyses of the behavior of TNCs and the consequences that their actions have on various segments of society and institutions. A number of authors have documented the ability of TNCs to establish global production networks based on the identification of more desirable factors of production (e.g., Friedland and Bendini 1998; Heffernan and Constance 1994; Sanderson 1986). *Global sourcing* is the concept employed to describe TNCs' capacity to operate worldwide in search of less expensive labor and resources, friendly legislation, and more accommodating social relations (Fink 1998; Gouveia 1994; Higgins and Jussaume 1998; Raynolds 1998; Raynolds and Murray 1998). To be sure, this literature stresses that the concept of "more desirable factors of production" involves more than TNCs' simple search for less expensive labor and natural resources. It contemplates processes of identification of those locations endowed with good business climates, that is, regions in which the intervention of the state, industrial relations, political postures and cultural outlooks assume procorporate tendencies.

The ability of TNCs to bypass state rules, regulations and demands has also been one of the foci of the sociology of agriculture and food literature. Employing the cases of various agro-food commodity chains and corporations, authors maintain that TNCs' hyper-mobility and the transnationalization of social relations within which it emerged have allowed corporations to increase their control over the state (e.g., Bonanno and Constance 1996; Friedland 1991; McMichael 1996; McMichael and Myhre 1991). For some, this control is only partial as TNCs need state support to carry out capital accumulation projects (Friedland 1994; Koc 1994). Others indicated that the state has already been controlled by TNCs and its national form has entered an irreversible crisis (Llambí 1993; McMichael 1996; McMichael and Myhre 1991). Regardless of these differences, it is commonly agreed that TNCs' hyper-mobility has weakened the ability of nation-states to monitor and/or oppose the activities of corporate actors. This situation, they argue, also weakens the ability of citizens to participate in decision making processes concerning food security and availability, scientific research patterns, environmental sustainability and community development, (e.g., Busch, Lacy, Burkhardt, and Lacy 1991; Constance, Kleiner, and Rikoon 1997; Mason and Morter 1998; O'Connor 1998; O'Connor 1994; Vellema 1999).

A growing concern among students of global phenomena in agriculture and food has been the implications that the TNCs' actions and their ability to bypass state imposed rules signify for democracy (Bonanno 1998; Busch 1998). Authors pointed out that the bypassing of state-imposed rules and regulations allows TNCs to be exempted from submitting to democratically established rules and procedures. It is a situation, they continue, in which TNCs can select which ones among the democratic processes and outcomes they want to follow and accept. Bonanno and Constance (1996), for instance, documented how agro-food TNCs avoided U.S.-based environmental legislation by claiming another nationality through moving

their production facilities overseas and reflagging their fishing vessels. These actions, it is maintained, jeopardize the existence of basic assumptions upon which democracy has historically evolved (Busch 1998). Lacy captured the essence of this literature by articulating the situation in these terms: "Both democracy and globalization have important implications for empowering communities. However, the overarching challenge of our age is the crisis in democracy itself. Globalization may contribute significantly to that crisis" (RSS 1998:2).

THE CASE STUDY

The Confined Animal Feeding Operations (CAFOs) Come to the Panhandle

The case study discusses the establishment and growth of CAFOs in the Texas Panhandle region. This area has been targeted for CAFOs due to its social, economic, geographical and political characteristics. This multi-state region (Texas, Oklahoma, Kansas, Colorado, and New Mexico) allows TNCs to select among a variety of state regulations, socioeconomic incentives, political postures and community sentiments within a relatively limited area. Because of this proximity – but not exclusively because of it – TNCs have the possibility to choose the most favorable conditions of production by enticing adjacent communities, counties and states to compete against each other for corporate investments (Barlett and Steele 1998; Constance and Heffernan 1991; Giardina and Bates 1991). Additionally, TNCs view the low concentration of population, the limited political opposition that this situation entails and the long standing tradition of animal agriculture typical to this region as ideal conditions for the establishment of CAFOs (Barlett and Steele 1998; Hart and Mayda 1998). Finally, the low socioeconomic status of counties within the region motivates political elites and some local residents to welcome industrial investments (Lee 1998:4d).

CAFOs have appeared in a variety of locations across the United States (Ladd and Edwards 1998; Thu 1996; Thu and Durrenberger 1998). Fueled by corporate needs to homogenize production, satisfy processing sector demands, and reduce costs, this type of business emerged as a desired option for large agro-food firms. The industry justifies CAFOs as an answer to the increased demand for lean meat generated by enhanced quality of life consumption models typical of postindustrial, affluent societies. Additionally, it is viewed as an effective manner to reduce production costs and bring jobs to economically depressed areas (Houghton 1998). However, it is also evident that restructuring internal to the sector and the development of more elaborated commodity chains requiring enhanced commodity standardization and delivery systems contributed to the growth of CAFOs (Kilman 1994). To this effect an industry representative recently stated: "Texas has been viewed as the next frontier for giant hog farms capable of turning out hundreds of thousands of uniform animals for a fast-growing market" (Lee 1998:4d).

In recent years there has been a rapid growth of CAFOs in the Panhandle region. This growth began with the location of the Seaboard Corp. pork processing plant in Guymon, Oklahoma in 1995. In this area, major hog production firms have permits to raise more than 2,000,000 animals annually and this number is on the rise according to Texas, Oklahoma and Kansas officials (Ledbetter 1997c). Firms that have recently located or expanded include: Premium Standard Farms, the 2nd largest pork producer in the U.S.; Seaboard Corporation, the 3rd largest; Texas Farm, the

20th; Vall, Inc., the 25th; and Hitch Pork Producers, the 39th (Successful Farming 1999).

As of December of 1997, in Ochiltree County on the northern border of Texas and Oklahoma, Texas Farm is a subsidiary of Nippon Meat Packers. Nippon Meat Packers is one of Japan's largest meat packers. It processes pork at a plant in Nebraska in the U.S. that it jointly owns with the major U.S. meat packer and processor, IBP (Insights 1997). Nippon raises hogs in the Texas Panhandle to export to Japan. In response to concerns about BSE (mad cow disease), Nippon Meat Packers began specifying the source of its meat (Hoover's Online 2000). Nippon Meat Packer is one of Japan's largest food companies with 115 consolidated subsidiaries. Some ninety four are in Japan and there are twenty one abroad (Wright Analysis 2000). Texas Farm had 7,000 sows in production which were scheduled to grow to 53,000 by the year 2000. It had permits to raise 431,593 hogs per year and build 52 lagoons to service those facilities. It was also seeking additional Texas Natural Resources Conservation Commission (TNRCC) permits for another 307,350 hogs and 64 lagoons to control animal waste. Additionally, it had four facilities permitted and four more pending for more than 300,000 hogs located near Perryton in Ochiltree County. According to Texas Farm sources, the company operations covered 10,000 acres in Ochiltree and Hansford Counties, Texas, employed 140 workers, and projected the number of employees to expand to 420 by the year 2000 (Ledbetter 1997c). Most of Texas Farm's production was targeted for export back to Japan (Morris 1997).

Seaboard Farms is the hog producing subsidiary of Seaboard Corp., a diversified international agribusiness and transportation company primarily engaged in the domestic production of poultry and pork, commodity merchandising, baking, flour milling, and shipping. Overseas, Seaboard Corporation primarily engages in shrimp production and processing, flour milling, produce farming, sugar production, and animal feed production. It has over 4,000 domestic employees as well as substantial employment within its Latin American and African operations. Seaboard's Pork Division started in the early 1990s and quickly gained market share in the U.S., as well as became one of the leading exporters from the U.S. to Japan, Mexico, Korea and other premium foreign markets (Seaboard 2000). Seaboard Farms already had permits to raise 392,750 market hogs. It had also permits pending for another 716,920, and just submitted another permit application for an additional 296,000 hogs (total of 1,411,670) according to the Water Quality Services of the Oklahoma Department of Agriculture. Seaboard operations just moved to the Oklahoma side of the Panhandle after leaving Southeastern Minnesota despite receiving significant economic contributions from local authorities to establish and carry out production in that region (Barlett and Steele 1998:54–55). Environmental problems generated by animal waste and inadequate lagoon-based waste treatment systems coupled with the company unwillingness to invest to upgrade its facilities resulted in Seaboard leaving now polluted Minnesota areas for new uncontaminated lands (Barlett and Steele 1998:53).

Spanish-owned Vall Inc. is a subsidiary of Vall Company headquartered in Lleida Spain. Vall Company pioneered the system of livestock integration in Europe and currently has 2,500 collaborators supplied by its companies with livestock for fattening, feedstuffs, and technical assistance on animal health. The company owns

and operates five hog farms in the Panhandle of Oklahoma with, 2,500 sows per farm and around 250,000 fattened pigs. The company has a feedmill in Texahoma, Oklahoma that provides feed to its hog operations (Vall Inc 2000). Vall Inc. has five applications to permit 86,400 head of hogs. Presently it has about 12,000 sows producing approximately 240,000 pigs per year and employs 120 people. By the year 2000 the company is expected to have 24,000 sows and raise 500,000 pigs per year at its 35 to 40 finishing barns. Vall, Inc. sites are located in Sherman County, Texas, and at Four Corners and Texahoma, Oklahoma. (Ledbetter 1997c).

Premium Standard Farms (PSF) is a subsidiary of the ContiGroup, a division of Continental Grain, one of the largest privately held corporations in the United States. ContiGroup is a leader in integrated pork and poultry production, cattle feeding, and aquaculture, with nearly 200 years of experience in agribusiness and global trade. It operates in thirteen countries through facilities and affiliates and is one of the world's largest cattle feeders, the sixth-largest integrated poultry producer in the U.S.; and through its joint venture with Premium Standard Farms, the U.S.'s second-largest integrated hog producer. The Company is a leader in aquaculture and flour milling, and one of the largest animal feed and poultry producers in China. It also operates the largest integrated shrimp farm and hatchery in Ecuador, raises and markets more than 12 million pounds of fresh salmon per year along the U.S. Maine coast, and is a major producer of animal feed, wheat flour, pork, and poultry in Latin America and the Far East. ContiGroup is one of the world's largest agribusiness companies with 14,000 employees worldwide – plus an additional 10,000 in joint venture operations (ContiGroup 2000). PSF has 188,892 head approved on Subchapter K permits and another 925,000 head on Subchapter B permits.² Its operation near Dalhart has 22,000 sows with 251 employees located on 40,000 acres in the area and is stocking its facilities with additional sows. According to a PSF spokesperson, "We're simply adding sows as we can to the High Plains farms" (Ledbetter 1997c:3d). The regional manager for the TNRCC in Amarillo, commented that, although TNRCC did not have the actual number of requests because many of the operations were just stocking their farms, things were just hectic in the Panhandle (Ledbetter 1997c:3d).

Table 1 below lists the annual estimates of hogs at each location according to the company figures provided to the TNRCC, the Oklahoma Agriculture Department, and newspaper reports (Ledbetter 1997a:1).

Corporate Strategies and Local Responses

Corporate Actions at the Political Level

In early 1993 complaints about hog production generated environmental pollution began reaching TNRCC offices. In particular local residents complained about intense odors and respiratory problems. An investigation from TNRCC concluded (Morris 1997:10a):

The concentration of dust being carried outside the feedlot was adequate to interfere with the normal usage and enjoyment of ... private property. The

2. Subchapter K permits are those issued after the TNRCC changed its permitting regulations and eliminated public hearing processes for neighbors of cattle feedlots or hog farms; under Subchapter B permits, neighbors were allowed such hearings. See below for more details.

Table 1. Estimates of number of hogs produced annually by site, 1997

Company	No. of hogs	County	State
Premium Standard Farms	396,000	Dallem	Texas
Texas Farm	140,000	Ochiltree	Texas
Vall, Inc.	240,000	Texas	Oklahoma
Seaboard	392,750	Texas	Oklahoma
Dean Paul	15,360	Hansford	Texas
Paul Hitch	300,000	Texas	Oklahoma
DeKalb	200,000	Seward	Kansas

dust could potentially cause adverse physiological discomfort, such as burning and itching eyes, coughing and breathing difficulties, to persons of ordinary (sensitivity). Individuals with compromising health conditions could be more severely impacted.

Despite these findings, TNRCC did not issue any odor-related citations to CAFOs. The air program director for TNRCC's Field Operations Division commented that the agency's ability to cite CAFOs for nuisance odors had been impaired by a 1993 Texas Supreme Court ruling. In 1993 F/R Cattle Co. of Erath County, TX contested a citation from the Texas Air Control Board (the predecessor to TNRCC). They claimed the odors emanating from the feedlot were part of a "*natural process*" and were therefore exempt from regulations linked to the Texas Clean Air Act. While F/R Cattle Co. lost the original trial and the appeal, the Texas Supreme Court found in their favor (Morris 1997:10a). As a result of this decision, the director informed the TNRCC regional offices that all proposed CAFO odor citations were to be sent to a review committee at the central office in Austin. The task of the committee was to ascertain whether there was evidence of "flagrantly bad management practices, extremely intense impact and/or a pattern of problems at the source" (Morris 1997:10a).

The limited ability of environmental agencies to cite CAFOs did not halt local residents from complaining and raising doubts on the presumed benefits that the introduction of these agro-food operations brought to the area (Morris 1997). Faced with growing resistance, CAFO corporations sought political assistance from state agencies. In late 1993, steps were taken to secure the support of an eminent Texas State Senator³ and like-minded political figures. CAFO representatives protested TNRCC's investigations of cattle feedlots that were allegedly producing pungent and "potentially unhealthful" clouds of dust. Additionally, they complained that the TNRCC was not giving them time to correct their infractions, a reversal of this agency's previously established policy and a behavior which was almost unanimously considered overzealous.

The strategy worked. By the summer of 1994 a proposal was drafted to simplify

3. The name of this state senator is omitted to protect privacy. Records of meetings between state and CAFO officials disclose the identities of the participants (Morris 1997).

the permitting process for CAFOs in Texas. A key element was the elimination of the public hearing process which was contingent upon the farm or firm meeting certain environmental criteria. In a letter to TNRCC, the state senator stated, "The perception throughout the United States that the regulatory environment in Texas is burdensome and unfavorable creates disincentives (for CAFOs) to locate in Texas" (Morris 1997:10a). The Senator's self-professed aim was to attract operations that had been moving into states such as Oklahoma and New Mexico. Additionally, he also made it clear that CAFOs should not be made against the law just because some of the neighbors find them offensive. "While many people would like to use the TNRCC as a sort of rural zoning agency, that's not their job. Their job is environmental protection" (Morris 1997:10a). The Chairman of TNRCC responded quickly by indicating that the TNRCC had "been thinking along the same lines" and agreed with the "basic thrust of his proposal" (Morris 1997:10a). Dissatisfied with this outcome, the air quality manager for the Amarillo chapter of TNRCC resigned his post in August of 1996. Co-workers stated that he had resigned because he "could no longer tolerate the agency's hands-off policy toward CAFOs" (Morris 1997:10a). By the summer of 1995 the TNRCC had incorporated the proposal into the changed rules regarding CAFO permits: "Its field personnel were ordered to stop issuing nuisance-odor citations to CAFOs, regardless of how disagreeable their emissions became" (Morris 1997:10a). The new rules stated that permits could be challenged only on matters of *technical merit* and not "the fact that a barn might reek or otherwise be troublesome" (Morris 1997:10a).

According to a local TNRCC agriculture and water quality specialist, Texas adopted CAFO permits in an effort to streamline a fragmented system and make better use of the agency's limited resources. From his point of view, the new system has worked fairly well. The Chairperson of TNRCC stated, "If you compare what Texas requires with what other states require, we are as stringent, if not more stringent. What we require in Texas is protective of the environment and the people around these facilities" (Morris 1997:10a). He went on to say that Texas was following a national trend in doing away with site-specific permits and hearings based "more on land-use disputes than on actual environmental risks" (Morris 1997:10a). To be sure, this posture clashes with the content of existing Federal regulations. The EPA, for instance, requires inspection of soil sample every three months while the TNRCC requires for soil checks every year. Additionally, the EPA mandates inspection of waste-retention lagoons ever two years while the state of Texas requires these inspections every five years (Barta 1998). With this change in the regulatory climate, large-scale pork producers began to locate and expand rapidly in the Panhandle region.

Local Resistance

As information spread in 1995 that the CAFOs were moving in, some residents formed a group called Active Citizens Concerned Over Resources Development (ACCORD). A similar group had formed a few years before in Texas County, Oklahoma in response to the rapid growth of CAFOs around the Seaboard Farms pork processing plant in Guymon, Oklahoma (Morris 1997). By early 1998 ACCORD had grown to 155 members. The group held monthly meetings inside a farm-supply business called the Outhouse which became their "war room" where they plotted the movement of hog farms on two large county maps that cover one

wall (Lee 1998:4d). In short, ACCORD was a community-based small group that was created by concerned citizens disturbed by declining property values and quality of life in their communities. Members were local residents, mostly farmers and ranchers, who felt threatened and violated by the establishment of the CAFOs. The development of health problems and the discomfort caused by CAFOs' air pollution emerged as the primary reasons motivating protest. However, the fear that persistent quality of life problems could affect the value of local residents' properties, enhance social problems such as crime and school overcrowding, and deteriorate the community's overall socioeconomic conditions further motivated anti-corporate actions. Anti-corporate feelings remained strong even in the presence of claims that the CAFOs' presence generated new jobs and other economic benefits to local communities (Constance and Bonanno 1999).

Exemplifying local residents' willingness to fight for their substantive ability to participate in decision making processes in their communities, ACCORD's most visible action came when they initiated a lawsuit against TNRCC. ACCORD claimed that the rule changes deprived property owners of their fundamental right to a hearing prior to the permitting of a feedlot (Lee 1998; Morris 1997). Furthermore, they claimed that the "awful odors from large-scale hog farms waft into their homes and their tractor cabs and generally threaten their quality of life" (Lee 1998:4d). According to the ACCORD legal representative, "The state permitting process should not be a formality. It is now, but it shouldn't be. [Also] the rights of the hog firms to make money should not supercede the rights of adjoining landowners to be free from annoying and possibly hazardous air pollution" (Morris 1997:10a). ACCORD legal representative's additional statement that the State Senator who was author of the changes "has written off the citizens of Ochiltree County" was emblematic of local residents' resentment regarding the collusion between corporate and political powers and their broader capacity to scrutinize links between these two spheres. The Court eventually ruled that the 56 CAFO permits approved by TNRCC for cattle feedlot expansions, new dairy operations, and pork facilities under Subchapter K since 1995 were invalid⁴

4. The use of legal strategies to combat corporate actions is an important component of the local anti-corporate resistance. Following previous successful attempts by other segments of the environmentally based anti-corporate movement, ACCORD members challenged TNRCC's pro corporate standings on the grounds that the elimination of hearings was illegal and therefore that CAFO permits issued under the new regulation should be revoked. The design was to replicate the strategy employed in a number of previous cases in which locally based environmental groups challenged corporate entities on legal grounds. In these cases, the use of the Court was aimed at requesting the enforcement of already existing laws and regulations unattended by corporations. Like other attempts before this one, this strategy was successful as Court support for pro-environmental claims is growing (see also Constance et al. 1997; DeLind 1995). However, this victory discloses also its limits. It was primarily directed at preserving the implementation of already existing norms which have been on the verge of being reformed by pro-corporate forces. It was a defensive battle which is telling of the difficult political climate within which pro-environmental and community based anti-corporate groups operate. Indeed the vulnerability of this strategy is evident in the instance in which the Texas Supreme Court overruled a lower court judgement which supported an originally more aggressive role of TNRCC in monitoring and citing CAFOs.

(Ledbetter 1997d; Lee 1998). The sentence motivation was based on the fact that TNRCC had failed to show “reasoned justification” for eliminating hearings for permits (Lee 1998:14d).

Corporate Actions at the Economic Level

CAFO representatives insisted that the new regulations were more stringent than ever before and that the facilities in question “were designed and constructed properly to be protective of the environment” (Ledbetter 1997d). They attributed the ruling to a “technicality” having little to do with the environment, citizens’ health and property value.⁵ These objections notwithstanding, considerable emphasis was placed on the economic effects that the ruling might have on the Panhandle. One representative stated: “We’re confident the state will work out the technicality because the importance of animal agriculture to this region and our state is very substantial [as] operations touched by the ruling account for more than \$2.3 billion and 2,400 jobs” (Ledbetter 1997d). An animal science professor and director of an industry related institute at a major Texas university warned of the consequences that a situation such as this could have in a competitive market populated by highly mobile corporations. He stated: “[the ruling] has already had an effect. Companies are doing site selection – they’re just doing it in other states... And if [pork meat] is not produced in Texas, it will be produced overseas” (Lee 1998:4d). “After all,” the Head of the Animal Science Department at the same university concluded, “the pig industry has provided a vehicle for communities to grow [and] to preserve a way of life” (Brown 1998:9). Following established mobility-based corporate strategies, Nippon Meat Packing was quick to announce that “major additions to its Panhandle facilities were on hold” (Lee 1998:4d). An analyst noted that “he knows of a least two corporate hog producers that had eyed new locations in the northern Panhandle but now have become skittish” (Lee 1998:4d) while another study stressed that “there are already reports of plans to develop huge hog farms in Mexico, where the restrictions on them would be less onerous” (Hart and Mayda 1998:76). Texas Farm issued a formal statement saying that it had selected the Panhandle region of Texas because it was environmentally sound and it already had a long and successful history of large-scale cattle feedlots. The company further stressed that its lagoons surpassed federal and state standards and that it intended to bring “new life” to the declining local economy by building a \$10 million feedmill in Ochiltree County that would employ 400 workers (Morris 1997).

The possibility of the existence of local resistance was quickly acknowledged by the CAFO corporations. However, rather than simply relocating to a new area, CAFO TNCs employed their economic clout to counter such opposition. In late December of 1997 Seaboard Farms announced that it was negotiating with officials and residents of Cimarron County, Oklahoma to build facilities to house about

5. To avoid the limitations imposed by the Court ruling, TNRCC reworked CAFO regulations. In late 1998 a new set of rules were adopted which, however, were almost identical to the previous ones. This new set of rules continued to prohibit residents from challenging CAFO operation permits unless the challenge involved technical merit. Also eliminated in this version was the right of residents for a public hearing following a complaint. CAFO representatives commented on the new rules by stressing that they “allow agriculture to return to business in Texas” (Barta 1998).

400,000 hogs. The deal called for the community of Keyes to become home to a feedmill, but also to have its grade school reopened (Ledbetter 1997b:1a). According to Seaboard Farms estimates, when all the construction was finished the operation would add \$50 million to the tax rolls and an annual payroll of \$2.5 million for about 75 employees and managers (AP 1997). "The Keyes school district was in trouble," a Seaboard Farms spokesperson stated and "we agreed to give them some up-front money so they could reopen their elementary school" (AP 1997:24a).

The agreement between Seaboard Farms and Cimarron County included the construction of a 259,000 head hog farm covering 8,000 acres and a 500,000 ton feed mill to be located near Keyes, Oklahoma and the commitment on the part of the community to allow the construction of 400 buildings for growing the hogs. More importantly, Cimarron County officials and residents would not take any action to restrict Seaboard's ability to acquire land for the construction of the buildings (Ledbetter 1997b:4a). In return, Cimarron County would receive the promise that the hog buildings would be located within a 5-mile radius of property Seaboard currently owned and outside a 5-mile radius of any town in the county; a \$125,000 donation to the Keyes Public School District upon commencement of construction of the feed mill, and a \$2,500 donation to the district for each new student whose attendance in the district is directly related to the employment of a family member at Seaboard Farms or the feedmill during the two-year period following the establishment of these operations.

Cimarron and adjacent Counties, as well as the state of Oklahoma, funded Seaboard to a much greater extent than the corporate grants that they received. The state of Oklahoma passed a \$700 million measure to build infrastructures to facilitate Seaboard relocation and \$47 million were allocated for highway improvement to accommodate Seaboard generated traffic in the area. Additionally, Seaboard was granted a number of fiscal abatements which translated into a situation in which the company was excused from paying 78 percent of its taxes. For the fiscal year 1998, Seaboard was required to pay only 17 percent of its assessed tax bill (Karmatz et al. 1998). Finally, while great emphasis was placed on the importance that CAFOs had for the region, little was said about the quality of the jobs created. These were low paying jobs starting at \$7.00/hr. characterized by harsh labor conditions which prompted a turnover of 100 percent a year (NCRCD 1999). The net result was that this combination was rejected by the majority of local residents and the plant was staffed increasingly with migrant, often illegal, labor composed by some Asian workers – mostly Laotian and Vietnamese – but mostly by Latin American laborers (Karmatz et al. 1998).

Corporate Actions at the Legitimative Level

Texas Farm called the odor problem "challenging." Employing a posture which showed formal consideration of the issues at hand, it indicated through a spokesperson that the company did not dismiss odor complaints and tried to locate barns far enough away from neighbors to minimize negative effects. It was claimed that Texas Farm continually evaluates its state-of-the art waste treatment systems. According to the same spokesperson, "we've tried to address those concerns head-on. We have been as candid and upfront as I know to be. There needs to be some

level of tolerance” from the neighbors (Lee 1998:4d). These arguments were backed by a member of a local university who concluded that it was possible “to produce pigs in confinement in ways that do not harm the environment. It is possible to produce pigs without odor” (Brown 1998:9).

This type of attentive position was not shared by independent CAFO producers. For instance, a local CAFO operator who had expanded his operations in the area to about 15,000 hogs in two buildings dismissed the critics as “radicals” who “need a cause.” He said that his permits had all the required safeguards for odor and spillage and that “we don’t need a watchdog group to oversee our operations. The TNRCC’s got that completely covered” (Morris 1997:10a). These sentiments were not just confined to a realm external to corporations. A hog industry expert suggested that the Texas legislature create penalties for false charges made against CAFOs equal to the penalties imposed for violations by CAFOs. Furthermore, along with physical setbacks, there should be “philosophical setbacks,” or what he referred to as “pig enterprise zones,” which would buffer the industry from “agricultural terrorism” and “corporate sabotage” by opponents (Brown 1998:9).

The damage done by anti-CAFO protesters required additional counter actions. Accordingly, it was decided to initiate a campaign to elevate the image of CAFO corporations by stressing their environmentally sound operations, their willingness to dialogue with local opposition, and their past and present respect for existing rules and regulations. To these ends in April of 1998 the Perryton Chamber of Commerce sponsored a tour of Ochiltree County hog and cattle CAFOs followed by a public hearing. On the tour were a number of state Senators and Representatives, five members of the Texas House Environmental Regulation Committee, several CAFO industry officials, and several interested citizens. The official purpose of the tour was to study the “cumulative effects of numerous CAFOs in a concentrated geographic area, and to determine whether environmental protections are adequate” (Brown 1998:8). The tour stops included two Texas Farm facilities, a commercial sow operation and a nursery/finisher, located within 10 miles of Perryton. At the Texas Farm’s sites, the entourage of about 25 vehicles got no closer to either facility than the county road, from which no animals or waste lagoon was visible. The group did stop at the site of a lagoon under construction where Texas Farm officials explained the process of compacting and core testing used in building the clay lined lagoon pits that hold the hog effluent flushed from the barns (Brown 1998). The tour then stopped at Wolf Creek Feeders to visit the feedlot feedmill under construction. The manager of Wolf Creek explained to the group their dedication to environmental protection and detailed their efforts to control dust and minimize odors. After lunch the group stopped at a confined hog feeding operation owned by Dean Paul Farms. The group observed the operations from about one-half mile away and smelled no odors. On the return trip to town they stopped to see the progress on the construction of the new Texas Farm feedmill due to be finished in mid-1999. At the mill a Texas Farm official displayed drawings of the mill and commented that when completed, it would be the fifth largest consumer of grain sorghum annually in the world. However, he was “non-committal” when asked how much grain would be purchased locally (Brown 1998:8).

Visitors signing in at the following public meeting were greeted with banners for

ProAg (Plains Residents Organization of Ag Growth), a newly-formed organization reported to have 1500 members in Kansas, Oklahoma, and Texas. The ProAg group formed in early 1998 to combat anti-corporate hog farm sentiments which had emerged in several states “targeted by the industry for development” (Brown 1998:24). Sign-up sheets for those people wishing to address the Committee were available at the ProAg table, along with free bumper stickers, hats, and newsletters promoting the group. The white ProAg hats were very noticeable during the three hour meeting (Brown 1998).

The Texas House Environmental Regulation Committee, along with the other state legislators, heard the testimony of 29 people. One of the State Senators began the testimony by praising the economic benefits of live pork production and the slaughter facilities, which he promised would follow. He cited the example of the prosperous hog expansion around Guymon, Oklahoma where the Seaboard Farms processing plant is located. Since that time, Seaboard Farms-owned and Hitch-owned hog production facilities had expanded to a level of 740,000 head annually. He reported that an \$8 million investment by the City of Guymon had resulted in 5,000 new jobs, residential property value increases of up to 30 percent, and 140 new businesses in the past five years (Brown 1998). The Senator admitted that Guymon was experiencing some problems due to its sudden growth such as housing shortages, a surging crime rate, school crowding, and odor problems, but he commented that those are “more social problems than pork problems” (Brown 1998:8). He “shrugged off” the complaint about noxious odors coming from the hog farms. “Once you get a mile away, you can’t (sic) hardly smell them,” the senator stated (Brown 1998:8).

A local farmer’s wife and retired schoolteacher challenged this definition of the situation. The third generation farm she lives on has 400,000 hogs to the south, southwest and east of her home. She testified, “Our roots run deep. We care about our community and our environment. I live by hogs 24 hours a day, and have not found one Seaboard or Hitch official that lives by them” (Brown 1998:9). She stated that many residents in the Guymon area are victims of “hog smog” which she described as pockets of ammonia that linger in furniture and drapes in their homes. “We cannot keep (the fumes) out of our homes,” she said. “We’ve done everything we can to seal our homes and yet they persist” (Brown 1998:8). Showing pictures of decomposing dead hog in dumpsters to the Committee, she further testified that neighbors of hog farms suffered health problems ranging from nausea, headaches, and congestion. They also have seen their living and working quality of life decline and property values drop. She also reported other negative effects such as increase gang activity in the schools, increased demand on welfare programs, and overall crime rates up by 65 percent with violent crime rates even higher than that (Brown 1998).

A representative of Texas Farm testified in defense of the industry. He said that pork production provided stable jobs, a good working environment, and good benefits. Furthermore, the Governor of Texas and the Agricultural Commissioner assisted in recruiting the corporate hog industry to Texas. “Our company was recruited to this state, this region, this county,” he said (Brown 1998:9). The Senior Vice-President of the First Bank of the Southwest, supported these claims and concluded by testifying to the beneficial effects on what was a rapidly declining tax base in the county.

DISCUSSION

Confronted with locally-based resistance, TNCs displayed a variety of counter actions. Following the categorization employed in the presentation of the case study, we organized corporate actions in three general groups: political, economic and legitimative. These three distinct – yet interrelated – facets of corporate behavior are analyzed in terms of: (1) the positive image of themselves that CAFO corporations proposed in regard to the environmental and quality of life issues (legitimative strategies); (2) their control of environment regulatory processes and state environmental agencies (political strategies); and (3) the use of their economic powers in regard to local communities and groups (economic strategies).

The Image

Throughout the case, CAFO TNCs projected an image portraying their Texas Panhandle presence as environmentally sound and conforming with existing rules and regulations. Employing their own rendering of the situation, support from political and scientific leaders, and their reading of the opposition, CAFO corporations presented a technologically “green” and socially positive image which narrows the definition of environmentally sound operations and displays a delegitimized view of anti-CAFO postures. We would like to illustrate four constitutive elements of this image.

The *first* of them refers to CAFO corporations’ definition of their operations and adopted technology as scientifically and technically sound. Despite local residents’ complains, throughout the case corporate arguments indicated that CAFOs were structures designed to address present and emerging environmental problems. CAFO representatives claimed that these were the product of state of the art research which was aimed at combining productive efficiency with environmental sensitivity. Downplaying nationwide complaints against CAFOs, in a number of occasions members of local universities and research institutes supported the soundness of CAFO technology. “It is possible to produce pigs without odor,” one pro-CAFO expert concluded referring to new technological advancements in the field. The message was clear, science indicated that the opposition’s complaints over CAFO pollution transcended legitimate concerns. CAFOs were technically and ecologically adequate and the supposed problems were simply not existent. Simultaneously, this message supported a much narrower definition of environmental problems. Those problems generated by CAFOs did not deserve this label because they were at best “temporary problems” which can be further addressed with available instruments. Following this discourse, the entire issue was displaced to the levels of the opponents’ unreasonable demands and CAFO TNC’s positive attitude toward the adoption of technical solutions.

CAFO corporation’s awareness of, and willingness to, address environmental contamination is the *second* constitutive item of this positive corporate image. While corporate representatives acknowledged that an odor issue existed, they employed this admission to legitimize the “reasonable” nature of the corporate posture and support the claim that companies have been doing everything possible to address the pollution issue. CAFO corporations were not only responsible members of society who were capable of acknowledging problems, they were also equally responsible in the selection of solutions. The technical solutions that they

proposed were, in effect, adequate to solve the problem.

CAFO corporation's responsible image is reinforced by their claims that they have been cooperating to the fullest extent with Texas regulatory agencies and local authorities and communities. Ignoring the content of Federal regulations which pointed to the opposite, corporate positions identified Texas regulations to be among the stricter in the nation which required more sophisticated record keeping and better designed facilities. These were conditions which required additional investments and higher production costs. CAFO corporations stressed that these conditions have already been satisfied by the industry. Additionally, "CAFO TNCs have been invited to Texas" one industry representative stated, pointing to local public officials and community leaders' efforts to attract CAFOs in the area. The invitation was accepted and this, it was claimed, was one of the primary reasons for the CAFO's presence in the Panhandle region.

CAFO corporations' presentation to the public represents the *third* constitutive item of their image. The episode of the Ochiltree County CAFO tour is emblematic of attempts to create public support by opening CAFO facilities to the inspection of elected public officials and interested citizens and presenting empirical evidence backing corporate claims.

During the tour, political figures endorsed CAFO operations. They addressed visitors and praised CAFOs for their economic and social contributions. The number of new jobs created and the increases in property value constituted some of the central items of their presentations. They dismissed charged of socioeconomic degradation by decoupling housing shortages, surging crime rates, school overcrowding, and other related problems from the existence of CAFOs. These, politicians maintained, are "more social problems than pork problems." They also dismissed pro-environmental groups' contentions of air pollution as exaggerated, legitimizing in this way the truthfulness of corporate claims about the adoption of reasonable environmental positions.

The tour was characterized primarily by the presentation of empirical evidence supporting corporate postures. At a closer scrutiny, however, we find that there was an extremely selective presentation of "empirical evidence." The accusation that the facilities are environmentally unsound was countered by allowing visitors to view them but only from a "safe" distance. No animals were visible nor were the often questioned waste lagoons. Indeed, a lagoon was made available to inspection, but it was under construction. This is an effective strategy to legitimize the use of waste lagoons. By showing under construction lagoons, evidence of environmental problems could never be detected because they emerge only when lagoons malfunction after they became operational. However, the assumed environmental features of the lagoon were illustrated to the visitors. Accordingly, the visitors were presented with an explanation of the functioning of the lagoon in which its post-operational undesirable consequences could not be verified while its potential – and therefore unchallengeable – ability to address the environmental problems of animal waste was emphasized. A similar tactic was employed for the illustration of the functioning of a feedlot mill which was also under construction. In essence, the environmental soundness of CAFO facilities was demonstrated by using a tactic in which claims of these structures' positive features could not be contrasted with their actual characteristics.

The *fourth* component of this corporate image refers to attacks to the credibility of anti-corporate activists. The latter constitutes the *fifth* component of the corporate image. In this instance, CAFO TNCs constructed a view of opponents' actions which evaluate them as exaggerated and unreasonable ones. These were the outcomes of the work of activists who are stigmatized through the use of belittling terms such as people involved in "agricultural terrorism" and "corporate sabotage." Indeed, the corporate position claimed their outrageous behavior was not only dangerous to the well-being of local communities but something from which CAFO operators should be protected. For instance, dwelling on a perceived scientific position, a pro-corporate expert urged the Texas state law makers to introduce legislation which would punish anti-corporate activism. In this view, CAFOs should be protected from damaging radical activism which hampers the growth of these positive socioeconomic contributions.

The Control of Environment Regulatory Processes and State Agencies

A second group of corporate strategies consists of their control of environment regulation processes and state environmental agencies. Threatened by anti-corporate activism, corporations worked to weaken the content of environmental legislation and to diminish the sanctioning power of state agencies. Following the often described path in which corporate actors control the polity, (Block 1977; Domhoff 1979; Miliband 1969; Poulantzas 1978), CAFO corporations were able to mobilize support from key members of the state political apparatus. Most notably, they enlisted the support of one influential State Senator⁶ who was known for his strong ties to the agricultural sector and for the financial support that he received from it.

The request of CAFO corporations to the Senator and his associates was explicit: to make the establishment and existence of CAFOs less problematic primarily through reducing the ability of state agencies to cite them for environmental violations. The plan of action centered on two items. The first consisted of the establishment of a discourse in which TNRCC's policy was defined as overbearing and ultimately counterproductive to the well-being of Texas agriculture. The adoption of this posture provided most of the justification for a pro-corporate reform of the legislation regulating CAFOs. The second item referred to the depoliticization of the issue. The elimination of public hearings, the restriction of complaints to technical merit, and the shifting of the dispute from the environmental arena to the property arena characterized this action.

The Senator's evaluation of TNRCC's policy was made explicit through a memo to the Amarillo TNRCC air quality manager. In that memo, the Senator admonished the air quality manager that TNRCC's actions against CAFOs were incomprehensible and the outcome of "overly enthusiastic" behavior. A more explicit illustration of this posture came in the text of a subsequent letter to TNRCC. In that text, TNRCC's actions in defense of existing environmental legislation were defined burdensome and unfavorable to Texas agriculture. More specifically, it was stated that continuation of anti-CAFO citations could negatively

6. Despite the fact that the Senator played a significant and prominent role in this case, it would be erroneous to equate political actions with the individual. These were the outcomes of the interaction of broader political forces in a context which was favorable to corporate positions. References to the Senator in our analysis have largely heuristic purposes.

impact the local economy as this situation could motivate companies to eventually move their operations to other states. In this case, the often used corporate strategy of “capital hyper-mobility” (Harvey 1990) was implicitly but clearly recalled to deter TNRCC from enforcing pro-environmental rules. The Senator further justified his point by maintaining that he received numerous complaints against TNRCC. Indeed, though the Senator was pursuing a pro-corporate conduct, he constructed a position in which his actions were viewed as consistent with popular desires. As the events of the case indicated, though, the popular support claimed by the Senator was contrasted by the actions of local TNRCC agents and those of other local residents who protested CAFOs.

The depoliticization of the CAFO issue is emblematic of the ability of TNCs to manipulate the polity. The elimination of public hearings deprived local residents of the capacity to question corporate policies and practices and voice dissent. Indeed, it eliminated one of the most feared forms of anti-corporate action available to local rural residents. However, it could be argued that the most important corporate achievement was the strengthening of a political climate in which democracy appeared weak and its practice conditioned by the interests of a restricted elite. In this context, the fundamental democratic principle of public participation in decision making processes was reduced to a function which could be eliminated with ease.

The control of the polity and its use to depoliticize the issue is further represented by TNRCC’s reclassification of environmental pollution as a property issue and the confinement of complaints to the technical merit area. “We don’t do property value” claimed a TNRCC official, justifying in this manner the lack of intervention of this agency in cases of environmental pollution. The justification included the claim that this was a national event. The restriction of complaints from substantive objections concerning air, water or land pollution to matters of technical merit signified that objections to CAFOs could be raised only if established protocols for their approval and construction were violated. More importantly, it signified that the objections of anti-corporate activists were placed outside the TNRCC sphere of jurisdiction and, therefore, could not be addressed employing this instrument. Despite opposition from local cadres, CAFO corporations were able to neutralize the use of TNRCC as a venue for anti-corporate resistance.

Finally, it should be noted that pro-corporate forces’ control over TNRCC transcended the regulatory sphere to enter that of the establishment of a broader pro-corporate discourse. This situation is exemplified by the acceptance of the corporate vision of the role of TNRCC by the agency’s mid-upper level cadres. The positions of TNRCC officials such as the air program director for TNRCC’s Field Operation Division, but also Amarillo air quality manager’s resignation, are cases in point. Though acknowledging the sense of frustration resulting from the changed conditions of operation of TNRCC and the newly created limits of the agency’s scope of actions, some TNRCC officers did not contest the new mission of the agency and approved the reshaped and reduced meaning of protection of the environment associated with it.

Economic Powers

The third strategy employed by CAFO TNCs consists of the use of their economic

clout to condition the actions of communities and groups. The events of the case point to two related instances. The first refers to hyper-mobility. CAFO corporations present their presence in the area in terms of the creation of new jobs and the overall enhancement of the economic conditions. Because competition from other geographical areas exists, corporate designs to invest locally should be regarded as beneficial and benevolent. The second instance refers to the exploitation of local socioeconomic contradictions to limit dissent. In this case, TNCs provide the solutions to unattended community problems in return for the abdication of possible anti-corporate behaviors.

As far as the first instance is concerned, CAFO corporations and their supporters presented mega-hog farms as extremely beneficial in a situation characterized by local economic stagnation. This growth, it was also argued, promised to be extended into the future as demand for lean standardized meat has increased steadily in recent years. Additionally, direct investments in the agro-food sector positively affected other sectors, such as retail, housing and manufacturing, which also displayed growth in the area. The benevolent dimension of corporate actions is justified by the argument that the CAFO presence in the Panhandle was a corporate decision favoring the area over numerous and equally deserving rural locations domestically and abroad. Additionally, the CAFOs' presence in the Panhandle was not simply a TNC-based initiative as their relocation has been courted by regional leaders. In this case, a number of alternative options could have been pursued. Because political leaders such as the Governor of Texas, the Texas Agricultural Commissioner, and members of the state of Oklahoma supported the industry's local presence and actively recruited CAFOs, the present course of actions was taken. In essence, the corporate message is one in which local communities greatly benefitted from the corporate commercial presence and one in which these benefits would vanish if it were not for the willingness of TNCs to remain in the area.

This posture, however, contrasts with past corporate behavior. Seaboard Corp., for example, relocated to the Panhandle region after intense exploitation of natural and human resources generated intolerable levels of environmental pollution and social contradictions in Albert Lea, Minnesota. In that area, Seaboard benefitted not only from extensive economic support from local interests, but also from Federal agencies. The city of Albert Lea donated \$3 million and \$3.4 million to build the mega-hog facility and create the wastewater treatment plant respectively. Additionally, the state of Minnesota contributed \$5.1 million while the Federal Government donated a hefty \$25.5 million grant. Jobs were created, but at significantly lower wages than previous meatpacking jobs in the same plant under a previous owner (Karmatz et al. 1998). When local workers refused to accept the precarious labor conditions and pay, Seaboard imported much cheaper and less vocal Latino workers, a practice common in the industry (e.g., Fink 1998; Gouveia 1994; Stull et al. 1995). When the situation in Albert Lea became too uncomfortable for Seaboard, it moved to the Panhandle while its president continued to reassure local residents of his company's intention to remain in Minnesota (Karmatz et al. 1998).

The events which occurred in Cimarron County, Oklahoma provide a clear example of the corporate exploitation of local contradictions to silence opposition.

In this case, the community problem was Cimarron County's inability to adequately operate its schools. Seaboard intervened with a donation to the public school district combined with other commercial concessions which were described as "good faith efforts" to restore the community well being. In return, the company requested the community's commitment not to oppose corporate plans. Also in this instance, the appearance did not match past experience. Indeed, if the case of nearby Guymon can be employed as an indication of the social consequences of this type of presence, Cimarron County can look forward to an increase in the overall crime rate in excess of 60 percent, an escalation of assaults and rapes of more than 90 percent, and auto theft of 200 percent (Karmatz et al. 1998). More importantly, through a relatively small donation, Seaboard was able to force community residents to renounce some of their basic rights such as free speech and freedom of dissent, an inexpensive yet very significant accomplishment in a country like the United States in which democracy and freedom are considered among the most important values.

CONCLUSIONS

Classical sociologists and many of their contemporary followers stressed the connection between socioeconomic growth and the strengthening of democracy. For instance, Weber (1978) and Durkheim (1984) – albeit in significantly different ways – pointed out the positive contributions that the advent of the industrial revolution and the establishment of capitalist social relations generated for society. Warning about the dangers of the system, they maintained that the capitalist expansion of the economy lifted society away from repressive feudal social relations, dramatically improved living conditions, and allowed the existence of individual rights which became constitutive elements for the existence and exercise of democracy. Even Marx (1997) and Marxist thinkers placed an emancipatory connotation to their analyses of the expansion of the forces of production. In the Marxist tradition, the growth of capitalism produced unsustainable and unequal social relations. Simultaneously, however, it also improved the economic, political and social conditions of subordinate groups as bourgeois democracy provided the context for emancipatory struggles of oppressed classes.

The events of this case study speak directly to this longstanding sociological tenet. The expansion of CAFOs is a move designed to enhance capital accumulation and market control on the part of TNCs. Corporations employed a variety of sophisticated strategies to respond to local resistance and enhance their image of pro-environment and pro-socioeconomic growth agents. These strategies were able to counter protest emerging from overt degradation of local living conditions and economic expansion based on low wages and unstable jobs. More importantly, TNCs' promises of economic growth came with the request that communities forfeit their rights to participate in democratic processes. The elimination of public hearings for the establishment of CAFOs, the limitation of complaints to the technical sphere, and the strategy of buying consensus through economic donations are episodes which point to a situation in which the expansion of economic forces demands a narrowing of democratic spaces. Departing from views which support a much deregulated role for TNCs, this situation is telling of the consequences that unchecked TNC's actions can have for society.

If the scenario is correct and if the issue of coupling economic growth with

democracy is relevant, development plans should be formulated in ways that transcend these past experiences. It seems clear that faced with a situation in which hyper-mobility is accompanied by TNCs' ability to affect the polity and legitimate their actions, individual communities as well as society should move away from strategies which assume competition among localities for the attraction of direct investments. This developmental path tends to isolate communities and make them vulnerable to the negative effects of corporate designs. One alternative way to conceptualize resistance rests in the development of broader alliances spanning across communities and regions which expands the boundaries of opposition to match TNCs' scope. While these options are available, the extent of local resistance points to the difficulties that residents encounter in altering established patterns of economic development. This is a situation which generates concerns about the future of rural communities and democracy and, as such, it is one which deserves further scrutiny.

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REFORMING NEW ZEALAND AGRICULTURE: THE WTO WAY OR FARMER CONTROL?*

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INTRODUCTION

This article has in its title a question about reforming agriculture in New Zealand: The WTO way or farmer control? This formulation contrasts a neoliberal agenda for agriculture championed by the World Trade Organisation (WTO) and particular interests within New Zealand, with the agendas of farmer-run institutions, most notably the producer boards. Here 'farmer control' is used as a shorthand formulation for the nexus of institutional and fiscal arrangements by which producers (farmers and growers) have been able to regulate the networks connecting farm gates and foreign consumers. In this respect the export orientation of New Zealand agriculture is very significant. The main elements of farmer control have been the producer boards, each of which has had control over specific export products: the Apple and Pear Marketing Board, the Dairy Board, the Kiwifruit Marketing Board, the Meat Board and the Wool Board.

There can be no doubt that the producer boards and the farmer control they engender have been under attack for many years. The election of the fourth Labour Government in 1984 and its implementation of deregulation and neoliberal policies, is a convenient marker for the beginnings of this assault. This condemnation of farmer control has been pitched in terms of what Pusey (1993) calls 'economic rationalism'. With New Zealand's entry into the WTO, international pressures have been added to local criticisms of producer boards. The combination of the two may well be decisive in annihilating the boards and any vestiges of farmer control.

Pusey (1993) rightly notes a tendency among economists for arguing from first principles. Similarly Hirsch, Michael and Friedman (1990) deride the proclivity of economists for 'modelling'. More richly, Callon (1998) talks of economic rationales as the exemplar of social construction or 'framing'. Framing is understood to involve the social construction of relationships through the very process of adducing those interactions. In an earlier work, Callon and Law (1989) identify how such attempts at framing result in the deployment of resources (which they call 'investments of form') which constitute the necessary efforts in the construction of

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new networks of relationships. It is the contention of this article that the economic rationalism that marks the critique of producer boards must be understood as an example of framing. Hence the critique of the producer boards is assessed in terms of the operation of a 'politics of markets' (Fligstein 1996).

In such a politics the WTO must figure as very significant indeed. The resources and investments of form it brings to bear ensure that any struggle it has with producer boards in New Zealand is likely to be one-sided. However, this is not to say that the WTO is irresistible. As the recent edited collection from Lee and Willis (1998) shows, globalisation and the putative liberalisation of international trade remains a process that is networked, negotiated and implemented in different geographic scales. Consequently there remain possibilities for agriculture and for farmers other than the corporate 'rule of law' favoured by the WTO (World Trade Organisation 1998).

ENTER THE WTO

The WTO is the only international agency overseeing the rules of international trade. Its purpose is to help trade flow smoothly, in a system based on rules, to settle trade disputes between governments, and to organize trade negotiations (World Trade Organisation 1999c).

The *Agreement Establishing the World Trade Organisation* entered into force on 1 January 1995. New Zealand was one of 120 original signatories to this agreement, and on signing it became a member of the WTO. At the time there was broad support in New Zealand for joining the WTO and for its revolutionary agenda of trade liberalisation. Those opposed were (and remain) a decided minority in New Zealand (Small 1996). For the majority, the calculation of costs and benefits from membership in the WTO and the policy of trade liberalisation was clear and favourable. This, it can be argued, was largely because New Zealand agricultural exports are unsubsidised and its domestic markets are unprotected. In this respect it is crucial to remember that the Labour Government of 1984–1990 removed subsidies to farmers. New Zealand farmers, unlike their foreign counterparts, now operate without much in the way of direct or indirect support from the state (Nottage 1997; Sandrey and Reynolds 1990).

The removal of subsidies was fiercely contested at the time, but in their wake an accord has emerged about generalised benefits should other countries follow New Zealand's lead. In New Zealand the potential gains from trade liberalisation in agriculture – or trade liberalisation in general – are considered to be enormous. Here it should be remembered that the recent imposition of quotas on lamb by the U.S. became front-page news in New Zealand (for example, *The Dominion* 1999; *New Zealand Herald* 1999). Indeed such is the enthusiasm for advancing trade liberalisation *in other countries* that political adversaries have spoken with one voice about the WTO. Along these lines, Lockwood Smith, the former Minister of Agriculture and International Trade in the National Government (1990–1999):

In 1995, New Zealand joined more than 120 of the world's major trading nations in a new organisation dedicated to freer, fairer international trade... Just as refrigerated shipping opened up the world meat trade for New Zealand, and aerial topdressing

unleashed the productive potential of our hill country farms, the WTO will mark a major shift in the way New Zealand does business with other nations (Smith 1997).

A former chairman of the Dairy Board matches this enthusiasm for the rule of the WTO:

John Storey today expressed delight at the WTO's ruling regarding Canadian discounted milk. 'We are delighted with the outcome of the WTO panel's consideration of this complex matter... This confirms what we have always contended. The attempt to get around the WTO rules controlling the use of such subsidies has, therefore, been prevented... Mr Storey said the case was a 'graphic illustration' of the importance of WTO processes to New Zealand. It has been possible to have raised and considered objectively, an issue of major importance to our international trading interests and have it resolved in a way which is legally binding on the parties concerned'(Dairy Board 1999b).

In short the WTO has garnered broad support in New Zealand. Claims by Mike Moore, director general of the WTO and former Deputy Prime Minister in the Labour Government, that 'the answer to poverty is more trade and business, not less' (Wheat 2000:89–90) are widely endorsed. Most significant in terms of this endorsement is the degree of unanimity from both critics and supporters of producer boards – those farmer-run institutions that control much of the export oriented agriculture of New Zealand. Nevertheless, this endorsement of WTO-led liberalisation in other countries belies real divisions in New Zealand domestic policy. A shared desire for trade liberalisation and expectations about the WTO acts to obscure rather than to resolve important issues in New Zealand. Specifically, the WTO simultaneously provides a dynamic for the extension of neoliberal reforms in domestic agriculture (albeit export-oriented agriculture) and reworks possibilities for resistance to such an extension. In the playing out of this contest, what is central is the fate of the producer boards and the forms of 'farmer control' they have enabled (Curtis 1999a, 1999b; Hussey 1992).

At the same time struggles between neoliberal reformers and the supporters of producer boards can no longer be understood as bounded by or within New Zealand policy networks. As a member of the World Trade Organisation, New Zealand is subject to new forms of rulemaking (McRae 1998). This rulemaking is already affecting, and will increasingly impact on, the producer boards. McMichael (1998, 1999) suggests that the version of market liberalisation pursued by the WTO will be critical in shaping local agricultures and the (mis)fortunes of farmers. Associated with this claim is the notion that the WTO is a fraud perpetrated by the United States and European Union on consumers and farmers in the Third World. Of course, locating New Zealand and New Zealand agriculture in this type of scenario is highly problematic. Further, farmers and their producer boards are enthusiastic supporters of trade liberalisation and the WTO in terms of the impact they have on other countries. What emerges from these contingencies is a range of possible scenarios, the most likely of which is that the proponents of market liberalisation will use the strictures of the WTO to revisit and promote what they consider to be the 'unfinished business' of reform in New Zealand (Douglas 1993).

BOARDS BESIEGED

It is important to note that neoliberal reform of the type championed by the WTO, is regarded for the most part as an accomplished fact in New Zealand. Successive Labour- and National-led Governments have transformed the economy and the role of the state. While there are a number of strands to this appraisal of the new 'New Zealand experiment' (Kelsey 1995) these come together in any accounting of the historic victory of economic rationalism over bureaucracy (Easton 1994a, 1999; Gregory 1999; Pusey 1993; Schneider 1998). In this context Pusey (1993) summarizes economic rationalism as the canon of market rule: 'markets and prices are the only reliable means of setting a value on anything, and... markets and money can always, at least in principle, deliver better outcomes than states and bureaucracies' (Pusey 1993:14). In this respect, the process of reform is understood by policymakers and critics as deregulation and the unleashing of market forces (for example, Kelsey 1995; Rudd and Roper 1997).

Putting aside the rhetoric of reform for the moment, it seems clear that agriculture is somewhat at odds with the broad thrust of neoliberal reform to date, insofar as there have been decided limits to the deregulation of agriculture (Cloeke 1989, 1996; Perry 1992). However, this exceptionalism is overlooked in most accounts of neoliberalism and the reforms associated with it. It is found, however, in the extent to which agriculture has been only belatedly subjected to 'structural reforms' in the New Zealand economy (Easton 1994b). In this respect the proponents of neoliberal reform and the 'market juggernaut' (Dennis 1995) they front, has encountered real resistance, the most significant manifestation of which is found in the retention of producer boards. Noting this, Scrimgeour and Pasour (1996) have bemoaned the fact that:

There has been little substantive reform in international marketing of New Zealand's agricultural products. Today, marketing boards and export authorities heavily influence marketing decisions for some 80% of New Zealand's agricultural and horticultural exports (in terms of value). Boards with statutory monopolies exert control over about 30% of all exports. ...impetus for change is slowed by actions of the boards that use grower funds to convince growers that the boards are efficient and essential for farmer success.

Nevertheless, the reformers have had their victories, even in agriculture. Reform as deregulation has thus far secured: (1) the removal of very extensive direct and indirect production subsidies to farmers; (2) the termination of generous tax breaks to farmers and to their cooperatives; (3) the move by the Reserve Bank to charge commercial rates on producer board reserve accounts; (4) the elimination of the most obvious examples of rent-seeking by farmers (Scrimgeour and Pasour 1996); (5) the introduction of the Commodity Levies Act (New Zealand Parliament 1990) which made it possible for the creation of new or alternative producer bodies; (6) and the introduction of the Dairy Board Amendment Act (New Zealand Parliament 1996) and the Apple and Pear Industry Restructuring Act (New Zealand Parliament 1999), which set in train a review of the structures and shareholding of two of the most important producer boards (Ministry of Agriculture and Forestry 1999).

The greatest challenge to the producer boards is to be seen in changes to their

constitution and governance structures (Weir 1992). This aspect of the reformist agenda echoes that around the corporatisation and privatisation of state-owned enterprises achieved by the neoliberal state in the 1980s and 1990s. It centres on the creation of tradable shares in publicly owned entities. By these mechanisms, many central government ministries and local governments assets were converted into companies and sold to corporate interests (for example, Government Print, Housing New Zealand, New Zealand Rail, Telecom, and the public transport boards, power boards and water boards owned by various city councils) (Duncan and Bollard 1992).

The first example of what can be called a nascent corporatisation in agriculture is a product of the Apple and Pear Industry Restructuring Act (1999). This Act has resulted in the conversion of the Apple and Pear Marketing Board into a corporate entity (ENZA Limited), with shareholding vested in individual growers. Individual shareholding in the board was allocated on the basis of historic levels of production. Shares can only be traded between growers and there is a 20 percent cap on shareholding. However, such shareholding creates the potential for the reconstitution of ownership beyond the initial holders (that is, growers) and into the hands of corporates. Within four months of the restructuring of the Apple and Pear Marketing Board, this possibility had become a reality:

ENZA said it was expecting an offer from a third party that would top the combined bid for a controlling 40 per cent stake by Sir Ron Brierley's Guinness Peat Group (GPG) and investment bank FR Partners...Surrendering control to corporate boardrooms was the fear of all other primary industry groups as they struggled under the previous [National] Government's instructions to split marketing from the ownership of production. The kiwifruit industry, and the dairying industry – which is in the throes of revamping its structure – are noting the lesson. One observer picked that 'the evolution' would spread to the kiwifruit industry, while another said the dairy industry had had a clarion call (Stevenson 2000).

Changes in ownership of the Dairy Board have been somewhat challenged with the allocation of shares to processing companies rather than to individual farmers. This reflects the fact that since 1936, dairy farmers have been compulsory members of their local dairy cooperatives which, in turn, elected representatives to the Dairy Board (Hill 1972, Morris 1993). While the vesting of shares to companies precipitated the abandonment of an electoral process based on wards (electorates) determined by the Dairy Board, in favour of wards constituted by dairy cooperatives, there is no possibility for the trading of shares between individuals. The scenario facing the apple and pear industry is still prohibited in the dairy industry. Further the influence of farmers on policymakers in the dairy industry remains undiminished.¹

The legislative changes to date are insufficient to simply eliminate the producer boards. The Commodity Levies Act (New Zealand Parliament 1990) may make it

1. Perhaps the clearest example of the continuing influence of farmers is found in the forced resignation of the chairman of Dairy Board, as result of his losing the election for the NZ Dairy Group's Te Awamutu ward (Dairy Board 1999a).

legally possible for producers to establish new forms of association, but this process is both extremely circuitous and relies on the initial support of producers.

However, as the Apple and Pear Industry Restructuring Act (New Zealand Parliament 1999) has shown, the boards can – with a one-off approval of a majority of producers – be converted into corporate entities with tradable assets. Certainly there is now a sustained pressure on individual producers to sell their shareholdings or to create the situation in which this transfer is possible.

To repeat, the pressures for the reform of agriculture in New Zealand are intense. The ‘blitzkrieg’ approach favoured by reformers in the 1980s and 1990s (Easton 1994a, 1994b, 1999) has become a policy debate centred on the constitution and governance structures of producer boards. This in turn problematizes the powers of the boards, especially the single selling (monopoly) rules that have been enforced by the Apple and Pear Marketing Board, Dairy Board and Kiwifruit Marketing Board. These monopoly arrangements by which only the producers boards are able to engage in export have long raised the ire of critics.²

THE POLITICS OF MARKETS

The assault on the producer boards is most actively pursued by several departments of state, notably the Ministry of Agriculture and Forestry and the Treasury, and by the New Zealand Business Roundtable. Their efforts have centred on discrediting – with a view to dismantling – the producer boards and, to a lesser extent, farmers’ cooperatives. The proponents of reform have variously portrayed the producer boards as examples of rent seeking, and as inadequate carriers of market signals which stifle innovation and investment, and cause significant ‘dead weight’ losses (Bates 1998; Crocombe 1991; Garway Investments 1988; Hussey 1992; Jacobsen, Scobie and Duncan 1995; Scrimgeour and Thurman 1997). While each of these (and other) commissioned reports has adopted a distinct focus, the body of work portrays the producer boards as irredeemably inefficient and irrational.

A perception of inefficiency and irrationality on the part of the producer boards, is unsurprising coming from economists (and all the report writers are economists) whose paradigm is one of economic rationalism. Such accounts are systematically blind to the politics of markets (Fligstein 1996). In other words, the critique of producer boards must be understood as anchored in concrete interests. This aspect of self-interest is generally overlooked by both the critics (for example, Thomson 1999) and the champions of producer boards (Moran, Blunden, and Bradly 1996).³

2 ‘The really emotional issue at present is the prospect of the ‘single-seller’ producer boards losing their monopoly selling powers. Apple growers have been particularly vocal about this, but it is almost an article of faith among dairy farmers and probably still has majority support from kiwifruit growers. They firmly believe that one export agency, set up by legislation, can gain better returns for farmers than numerous unregulated marketers. Although superficially attractive, this idea is wrong, and it is doing farmers and the country a good deal of damage’ (Thomson 1999:10).

3. ‘The sustained attack on the producer marketing Producer Boards is founded on ideology, with the argument invariably beginning with theory and ending with the case for abolishing

At times the proponents of reform give the game away. In doing so, the attack on the producer boards is revealed as motivated not so much by a disinterested concern with the inequities of rent seeking, etc., but by the interests of actors who are in someway excluded from particular networks (Curtis 1999c). Thus, in the forward to *Farmer Control of Processing and Marketing: Does It Serve the Interests of Farmers?* Roger Kerr, Executive Director of the New Zealand Business Roundtable claims:

It is possible that even after the removal of the statutory backing of producer boards, unrealistic expectations and unwarranted fears will continue to exert an influence on questions relating to farmer control. Any failure to make the best commercial decisions will depress farmers' incomes and constrain the economic opportunities available to large numbers of other New Zealanders (Kerr cited in Bates 1998:v).

What Kerr signals is that the 'economic' well-being of particular industries or sectors in agriculture may – and probably will – be at the expense of incumbent actors. Among other things reform would allow new forms of entry and exit in agriculture. If international and historical comparisons are any guide (for example, Sanderson 1986), such heightened mobility of capital is likely to be to the detriment of relatively immobile farmers. In this regard, the proposed, neoliberal, reform of agriculture is largely about the problematics of old and new *middlemen*.

Stinchcombe (1961) has long since noted the suspicion of farmers toward 'middlemen' of all types.⁴ Indeed political mobilisations by New Zealand farmers against middlemen originated the first of the producer boards. Hence, the Meat Board and the Dairy Board were established in the context of a crisis (for farmers) of agricultural prices in the early 1920s. This crisis was – in turn – stimulated by the return to 'free trade' arrangements after the commandeer system used in World War One (Roche 1992). Middlemen, in the form of processing and marketing firms, were then able to exercise their refurbished 'market power' in order to drive down prices so as to ruin and acquire the assets of their competitors and farmers (Curtis 1999a, 1999b; Roche 1992). As a result of mobilisations by farmers – in reaction to this unfavourable politics of markets – the first of the producer boards were constituted as farmer run 'boards of control' (New Zealand Parliament 1923:i)

Clearly, the circumstances and options facing producers and middlemen in the early years of the twenty-first century are very different to those of the 1920s (Curtis 1999a, 1999b). For example, the threat to farmers of real subsumption by vertically integrating middlemen has abated. Nowadays the modern middlemen – now more commonly called agribusiness – tend to favour contracts in order to subordinate farmers and horticulturalists (Curtis 1998; Watts 1994). What remains constant is the perceived threat to producers from what economists mistakenly call free trade,

the Producer Boards' (Moran et al. 1996:172).

4. This view found an echo in the New Zealand context in the comments by the *Commission of Enquiry into the Meat Industry* (1959:9), which stated that, 'Broadly speaking, however, the producer sees in a complicated field of processing and marketing of his raw material many possible opportunities by... companies to exploit him. This is, of course, right, but is not necessarily proof that he is so exploited'.

insofar as it unfetters the middlemen. Consequently, it is important to distinguish the costs and benefits of trade liberalisation for farmers. Where liberalisation allows them greater access to consumers (in New Zealand these are foreign consumers) farmers are supportive. Where liberalisation allows middlemen greater influence (in part, to come between producers and consumers) then farmers are wary.

The playing out of such alternative scenarios is a political process centred on institutional arrangements. Thus, the producer boards may be said to make interventions into markets or, more properly, the politics of markets, to limit or channel free trade (Curtis 1999b). This is done to strengthen the position of farmers *vis-à-vis* middlemen or agribusiness companies. In the New Zealand context, the key to these interventions is found in the politics of 'averaging' (Hussey 1992; Moran et al. 1996). Here 'averaging' may be understood as a form of aggregation made possible by the producer boards to otherwise disaggregated actors (producers). The rationale for such averaging is of course to secure farming and, in particular, family-labour farming (Friedmann 1978).

The producer boards enforce forms of averaging in terms of returns, costs and risks. There are several examples of this, with single selling merely the most contested. Single selling, or the monopoly control of exports by producer boards, is significant because it obviously impacts on the incomes of a range of middlemen, by disbaring them from marketing arrangements. Other examples of averaging are pursued by the other boards and have much the same effect. These include: (1) the imposition of uniform grading and quality standards on export produce; (2) the compulsory negotiation of freight rates and timetabling of shipping; (3) the centralisation of research and development; and (4) the introduction of branding initiatives. In this sense, when economists criticise producer boards for a lack of market transparency, what they are pointing to are the intended rather than unintended consequences of farmer control (Fleming 1999).

WTO: A NEW RULEMAKER

WTO member states no longer have a choice over whether or not they will be involved in trade litigation (McRae 1998:222).

To date deregulation has eliminated all forms of fiscal support to farmers; what remain are the rump institutional elements of farmer control. These elements, the producer boards, are vital in constituting the politics of markets in the collective interests of farmers. This collective interest is secured through the boards by a politics of averaging. While producer boards have thus far weathered the storm of neoliberal reform in New Zealand, the World Trade Organisation introduces a new dynamic for reform. In short, the WTO constitutes yet another front in the assault on producer boards. It does so because of the strictures it imposes on state trading enterprises (STEs).⁵

5 'Article XVII of the GATT 1994 is the principal Article dealing with state trading enterprises (referred to as 'STEs') and their operations. It sets out that such enterprises – in their purchases or sales involving either imports or exports – are to act in accordance with the general principles of non-discrimination, and that commercial considerations only are

From the perspective of the New Zealand state, producer boards cannot be said to be truly state owned enterprises. Rather, the boards are constituted as autonomous bodies and are specified statutory powers in terms of raising levies and rulemaking. As a result, they can act compulsorily on producers and middlemen. What they are *not* are assets of the state, which is why the main policy tools of the neoliberal reformers – corporatisation and privatisation – are comparatively attenuated in agriculture. However, the World Trade Organisation does classify the Apple and Pear Marketing Board, the Dairy Board, the Kiwifruit Marketing Board, the Meat Board and the Wool Board as STEs. Further, as a signatory of the *Agreement Establishing the World Trade Organisation*, the New Zealand state is bound by such rulings (McRae 1998).

The WTO's rules pertaining to STEs are fourfold: (1) non-discrimination, commonly referred to as 'most favoured nation' (MFN) treatment; (2) no quantitative restrictions; (3) preservation of the value of tariff concessions; and (4) transparency (WTO 1999b). The focus of this WTO rulemaking is to maintain access to markets and in this respect its goals are not inconsistent with those of the producer boards and the farmers. Transparency is (or will be) the problematic issue. Without transparency, 'a significant area of potentially WTO-inconsistent practices may be escaping WTO scrutiny and regulation' (WTO 1999a). In order to enhance transparency, all STEs are required as part of a process of notification, to detail their annual activities to a specially constituted panel of the WTO. It is claimed that this aspect of the 'trade policy review mechanism' (TPRM) benefits the (WTO) member under review: 'The TPRM has stimulated the internal evaluation of trade policies in Members...*The Review strengthens the hands of domestic agencies promoting liberalisation*, supports trade reforms and, thus, helps individual Members to become better WTO citizens' (WTO 1998 – italics added).

The point at issue is the extent to which the politics of averaging secured by the producer boards are compatible with the goals of the WTO. It seems highly likely that averaging and, in particular, single selling will be found to be in some way discriminatory or non-commercial. As noted earlier, Roger Kerr, Executive Director of the New Zealand Business Roundtable and other proponents of reform in New Zealand, have already argued as much. Certainly the proponents of domestic reform find in the WTO both a powerful ally and a rationale for liberalisation. Further, the WTO casts the New Zealand state and neoliberal reformers in the role of Pontius Pilate. Even without a ruling against the producer boards, reforms might be imposed as if reformers were, in effect, 'only following the orders' of the WTO. A former Minister of Agriculture gives some sense of this:

It is vital to New Zealand that WTO members accept the rules: that refusing to comply is seen as a grave international offence. If WTO members get away with refusing to comply, the system will break down and we will be back to pre-WTO days (Smith 1999).

to guide their decisions on imports and exports. It also instructs that Members are to notify their state trading enterprises to the WTO annually' (WTO 1999b).

DISCUSSION: INNOVATION AND THE WORKINGS OF GLOBALISATION

The WTO presides over the most far-reaching attempt to level political, social and environment protections in the name of efficiency and market freedom (McMichael 1998:97).

In New Zealand many claims and counter-claims have been made about the producer boards and the outcomes they engender. To date the versions favoured by reformers have failed fully to carry the day. Conversely, a body of work has been produced which is supportive of the producer boards (Steel 1995, McKenna 1999). This lack of agreement on the nature and role of the producer boards is symptomatic of what Schon and Reid (1994:4) call an 'intractable policy controversy'. Intractable policy controversies are 'immune to resolution by appeal to facts' (Schon and Reid 1994). In such controversies, 'economic agents can no longer be kept at a distance from the investigations which by the same token, they help to hamper' (Callon 1998:263). However, beyond New Zealand's boundaries the policy debate appears significantly less intractable. As McMichael (1998) notes, the agenda of WTO is both clear and global. Indeed, the vaunted rulemaking of the WTO operates precisely to ascertain the 'facts' while appearing to be at arm's length from the protagonists (McRae 1998; WTO 1999d).

A fair degree of cynicism is warranted about the motivations and consequences of the WTO. The promotion of trade liberalisation through the WTO is clearly sponsored by big business and the economic powers (notably the U.S.). However, this begs the question, when have such interests not dominated international trade? Actually, what is more pressing is the extent to which the WTO regime closes off possibilities for small states (and in the case of New Zealand, small producers) to trade globally. Katzenstein (1985) has noted how some small states are highly innovative in linking international trade and inclusive domestic policies. Mabbett (1995) provides some confirmation for this in the New Zealand experience. What she largely overlooks is the centrality of producer boards. In this respect, the 'levelling' attributed by McMichael (1998) and others (for example, Watkins 1996) to the WTO would necessarily eradicate much of the historical basis of Katzenstein-like innovation by New Zealand. This raises again the issue of middlemen and the extent to which they control the networks of trade. Historically, producer boards secured control for farmers and in doing so cemented a particular development path for New Zealand (Font 1990). Reform (i.e. the dismantling) of the producer boards would propel New Zealand down a very different path, one in which non-farming interests have control of agriculture.

At the same time, McMichael's (1999) argument for the WTO as the carrier of 'globalisation' in the form of the obliteration of the local is unsustainable:

The challenge of a global perspective such as this is its credibility. The world is far more complex and messy than the theoretically-driven characterisation that I have laid out here. Some argue that a global view imposes a singular, or categorical, logic on a geographically and culturally diverse world (see for example Whatmore 1994). But this is exactly what I am arguing (McMichael 1999:17).

It is important to remember that the process of globalisation is not pursued

globally, so much as simultaneously at different locales. New Zealand is one such locale and in agriculture, at least, reform by fiat is still not in the offing. What Easton (1999:3–9) calls the ‘permanent revolution’ of neoliberal reform, which carries with it the obliteration of the institutional bases for alternative policies, is not worked through in agriculture. In short, the producer boards retain institutional and statutory reserves sufficient to ensure an evolutionary aspect to neoliberal reform for the foreseeable future.

CODA: TWO CAN PLAY AT CORPORATISATION

Tradable shares and corporatisation provide at least two scenarios by which the producer boards can be dismantled, through: (1) their (re)constitution as state owned enterprises and sale *in toto*; and (2) the individualisation of shareholding and its diffusion beyond the farming sector. Yet corporatisation also offers farmers and their producer boards real opportunities, which are being explored by all boards. In this sense, corporatisation equates with the producer boards becoming more company-like in their structure and operations (Meat New Zealand 1998:5–14). How far this type of corporatisation can be pursued, while still advancing the collective interests of farmers in the politics of averaging, is undetermined. One prospect is that through corporatisation, producer boards will be transformed into farmers’ cooperatives and as such, will be registered under the Companies Act of 1993 as limited companies. This type of transformation could disrupt attempts to frame (and dismantle) the producer boards under the WTO rubric of state trading enterprises (STEs). Therefore, it might allow both a version of deregulation and – more importantly for farmers – the extension of a new form of farmer control.

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RENEGOTIATING GENDER AND THE SYMBOLIC TRANSFORMATION OF AUSTRALIAN RURAL ENVIRONMENTS*

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INTRODUCTION

The last decade has seen arguably profound cultural changes in Australian agriculture. Land degradation and issues of environmental sustainability have risen to the fore despite the productivist agenda that has dominated agricultural politics and policy since European invasion of Australia two centuries ago (Lockie 1998b); while rural women have become increasingly politicised around a range of environmental, community and production issues despite their widespread rejection of feminist identities (Alston 1996). Agricultural landscapes are constructed increasingly as more than sites of production, and farm women as more than 'farmers' wives' and 'off-siders'. Indeed, over 30 percent of Australian farm businesses have become involved in community Landcare groups associated with the National Landcare Program. Former National Landcare Facilitator Andrew Campbell (1994:1–2) asks us to 'imagine a country in which one person out of every four belongs to a conservation group, actively seeking ways of improving their environment' and the possibilities this might hold for a whole range of environmental issues, before pointing out that 'in rural Australia this is already happening'. Importantly, together with the more loosely defined *Women in Agriculture* movement, Landcare groups have become one of the core foci for Australian farm women's increased involvement in agricultural politics and organisations. For many, the parallel timing of these developments is no coincidence – the nurturing of land and community implied by a recasting of agricultural landscapes as places in need of 'care' being seen as congruent with women's perceived embodiment of nurturing and caring characteristics – the sustainability agenda thereby promoting women's participation in public issues and vice versa (Beilin 1997).

According to Patricia Allen (1993), sustainable agriculture needs to be based on a platform of social justice. Failure to address inequalities such as the economic and political marginalisation of women and minorities is almost certain, she argues, to lead to conflict that will ultimately undermine the social conditions of production and promote increased social and environmental exploitation. Social justice is thus

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a necessary precondition for a sustainable agriculture, but it is not necessarily a sufficient condition (Allen and Sachs 1991). The obvious question here is the extent to which promoting social justice for women through their increased involvement in agricultural politics and organisations will actually lead to changes in farming practice and, if so, in what ways? Based on ethnographic fieldwork conducted with participants in community Landcare groups and the organic farming movement¹, we argue that at issue is not only the question of who is involved in particular social practices surrounding agriculture, but also the conceptions of human–nature relationships embedded within those practices. While it is true that the symbolic gendering of many practices has legitimated women’s exclusion from participation in them, we argue that even as women’s involvement in these practices becomes more publicly recognised, it is still the case that: firstly, the symbolic masculinisation of farming practices acts on both women and men as they construct their relationships to nature via the agricultural labour process; and secondly, that this masculinisation is only one factor influencing the construction of farming practices and their role in mediating human–nature relationships. In order to make this argument a little more transparent, we will turn first to a brief outline of the theoretical approach that will guide this paper.

SITUATED ENVIRONMENTAL KNOWLEDGES AND THE GENDERING OF THE LABOUR PROCESS

While there is insufficient room in this paper to deal with them in depth, we think it unhelpful to pursue essentialist arguments regarding the ‘natural’ relationships between women, men and nature. Rather, we concur with Agarwal (1992), Harraway (1991) and Sachs (1996) that the very different experiences of women and men in the labour process and other spheres of activity do entail different interactions with nature. The necessarily partial knowledge that women and men develop is, to use Harraway’s (1991) term, ‘situated’ in these different experiences and interactions. But it is also important to remember that any categorical distinction between the experiences and knowledges of women and men is problematic; potentially overstating differences between women and men and understating differences among them (Connell 1987, 1995). This is most obvious in relation to the experiences of people of different ethnic, racial, class and national backgrounds and the ways in which all these dimensions of difference and commonality interact in the development of more-or-less unique situated or indigenous knowledges (Sachs 1996). Less obvious are the effects of ‘external’ agencies such as governments, agri-science agencies and agribusiness.

There is a tendency within agrarian sociology to deal with farming cultures and

1. Both these research projects were undertaken as part of doctoral projects concerned broadly with relationships between agriculture and environment. Lockie’s (1996) study was conducted in the mixed farming zone of south west New South Wales, and involved ethnographic interviews with 51 people, a household-based sample survey involving another 133, participant observation and discourse analysis. Lyons’ (forthcoming b) study involved organic farmers from both Australia and Aotearoa (New Zealand) in over 70 ethnographic interviews.

indigenous knowledges as exclusively 'localised' phenomena (eg. van der Ploeg 1985, 1992), ignoring the extent to which the social relations in which contemporary farming cultures and knowledges develop stretch in space and time beyond the 'local' and through which 'external' agencies attempt to exert influence over farmers 'at a distance' (Murdoch and Clark 1994). That environmental knowledges are 'situated' in peoples' unique experiences does not mean, therefore, that these knowledges are bounded solely by the 'locale' in which most day-to-day activity occurs. Thus, to the extent that farming practices are constructed in masculinised terms, such masculinisation arises from the interactions of a complex array of actors seeking to define farming practice and to shape environmental knowledges in a variety of social contexts. By implication, seeking to understand the relationships between the renegotiation of gender in the labour process and the symbolic transformation of rural environments must entail a multi-focal ethnographic approach (Marcus 1992) that moves between the understandings of farm women and men and those agencies that seek to influence those understandings, together with the discursive resources they have at their disposal to do so.

THE DEVELOPMENT OF THE WOMEN IN AGRICULTURE MOVEMENT, LANDCARE PROGRAMMES, AND ORGANIC FARMING IN AUSTRALIA

The Australian Women in Agriculture movement – also known as the rural women's movement – is a loose-knit collective of women linked through a variety of movement events and networks. This movement coalesced in the mid 1980s when the Victorian State Government appointed women's advisors in the Department of Agriculture who subsequently established the Victorian Rural Women's Network and promoted annual 'Women on the Land' gatherings (Alston 1996). This model has subsequently been adopted in most other Australian States. According to Liepins (1998a), while Women in Agriculture participants vary widely in age, the majority are Anglo-Australian women from owner-operator farm units. Although there is evidence that the interests of Indigenous women and issues of native title and reconciliation have been positively represented within movement publications (see for example the Summer 1998–99 edition of *The Country Web*, Special Koori Edition), activism has focussed more on farm-based issues than on wider rural community issues. According to Liepins (1998a), network activities, such as gatherings, have played a key role in transforming the subjectivities of farm women; particularly in generating self-identities as farmers in their own right, rather than as farmers' wives, and as confident and legitimate political activists. Their activism has focussed on two primary issues: firstly, reversal of the historically invisible contribution women make to farming and to rural communities; and secondly, a broadening of the rural policy agenda beyond commodity issues to include social and environmental considerations related to agriculture (Alston 1996; Liepins 1995). This combination of networking and activism has spawned: formalised movement organisations such as Australian Women in Agriculture and the Foundation for Australian Agricultural Women; a series of International Women in Agriculture Conferences beginning in Melbourne in 1994; and recognition and support from Federal Government for the representation of rural

women's interests in policy making (Alston 1996).

The National Landcare Program (NLP) was launched in 1989; its centerpiece is the promotion and support of a nation-wide network of community Landcare groups based on localised watersheds or neighbourhoods. The emphasis of these groups was on addressing local environmental degradation in a cooperative and integrated manner, with governmental support available to assist with group coordination, trial and demonstration projects and, increasingly, problems of particular regional significance. Groups have tended to focus on educational activities, farm and catchment planning projects, tree planting, and demonstrations and trials of new practices (Campbell 1994; Curtis and De Lacy 1997). The consistency of Landcare with the otherwise often competing discourses of ecological sustainability, community empowerment and economic rationalism has seen it achieve almost universal political support and widespread community involvement (Lockie 1997a). Women's rates of involvement in Landcare are considerably higher than in other farm-based organisations (Lockie 1997c). Furthermore, it appears that high participation rates among women is a feature of the most active groups (Curtis and De Lacy 1997), even though women tend to be more concentrated in support roles than in positions of leadership (Beilin 1997; Curtis and De Lacy 1997) and that involvement in Landcare seems to act as a springboard for many women into a range of other farming-related organisations (Lockie 1997c). The other remarkable feature of Landcare is the extent to which it has facilitated a transformation in the way land degradation is understood from a problem that many farmers did not recognise, and which many more denied publicly, to one that is discussed openly and addressed cooperatively (Lockie 1998b).

According to some critics, however, Landcare is more oriented towards supporting current agricultural systems by addressing some of their more obvious environmental impacts than towards any fundamental reassessment of the high-input model on which these systems are based (Lockie 1999a). Organic agriculture, by contrast, represents an opposition to conventional methods of agriculture. Organic farming systems avoid the application of synthetically compounded chemicals, while utilising natural biological systems, including crop rotations and biological pest control, in an attempt to maintain both a productive farming system as well as ensuring the long term viability of farm families (NASAA 1998). Importantly, this organic agriculture movement – comprising both producers and consumers – which began to expand worldwide during the 1920s, has sought to resist incorporation within dominant systems of food provision and, therefore, marks a distinct shift from dominant food systems (Belasco 1993; James 1993). Researchers and growers concerned with the environmental and health impacts of agriculture and food production drove initial research into organic production systems. This was exemplified in Australia by the work of people like P.A. Yeomans – who in the 1950s was critical of artificial fertilisers and focussed upon building up the quality of the soil naturally (Barr and Cary 1992) – and Bill Mollison who began research

and practice with permaculture systems². Throughout the 1960s and 1970s, formalised organic consumer and grower organisations began to expand worldwide (Campbell 1996) and, by the early 1980s, organic certification systems began to be devised in Australia to regulate this growing industry (Lyons forthcoming a). To date there are seven nationally recognised organic certification organisations – the Bio-Dynamic Research Institute of Australia, the Biological Farmers of Australia, the National Association for Sustainable Agriculture, Organic Herb Growers of Australia, Organic Food Chain, Tasmanian Organic Producers and Organic Vignerons of Australia – as well as a number of smaller groups (Lovisolo 1997; Lyons and Lawrence forthcoming). Alongside the establishment of these bodies, interest is now beginning to be shown by food processing companies, including Uncle Tobys (see Lyons 1999), Berrivale, Bunge, Sandhurst and Nugans (Monk 1998). These food-processing companies have facilitated significant changes within the organic industry, including expanding distribution channels as well as the variety of organic produce available. Importantly, many Australian organic products now selling on international markets. In response, the Australian government has recently devised a national organic standard, administered by the Organic Producers Export Group in order to encourage international trade of organic products.

FEMINISING THE LABOUR PROCESS

Women in Landcare

The importance of reconceptualising farm women as ‘farmers’ to their empowerment within the agricultural labour process and in public organisations is difficult to overstate. This is in no small way due to the importance placed by farm men and women on the ‘practical’ application of situated knowledge developed through the labour process. The importance of this belief in shaping participation in public forums was illustrated by one farm woman whose husband thought that much of women’s lack of involvement in leadership positions within Landcare groups resulted not from exclusion, but from their own reticence to take on such roles. Explaining her own view this women commented that:

I also feel that I don’t know enough about certain aspects as far as Landcare is concerned, so I don’t feel comfortable, I suppose, coming up with certain ideas ... if I did I would have more of a prominent role, for instance, if I was in my husband’s position I would, but since I don’t have the knowledge I don’t (Lockie 1997c:84).

Her husband’s ‘position’, of course, refers to his higher level of involvement in what was understood as ‘productive’ labour. While there were women who thought that men were simply too chauvinistic to accept women in leadership positions conversely, others believed that the legitimate male role was to lead while women provided motivation and support. Women generally saw men as more knowledgeable and were less interested than men in joining Landcare groups for the purpose of

2. Permaculture is based upon a philosophy of permanent self sustaining and regenerating agricultural systems, based upon household and community self-reliance. Permaculture principles have been embraced by many people in urban communities, who are unhappy with the scientific and technological dependence predominant throughout contemporary agricultural practices. (Mollison 1990).

accessing information and education. The unique experiences and perspectives that many women may have been able to contribute were thus just as often invisible. The manner in which this is manifest at the farm level is taken up below.

On-farm Decision-making and Environmental Management

As indicated above, one of the primary areas of activism for Women in Agriculture has been in raising the profile of women's contribution to agriculture. According to Alston (1990, 1995), women have been rendered invisible by a failure within public discourse to acknowledge: firstly, the extent to which the so-called domestic activities to which they have been culturally relegated contribute to the profitability of the farm business by reproducing and maintaining its labour force at minimal financial cost; and secondly, the extent to which they are actually involved in the supposedly more productive activities associated with on-farm labour. This contribution has been marginalised through the labelling of women as 'off-siders' and 'helpers' and the tasks they perform as peripheral or supportive – such as driving into town for spare parts – leaving power to make decisions largely with farm men. In support of this, Lockie (1996) found that according to the results of a household sample survey which quantified the levels of involvement among all family members in those farm activities understood as 'productive', women were substantially less involved than men in all areas of farm labour except for book keeping, and in all areas of farm decisionmaking except for tree planting. The more mechanised and input-intensive the practice, the less that women were involved in either performing it or making decisions about it. Similar results have been reported by Grasby, Lockie and McAllister (2000) based on a national survey of the Australian sugar industry.

This may, of course, be expected to change somewhat because of both farm women's activism and a decline in the ability of many farms to employ labour due to declining terms of trade. Nevertheless, Lia Bryant's (forthcoming) recent study of young women engaged in agricultural education with a view to becoming farmers reveals some interesting insights into the continued hegemony of masculinised constructions of the labour process. Bryant found that while feminism and the Women in Agriculture movement had opened the possibility to take on greater managerial responsibility for farms without transgressing the bounds of acceptable femininity, the understandings young women had of their own bodies still precluded the possibility of taking responsibility for much traditional "men's work". These women sought to define farming in terms of 'business management'. This allowed them to construct their own subjectivities and bodies in ways that avoided their masculinisation – which they constructed in relation to the masculine body's ability to perform hard physical labour – and maintain their femininity – the feminine body constructed as softer, weaker and sexually attractive to men. Bryant's participants' emphasised the importance they saw of 'maintaining femininity' by 'not competing with men' and by not repeating 'the mistakes of those women who begin to dress and act like men and lose their femininity'. Importantly, these constructions were not solely of the young women's making, but were reinforced by: firstly, constant, and often physical, sexual harassment from the men with whom they studied; and

secondly, disparagement from those same men of women's abilities to engage in and learn from the labour process – to develop situated knowledge of farming as opposed to 'text-book' knowledge. Similarly, Liepins's (1998b) analysis of rural media found a recurring discourse associating masculinity with hard physical work in a challenging environment; a discourse drawn on by the rural press and farm leaders alike. The gendered construction of the human body is linked to constructions of the labour process in a variety of contexts, and thence to the construction of knowledges through that process.

The question still remains then as to how women's unique experiences of the agricultural labour process may influence their knowledge and their conceptions of the natural environment. Problematically, a number of authors have sidestepped this issue of the situatedness of knowledge and assumed that women intrinsically establish more harmonious relationships with nature and community. Liepins (1995:122), for example, quotes as 'findings' from the first International Women in Agriculture Conference the argument that:

women think more laterally than men and have a stronger stewardship ethic. Women as educators and nurturers care about the land and are not embarrassed to show this ... Women have great enthusiasm and staying power. They operate more intuitively and in a cooperative way – essential traits for resolving the complex issues presented in working towards developing sustainable agriculture.

For Liepins (1995:123), this is leading women to reconceptualise agriculture; exploring the linkages between 'the economic viability of farming, environmental care, consumer responsibility, community sustenance and political justice'. The importance of such thinking is echoed by Campbell (1994:127), who states that:

It is usually the women on the land who are the first to express concern about the long-term effects (on human health and the environment) of agricultural chemicals, or about the loss of remnant vegetation and hence wildlife, or about water quality, landscape values or the closure of schools, the ageing of rural populations and social fragmentation ... Furthermore, women are often more open and better able to communicate about these issues, and they tend to have a wider network of confidantes.

Alston's (1993, 1995) ethnographic study of farm women found considerable levels of concern about agricultural chemicals and their effects, in particular, on the farm men applying them and other members of their family, including unborn children. Unfortunately these women also thought they had little choice but to continue using these chemicals if they were to remain economically viable, with several reporting largely unsuccessful attempts to either reduce or discontinue their use. Despite this, Alston (1993) contends that increased participation among women in decisionmaking would help to reduce chemical use.

There are two inter-related problems with this argument. Firstly, it adopts a simplistic understanding of gender that assumes that women as a group are categorically different to men as a group (similar conceptualisations are evident in the quotes above from both Liepins and Campbell), meaning that differences among women and similarities between women and men are ignored. Secondly, and flowing from this, research with farm men in similar parts of rural Australia has revealed almost identical concerns and beliefs (Lockie et al. 1995). The question

of why farmers have continued to intensify chemical – use despite the widespread expression of concern is dealt with in more detail below, with the argument put that pressures to intensify act on both men and women. The more immediate question is whether women's and men's location in the labour process may have led to any substantial difference in their responses to such pressures³. It is certainly of importance that women at the forefront of Women in Agriculture believe this movement to have played a key role in placing chemical-safety on the public agenda. However, there is no evidence on a wide scale to suggest that this has led to reductions in chemical-use or to changes in the constructions of nature and environments implicit in such use.

Constructing Good Farming Practice and Managing Risk

According to writers such as O'Connor (1993) and Dryzek (1987), in the absence of regulation there is a tendency within capitalist economies towards a declining rate of profit and the externalisation of environmental and social costs of production. Producers, in other words, faced by falling commodity prices and rising input costs seek to increase production and efficiency in order to boost their own market share and to reduce costs per unit of labour and land. Failure by individuals to do so results in a loss of competitiveness and viability even though the overall impact is to promote overproduction and further falls in commodity prices. Under such circumstances, the incentive is for producers to ignore environmental and social damage caused by this intensification in resource-use – particularly that which is caused by off-site – despite the long-term damage to the productive capacity of the resource base that may be caused. In very general terms, this is just what has happened in Australian agriculture since the Korean War-fueled wool boom of the 1950s (Lawrence 1987). Such outcomes are not inevitable, but are mediated by a multitude of cultural and regulatory frameworks and the constructions of human–nature relationships embedded within these. Of particular relevance here are those constructions that pertain to the 'right' way to go about farming, or about what it means to be a 'good' farmer. At the same time then that there have been clear shifts evident through Landcare towards the association of 'good' farming with an open approach to dealing with land degradation – or to the symptoms of unsustainable farming systems (Lockie 1998b) – there have also been discernible shifts in the regulatory and market environment faced by Australian farmers over the last decade or so that have encouraged the acceleration of intensification of input and resource-use (Lockie 1999b). This is not to say that farmers have simply been abandoned to the vagaries of the global marketplace, but that while collective mechanisms for dealing with risk – such as statutory marketing boards – have been progressively dismantled they have been replaced with a variety of techniques that are promoted to farmers as means of calculating risk and

3. Location within the labour process need to be understood in a wide sense. For example, Barbara Geno's (forthcoming) study of attitudes towards financial management techniques that 'account' for sustainability found that while women appeared more receptive to these techniques than men, gender differences disappeared when corrections were made for education, suggesting that the experience of higher education was actually the most important factor influencing adoption of these techniques.

regulating their own behaviour. Such techniques include property planning, futures marketing and contract farming (Higgins, Lockie and Lawrence forthcoming; Lockie 1999b; Martin and Woodhill 1995).

While neoliberal policy constructs a picture of the 'good' farmer according to his or her engagement with the abstract notion of 'the marketplace', farmers are actually brought into relationships with economically powerful corporate actors from the world of agribusiness. While this may lead to direct losses of control over on-farm production processes (Rickson and Burch 1996), for broadacre agriculture at least the implications of neoliberalism may be more profound in relation to the technologies of knowledge on which farmers are increasingly dependent in order to calculate and manage risks. When asked by Lockie (1996) to describe the major changes he had seen during his own career in agriculture a District Agronomist with NSW Agriculture responded:

Definitely the use of chemicals, and probably the philosophy that [farmers] are more in control than they used to be, because we know more of the parameters that affect what they do ... there are more things that they can measure, and more things that they have control and a choice in compared to what they used to have. So it should be more predictable than it used to be, apart from the rainfall. All things being equal ... there are a lot more things that they can know about than when I started.

The point here, however, is that embedded within what 'they can know' are specific constructions of the human-nature relationship and the way to manage that relationship through agriculture (Lockie 1997b). The overwhelming bulk of Australian agricultural research is directed either straight into increasing production, or into supporting a high-input model of sustainability consistent with drives towards intensification and the interests of agribusiness firms in selling farmers the necessary inputs (Barr and Cary 1992). Applied technologies of knowledge, such as property planning⁴, rely on the interpretation of data such as soil tests through frameworks established as often as not through 'input-requirement' trials; ie. through interpretive frameworks that take as their starting point the assumption that production conditions can, and should, be controlled through the use of synthetic chemicals and fertilisers. Organic alternatives, by contrast, have frequently been ridiculed and discredited (Lyons and Lawrence 1999) due to the belief by governments and state agencies that productivity cannot be maintained without the judicious use of synthetic inputs (Barr and Cary 1992). Despite the unease that many farmers feel towards high-input agriculture, ignoring or rejecting the 'knowledge' created by agri-science agencies is a risky strategy. For many

4. Lockie (1996, 1998b, 1999b) found that farmers in south west NSW who had undertaken property planning applied more than three times as much lime ($t=2.24$, $p=.030$), and spent twice as much per hectare on chemicals ($t=2.47$, $p=.017$), as farmers who had not undertaken property planning. It also appeared that they spent about 50 percent more per hectare on fertilisers, although this was not statistically significant ($t=1.77$, $p=.082$), reflecting the relatively small sample size ($n=63$) and long history of fertiliser use in the area. In relation to practices which had less direct production benefits, such as tree planting, there were no significant differences between those farmers who had participated in property planning and those who had not.

producers, farming is risky enough due to the uncertainties of weather and market conditions without adding to that risk by adopting a fundamentally different approach to their farming to that of their neighbours and the agri-science agencies that support and advise them (Lockie 1997b, 1999a). In a discussion of diversity, or lack of it, among farmers in their area, one male farmer from south west NSW stated that:

Farmer: We help each other as individual farmers as well. I think a lot of decisions are made like that; a lot really [of] keeping up with the Joneses. But I suppose you're kept within certain boundaries of decision making by what people in the district and other farmers are doing, rather than going off and doing something completely different.

Interviewer: Why, because it's been tried, or you know it will work, or some sort of social pressure to ... fit in with what everyone else does?

Farmer: Well yes, part those. I mean you know farmers are careful in what they are going to do, they do not like taking risks – unnecessary risks. You're involved in a risky business with the elements alone, without going and exacerbating it by doing something to further increase that risk factor.

Reinforcing constructions of what 'normal' or 'good' farmers do on their farms are a plethora of agricultural media and texts that present to farmers pictures of 'themselves'. Lockie's (forthcoming) review of the representation of farm-inputs in rural print media found a normalising discourse in which high-input approaches were taken as the norm and constantly associated with images and quotes from male farmers about what they were doing on their own farm; that is, linking this normalising discourse to the situated knowledge of practicing farmers. Further, with high-input agriculture presented as the norm, alternative approaches, such as organic agriculture, were reinterpreted through the same frame. Organic producers, where mentioned, were thereby represented as clever marketers responding to consumer *perceptions* regarding 'clean' and 'green' foods, rather than as opponents to chemicalised farming systems. Agribusiness advertisers, on the other hand, attempted to associate fertiliser-use with scientific precision, and chemical-use with reliability and effectiveness – all attributes that help farmers to reduce risk through control over the farm environment. This control was itself reinforced frequently with forceful, violent slogans and images such as '*Win the war against wild oats with Avadex BW*'; a militaristic metaphor accompanied by a drawing of a battle-ready soldier. Few advertisements made direct reference to farming as an exclusively male domain, but the representation of chemical-based control in terms of overtly masculinised attributes and behaviours (albeit socially constructed ones) is consistent with a wider discourse of masculine agriculture. With print media coverage of issues and information related to chemical-use and farming practice accompanied overwhelmingly by photographs of male farmers pictured among crops or livestock, farming is represented as an essentially male activity and masculinity as the interpretive frame through which information and images about farming may be rendered meaningful to audiences.

It therefore appears that there is some congruence between neoliberal agricultural policy, the agri-science research agenda and farming culture. Such congruence is not inevitable. It is pursued and reinforced through multiple arenas, texts and

practices. Although women's experiences may lead them to develop alternative situated knowledges to men through their marginalisation in the labour process, they are still exposed to the same representations of farming practice and farmers through rural media; the same technologies of knowledge developed by agri-science agencies; and the same pressures towards risk minimisation. Changes in farm practice are about much more than the renegotiation of gender relations at the farm or even community or industry level, but about the whole agri-science, regulatory and cultural infrastructure that supports industrialised and masculinised agriculture. In such a context, the gender dynamics of organic agriculture are clearly of particular interest since organic farming is based to such a large degree on the rejection of many of those technologies of knowledge that are currently driving intensification.

ORGANIC FARMING AS A CHALLENGE TO INDUSTRIALISED AND MASCULINISED AGRICULTURE

Before attempting to outline the extent of the challenge that organic agriculture presents to masculinised and industrialised agriculture it is important to acknowledge something of the diversity that exists within the organic industry. In particular, the manner in which the industry profile has changed with the recent entry of a number of relatively large-scale producers with close contractual relationships with food processing firms (Lyons and Lawrence forthcoming). No longer a small-scale alternative to industrialised food production, processing and distribution methods – a 'food counter-culture' (Belasco 1993) – organic production is fast becoming a key element in the strategies of a number of food processors and retailers to supply high quality, safe, and premium-priced foods. In general terms, these foods are targeted towards the creation and supply of high-value niche markets, while more universal systems of Quality Assurance are becoming increasingly widespread to ensure compliance with chemical application guidelines and other safety and quality standards for foods destined for mass markets (Lockie 1998a). The primary motivation of these recent entrants to the organic industry appears to be the price premium they receive for organic produce (Lyons and Lawrence forthcoming; Burch, Lyons, and Lawrence forthcoming). Many of these growers have been previously involved in conventional agriculture and have recently converted only a portion of their land to organics in order to access markets for high-value organic produce while avoiding the economic risk entailed in converting all of their land to chemical-free production. For these farms, the decision to convert at least some land to organic production has been primarily a male one, although interviews with both women and men on these farms revealed that women were very supportive of it, in part because it provided them with what they perceived to be a 'healthier' environment in which to raise their children. In relation to the labour process more generally on these larger farms there appeared very little difference with the gender division of labour for conventional agriculture discussed above, with men more involved in work involving farm machinery and other outdoor activities, and in negotiations with field advisors and certification officers, and women more involved in bookkeeping, childrearing and housework.

While economic viability may still be important, the majority of organic growers argue that their primary motivations for farming organically relate to health, the environment and quality of life (Lyons and Lawrence forthcoming). It is this group of growers – whose operations often are smaller in scale and supply either local or generic marketplaces rather than marketing directly to food processing firms – which challenge in many ways the traditional gendering of labour processes. This is shown clearly in decisionmaking related to the decision to ‘go organic’ as well as in the subsequent labour process. Interviews with both women and men on these farms revealed that in many cases women made the decision to go organic, and were more vocal in expressing the importance of practicing organic methods. Further, while on those farms recently converted to organics due to the premium that may be received for organic produce men were much more actively involved in decision-making related to farm management, on those farms where issues related to health, the environment and lifestyle predominated this was not the case. On the majority of these farms both men and women shared many roles traditionally ascribed to men. In particular, issues related to decisionmaking and farm management were more equally distributed. Interestingly, on some organic farms women alone managed decisionmaking and were responsible for the majority or all of the work related to the farm. Often, in these cases, men had undertaken off-farm work to subsidise the income from the farm. Women on these farms were much more vocal throughout interviews.

It is probably reasonable to expect that all recent converts to organic production would have limited situated knowledge of how to produce food organically and would thus be dependent on external sources of advice⁵. In considering what information sources both women and men access for growing organically there again appears to be a bifurcation between those longer-term growers interested in holistic issues, and the larger-scale recent entrants to the industry. Importantly, many recent entrants obtained most of their information – including detailed production specifications – from the agribusiness firms with whom they had their production contracts, thus establishing a completely vertically integrated system of production, processing and distribution (Lyons and Lawrence 1999). Field days, newsletters and visits with company agronomists all provided information to these organic growers. In nearly all these cases, men indicated that they dealt primarily with agronomists and with any details related to the contract or with the firm. Women on these farms occasionally attended field days and regularly read newsletters. Leipens and Campbell (1997) also found this in New Zealand. This pattern appeared to be common across all organic growers, with men participating more actively in information gathering that involved talking with other people (such as representatives from certification bodies, agricultural consultants, etc.), while women were much more thorough in reading through various material sources. It is evident, therefore, that even those members of organic farm partnerships that demonstrated little evidence of traditionally gendered

5. This is not to suggest, of course, that situated knowledge of the effects of chemical and fertiliser does not influence such a decision to convert, nor that such situated knowledge is not gendered.

labour processes either maintained, or had difficulty challenging, the gendered attribution of public and private roles in relation to information gathering activities.

CONCLUSION

There can be little doubt that women's increasing visibility within the agricultural labour process will serve as an important means of empowerment for them. In no small part this is due to the recognition given to the situated knowledge they are thus *seen* to develop and which is believed to be necessary to make decisions about the farm and to participate in decisionmaking at Landcare group levels. Nevertheless, is this enough to challenge the hegemony of masculinised farming practice? So far the evidence seems to suggest not. The relative levels of involvement of women and men is important, but so too are the increasingly integrated relationships between the farm and the production of knowledge in agri-science agencies and the processing, distribution and retailing of foods in an ever more concentrated agribusiness sector. The situated knowledge of farm men *and* farm women cannot be understood independently of this wider context of social relations in which they are enmeshed. This does not mean that farm women and men have no choice or agency, but it does mean that there are substantial risks associated with deviation from the dominant trajectory of input-use intensification. Where farmers have taken the risk to 'go organic' it is certainly of great interest that women have been so central to the decision to take that risk and to the subsequent operation of the farm. This represents a very small proportion – some two percent – of the farms in Australia. Further, the current growth in organic farming and food products seems fuelled by the (often partial) conversion of larger farms linked closely to agribusiness, oriented towards the supply of high-value markets, and dominated by traditional divisions of labour. While the increasing availability of organic foods is welcome for those consumers who can afford them, it remains to be seen just how widely available they become; the influence their production has on mainstream, or 'conventional', agriculture; and the extent to which their production comes to represent more than compliance with minimum standards. Unless these occur, the organic industry will remain little more than a potentially lucrative niche market for some, and a small-scale counter-cultural pursuit for others. As yet there is little, if any, evidence to suggest that the symbolic transformation of Australian rural environments as environments in need of care has been translated into any large-scale project to fundamentally reassess and redirect agricultural production. Our hope is that despite this, the renegotiation of social relationships necessitated by a growing Women in Agriculture movement, a growing organics industry and continued widespread participation in Landcare will raise the questions necessary to stimulate such a reassessment.

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COMMUNITY FORESTRY AS EMBEDDED PROCESS: TWO CASES FROM DURANGO AND QUINTANA ROO, MEXICO*

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INTRODUCTION

Mexican community forestry has become widely known as a resource management regime capable of effectively governing access to common pool resources and organizing owners toward sustainable use of the forest (Bray 1997; Klooster 1997). Nevertheless, more than a decade of neoliberal economic restructuring, including entry into the GATT in 1986 and the NAFTA in 1994 and profound changes in rural land tenure arrangements, have transformed agrarian production (Harvey 1996). In the forestry sector, a new legal framework turns forestry technical services over to the market and authorizes internal economic groups independent of the ejido or agrarian community assembly. These neoliberalism-inspired reforms undermine peasants' hard-won organizational capacity to deal with their own resource problems.

This paper examines two cases of peasant-based forestry organizations, the Union of Forestry Ejidos and Agrarian Communities "General Emiliano Zapata" (UNECOFABEZ) in the north central pine and oak forests of Durango and the Society of Ejido Forestry Producers (SPFEQR) in the south-eastern tropical forests of Quintana Roo. Both the UNECOFABEZ and the SPFEQR are well-known for promoting high quality technical services, supporting peasant-controlled processing and serving as influential interlocutors on behalf of their members. Both organizations face crises created by internal and external structural pressures. Nevertheless, restructuring is peopled by social actors; the organizations' trajectories are shaped by complex interactions between structural pressures and social agency. Community forestry organizations, therefore, are best understood as historical processes rather than as static arrangements of incentives and procedures, and as being embedded in levels of context ranging from local to global.

COMMUNITY FORESTRY AND THE "TRAGEDY OF THE COMMONS"

Garret Hardin's famous 1968 article, "The Tragedy of the Commons" set off a lengthy debate on collectively-held natural resources. Hardin (1968) posed a

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hypothetical scenario in which rational calculation led animal herders to destroy their common pasture rather than cooperate to avoid overgrazing because the utility of adding an extra animal was appropriated individually while the ecological burden was distributed collectively. Privatization proponents (see Alchian and Demsetz 1973) drew on Hardin's individualistic model to claim that rational individuals cannot cooperate to achieve rational collective outcomes.

However, critics of tragedy arguments such as Wade (1987) pointed out that the tragedy scenario assumes that participants can only choose once what behavior to engage in and that they cannot learn from experience that collective management of resources can work in their favor. Other critics have observed that Hardin's approach assumes that collectively-held resources necessarily involve open access. On the contrary, researchers have identified many common pool resource regimes operating among communities of beneficiaries, limiting non-owner access and governing use among co-owners (Feeny, Berkes, McCay, and Acheson 1990).

One of the most influential critiques of Hardin's Tragedy is the "institutional choice" perspective pioneered by Elinor Ostrom (1990). According to Ostrom, individuals may develop successful common pool resource regimes when they share a common understanding of their situation and strategies for change, they value the benefits from collective activity relative to its costs, and they constitute a relatively well-defined and stable group (1990:90, 211; 1999:4–7). The institutional choice perspective's focus on internal design principles is highly useful for understanding and predicting the individual's investment in rural change (McCay and Jones 1997).

Nevertheless, common property scholars now suggest more fully engaging the dimensions across which management regimes operate. McKean (1997) advocates moving "outside" to complement the institutional choice perspective's "inside" focus on specifying the institutional arrangements of successful management. Others draw on economic sociology's notion of "embeddedness" to place property regimes in historical contexts of external and internal social relations (McCay and Jentoft 1998). Fortmann and Roe (1993) argue that community boundaries are often ambiguous or based on diverse class, religious, ethnic and other characteristics which give members different, often contradictory, relations to forest benefits. Klooster (1997) recommends that common property theory "sally forth out of the institutional details of organization and excessively parsimonious models of rational choice" to focus on external and internal social contexts of struggle within forest communities (1997:310–311).

This study is based on qualitative research during seven visits to Mexico over a three year period. Field research¹ included observation and over eighty interviews in forestry communities and organizations. Below, I move back and forth between discussing the political economy in which Mexican community forestry is embedded and the case studies of its changing social institutional framework. Mexican community forestry is an exemplar of common pool resource regimes

1. Much of the Quintana Roo analysis draws on research presented in Taylor and Zabin (2000).

(Richards 1997). About 80 percent of its forests are owned collectively by ejidos and agrarian communities.² In 1992 organized communities were responsible for 40 percent of total timber production and 15 percent of industrial wood products. Today, Mexican community forestry organizations are among the world's vanguard (Bray 1997). As "nested enterprises" (Ostrom 1999:7), such secondary level forestry organizations have institutional characteristics similar to those of communities pursuing sustainable common pool resource use.

This study approaches the UNECOFAEZ and the SPFEQR as "embedded processes." Peasant-based organizations, once the linchpin of Mexican community forestry, are now being undermined directly and indirectly by a new legal framework. Unprecedented combinations of communally organized forestry and smaller local associations are emerging. New actors with diverse interests exert influence over forestry at different levels. Both the UNECOFAEZ and the SPFEQR are pushed by internal and external pressures to reevaluate the arrangements which researchers find necessary for viable common pool resource management (Ostrom 1990). They are reformulating common resource objectives, reworking the way they provide benefits necessary to keep member support, and even redefining the boundaries of their respective "communities" of stakeholders.

THE EMERGENCE OF MEXICAN PEASANT FORESTRY AS EMBEDDED PROCESS

Mexico's fifty-five million hectares of temperate and tropical forest comprise about 25 percent of its territory. Durango has some 10 percent of the forested area, with 5.5 million hectares of mostly pine and oak forest (see Figure 1). Quintana Roo contains about 6 percent of forests, with 3.7 million hectares of tropical forest (SEMARNAP 1996). Mexico's forests are the world's fourth most important genetic reserve (Téllez Kuenzler 1994:75–76) and provide carbon fixing, micro climate regulation, and hydrological watershed protection services (Merino and Alatorre 1997). Though the forestry sector contributes only about 0.4 percent of GNP (Téllez Kuenzler 1994:24), forests are home to 17 million of Mexico's poorest indigenous and mestizo peasants (Merino Pérez 1997:141). These forest dwellers' economic needs have an important impact on the health of the forest. Deforestation occurs at a rate as high as 700–800,000 ha./year (Chapela 1997), with rural poverty-induced forest conversion to agriculture and animal-raising the major factors.

Despite being legal owners, Mexico's peasants have struggled for genuine control of their resources. Historically, Mexico's forestry sector has been dominated by concessionaire firms which have received exclusive exploitation rights to forests in a given region (Bray 1997). In Durango, the parastatal PROFORMEX (Productores Forestales Mexicanos) won concession to 2.5 million hectares of pine and oak forest. In Quintana Roo, the parastatal MIQRO (Maderas Industriales de

2. *Ejidos* are communities formed by twenty or more ejidatarios who together work land granted by the State. *Comunidades agrarias* have similar collective tenure characteristics, but have roots in land claims dating as far back as the colonial period. Together, ejidos and agrarian communities account for 48 percent of Mexico's land surface (Cabarle, Chapela, and Madrid, 1997:20).



Figure 1. United States of Mexico, by state

Source: INEGI (1994: ix)

Quintana Roo) was conceded 550,000 hectares of tropical forest containing precious species such as mahogany and Spanish cedar. Required to provide roads, schools, clinics, and waged jobs, concessionaires established the basic infrastructure of Mexican forestry. Their critics, nevertheless, observed that inefficiency, corruption and poor silviculture encouraged them to mine the forests (Argüelles Suárez and Armijo Canto 1995:3). Timber represented practically no income for the peasant as the parastatals paid only a minimal stumpage fee (Galletti 1992).

During the early seventies, seven ejidos and agrarian communities in northwestern Durango began opposing PROFORMEX. In Quintana Roo, the first peasant protest against MIQRO began in the mid-sixties in two ejidos (Merino and Alatorre 1997). Incipient peasant resistance throughout Mexico to the concession system (see Zabin 1998) began to find support from federal governments seeking collaboration with their agrarian policies (Galletti 1994; Fox and Gordillo 1991). This collaboration drew on the peasant movement's "change in terrain" (*cambio de terreno*) from its historic demand for land to the appropriation of the production process (Bartra 1991). In many sectors, organized peasants began obtaining capital and equipment, forming technical teams and assuming control over production, processing and commercialization (Bray 1997).

Just as the parastatal concessionaires' failings were becoming less acceptable to policymakers beginning a neoliberal turn, peasants were arguing that they could

organize forestry more fairly, efficiently, and in an ecologically sound fashion. Officials and peasant forestry organizations negotiated to give peasants more responsibility for their own technical support, extraction, processing and marketing. In 1986, a new Forestry Law ended the concessions, removed technical services from the parastatals' direct control and allowed communities to arrange for their own services and marketing (Merino Pérez 1997).

The year 1986 was the apex of Mexican community forestry and a turning point for the worse as it marked both the new Forestry Law and Mexico's entry into the GATT. The North American Free Trade Agreement's implementation in 1994 culminated over a decade of shift toward laissez-faire economic policies. Though the forestry sector's transformation cannot be entirely attributed to this new policy environment, neoliberalism has had an important impact. To promote Mexico's integration into the global economy, Article 27 of the Constitution was modified in 1992. This and related legal reform not only ended more than 70 years of land redistribution, but changed how collectively owned resources in Mexico's rural sector can be used. Ejido assemblies could vote to divide communal property into individual parcels which could be purchased, sold, rented or used as collateral (Harvey 1996). Most relevant to the peasant forestry organizations discussed here, the reforms led to the reorganization of technical services and facilitated new local organizational forms.

CASE STUDIES: THE UNECOFABEZ AND THE SPFEQR

The UNECOFABEZ is widely viewed as one of Mexico's most successful community forestry organizations (Chapela 1994). The UNECOFABEZ in 1999 encompassed fifty-eight ejidos and agrarian communities distributed over nearly a million hectares in northwest Durango. The Union lies at the center of a decentralized matrix of organizations, including a plywood factory, machine tool shop, five independent forestry technical service units, a plant nursery, a credit union, an agrarian input store, seven road improvement committees, and a training center. The Union also represents members' interests before official agencies and shapes state timber prices by publishing production costs.

The SPFEQR is another of Mexico's most prominent community forestry organizations (Bray 1997). In 1997 the Society represented ten ejidos with 110,000 hectares of commercial forest, representing the state's richest precious timber stands. The Society provides technical services through its Forestry Technical Department and sponsors a saw-sharpening workshop and a Wildlife project. The SPFEQR represents members' interests externally and helps resolve social and political issues within its ejidos. The SPFEQR has also become a go-between (*gestor*) for externally-funded projects.

Though they are secondary level "nested organizations," these two peasant-based forestry organizations established structures which resemble those of successful community-level common pool resource management regimes (Ostrom 1999). Both organized relatively stable groups of participants with a common interest and helped them define collective objectives. Both managed to respond credibly to members' resource management needs. Both organizations served as political instruments,

albeit at a federation level, for the definition of viable “communities” of stakeholders in sustainable forestry.

Nevertheless, the Union and the Society are not finished organizations with essentially static arrangements for individuals’ participation in collective resource management. Rather, they are best seen as “embedded processes” in which changing external and internal conditions introduce opportunities for action as well as impose limitations. Below, I compare how the two organizations face three sets of organizational problems as the changing policy and legal framework of Mexican forestry simultaneously weakens their capacity to do this organizational work. First, their collective objectives have been subject to change. Second, both the UNECOFAEZ and the SPFEQR have been pushed to restructure to continue providing the benefits necessary to ensure their members’ support. Third, both have become involved in redefining the communities of stakeholders involved in their project of sustainable forest management. Both organizations’ responses to these problems occur in the context of internal crises of legitimacy.

DEFINING THE COLLECTIVE OBJECTIVE

Ostrom writes that successful common pool resource regimes tend to rest on a consensual understanding of the collective resource situation and what needs to be done (1999:4; 1990:211). Both the UNECOFAEZ and the SPFEQR began with a similar problem: members’ forests were being mined, with little local benefit. Yet while the objectives of peasant mobilization in both regions were initially similar, in Durango, a grassroots political movement underwent a difficult transition to an organization in which competing social and business objectives introduce growing distance from its original peasant constituency. In Quintana Roo, a largely top-down initial process gave rise to a more broadly-based organization.

The UNECOFAEZ: Change in Terrain, Change in Objectives

For the first 15 years of its existence, the Union was primarily a grassroots political organization which defended communities’ right to develop their own forest resources. Over the direct opposition of PROFORMEX and its allies, twenty ejidos and agrarian communities legally founded the Union in 1976 and obtained official permission to begin their own harvesting and milling. Though not all of the members’ local economies relied heavily on forest-derived income, the Union helped define a collective objective to obtain direct peasant control over forestry, large or small.

Though the Union’s most important support lay in the countryside, it also drew on support from allies in the federal government, including a Sub-secretary of Forestry who personally promoted community forestry in Durango. It also had support from some of PROFORMEX’s own foresters. In an interview, one long-time forester recalled that he and his colleagues had realized that “there was a contradiction between PROFORMEX’s economic objectives and ours. It wanted more volume. We looked for good management, environmental protection.”

Though the 1986 Forestry Law had ended the concessions, PROFORMEX controlled forestry paperwork. The Union, now expanded to forty-four ejidos and

agrarian communities, organized a series of roadblocks in 1987 to demand peasant control of the documentation. A tense standoff ended with minimal violence when the Agricultural Secretary reluctantly handed over the documentation. By 1989, PROFORMEX was effectively paralyzed.

In 1990, over the strong opposition of the state governor and local timber industrialists, the Union won the right to lease and then purchase PROFORMEX's plywood factory on behalf of its members. In 1999, the plywood factory had forty share-owning ejidos and agrarian communities and its manager and many of its employees were recruited from Union members.

Although the Union helped create space for members to develop their own resources and established a material base upon which to build, acquiring the plywood factory implied an important shift in the collective problem addressed by the Union. The Union embarked on a transition to an industrial producer which focuses much of its energy on its productive activities. Chapela (1994) notes that the Union's interests as a timber buyer now potentially conflicted with members' interests as sellers.

The SPFEQR: Focusing on Forestry Services

Like the UNECOFAGEZ, the SPFEQR's organizers defined their collective objective as helping peasants gain control over their forests. Yet the Society was originally neither a principally grassroots peasant organization nor an instrument of political struggle, though it drew on resistance to MIQRO and the new spaces opened by the peasant movement's "change in terrain." However, despite a relatively top-down origin, the SPFEQR's continuing focus on supporting ejido-level production kept it close to its original service objective.

Argüelles and Armijo (1995) report that by the end of its concession, MIQRO extracted 400,000 m³ of precious timber, mainly mahogany and cedar. MIQRO's harvests (combined with federal government-subsidized colonization programs) resulted in the loss of half the original forest cover of the concession area. Nevertheless, the end of MIQRO's concession came less as the result of organized grassroots resistance than from an unusual configuration of higher level political forces.

By the early eighties, MIQRO enjoyed relatively less official support than PROFORMEX in Durango. In addition to inefficiency, corruption and resource mining similar to that in Durango, MIQRO failed to diversify production. It harvested 99 percent of its authorized volumes of precious species and only 4 percent of authorized volumes of other species (Galletti 1992). These problems, the growing neoliberal policy shift and mounting pressures from a production-oriented peasant movement elsewhere in Mexico led to MIQRO's concession not being renewed when it expired in 1982. Instead, a community-based alternative, the Forestry Pilot Plan (PPF), was created.

The PPF was made possible by an unusual coalition of the federal Forestry Subsecretariat, the state government, ejidatarios and the German Agency for Technical Cooperation (GTZ). The PPF aimed to "replace the traditional police role of the

forestry department with one that stimulated and promoted development” (Galletti 1994:160). A forestry technical team was organized in 1983, subsidized by the federal Agricultural Ministry but enjoying operational autonomy. The PPF foresters’ promotion of local timber extraction was facilitated by a rise in the first year of the price ejidatarios received from \$800/m³ to \$19,000 m³ (Argüelles Suárez and Armijo Canto 1995:35). Ejidatarios participated in delimiting Permanent Forest Areas in their own communities, an innovation which recognized the seriousness of poverty-driven land use change and countered the notion that forests were empty, unused lands. Eventually, over 500,000 hectares in more than fifty ejidos would be reserved for forestry activities (Galletti, Rosales Salazar, and Argüelles 1997:10).

The Forestry Pilot Plan did not at first include intermediate-level forestry organizations but explicitly maintained the autonomy of each ejido (Galletti 1994:160). However, the ejidatarios needed a united marketing front relative to MIQRO, still one of the region’s most important timber buyers. PPF participants also feared that the program might not survive a change in state government. In 1986, the PPF’s ejidos established the SPFEQR in the south and the Organization of Forestry Ejido Producers of the Maya Zone in the central region. As Argüelles and Armijo remark, these secondary level ejido federations, or forestry civil societies, provided a way to survive the usual six year nature of most projects in Mexico. In 1987, the societies established their political credibility by blocking a new state government’s attempt to again require ejidos to sell to MIQRO (Argüelles Suárez and Armijo Canto 1995:44–46). Though strictly speaking the PPF today no longer exists, its technical and organizational principles still coordinate forestry in the SPFEQR’s ejidos.

By contrast with the UNECOFABEZ, the SPFEQR never developed its own income generating production activity. Rather, it retained its objective of providing technical support for ejido-organized forestry production. It assumed increasing importance as a conduit for external assistance from national sources such as the Agricultural Ministry, and international ones, such as the GTZ. Despite the top-down nature of its origin and its continuing dependence on external institutions, the SPFEQR’s objectives have, therefore, remained relatively closer to its peasant constituency than those of the UNECOFABEZ.

DELIVERING THE GOODS: RESPONDING TO MEMBERS’ RESOURCE MANAGEMENT NEEDS

Ostrom writes of the importance of “low discount rates” for successful common pool resource organizations – that is, benefits must justify participation costs (1999:4; 1990:211). Peasant organizations such as the UNECOFABEZ and the SPFEQR are often described as rural democratic and ecological movements. Fox and Gordillo argue that the “change in terrain” toward production has led toward more democratic, “horizontal” peasant organizations (1991:69, 70). Toledo sees organizations such as the UNECOFABEZ and the SPFEQR as part of “a new ecological movement of indigenous and peasant peoples” (quoted in Bray 1997:7). While such organizations may have significant democratic elements, Hellman

(1994) argues that the more successful peasant organizations are not those which prioritize internal democracy, but those which provide concrete benefits to members. Bray cautions that though community forestry organizations may genuinely adopt an environmental discourse, they pursue sustainable exploitation for its economic benefits (1997:8).

One of the most important of the UNECOFAEZ and the SPFEQR's benefits is provision of forestry technical services. Foresters develop resource management plans, negotiate harvest permits on the peasants' behalf, mark trees for authorized cutting and help combat forest disease and fire. Moreover, as technicians work closely with peasants and carry information about the forestry organizations' activities, they help generate solidarity between members and their organizations. Technical services, then, represent crucial community-level organizing instruments. Unfortunately, Mexico's recent forestry laws undermine intermediate level peasant forestry organizations' capacity to deliver services directly to members.

The New Forestry Laws and the Reorganization of Technical Services

Soon after the 1986 Forestry Law was passed, private sector opponents began pressuring to roll back peasant control over forestry (Wexler and Bray 1996). By the early 1990s, neoliberal-leaning federal policymakers began "modernizing" the sector. A new Forestry Law accompanied the economic liberalism-inspired reform of Article 27 (Chapela 1997). It and a subsequent law eliminated "excessive" state intervention, promoting private investment and creating free products and services markets (Wexler and Bray 1996). They reduced harvest documentation to a permit and a hammermark on authorized trees, eliminated the regional forestry service providers and allowed communities to hire any certified forestry engineer (Cabarle, et al. 1997). Critics point out that the technical services market promotes a quality decline by encouraging cheaper bids offering only the provision of harvest permits (Merino and Alatorre 1997).

UNECOFAEZ: Indirect Facilitation of Technical Services

Mexican community forestry organizations usually directly provide members with technical services (see Merino and Alatorre 1997). Peasant control of services helps prevent power abuses. Employee foresters usually provide their employers with broader organizational support. The UNECOFAEZ, nevertheless, does not directly provide technical services. When services were separated from PROFORMEX, federal authorities organized them into independent Forestry Administration Units (UAFs). The Union, nonetheless, coordinates closely with two UAFs based in Santiago Papasquiaro. Besides their technical work, these UAFs assist the Union with planning and institutional networking. As numerous interviewees put it, the two UAFs also serve as the "eyes and ears of the Union" among members. Union leaders lack the resources to visit widely-dispersed communities frequently. UAF staff travel regularly to the most isolated villages, generating solidarity with the Union by explaining its activities and answering questions. One technician remarked that where UAFs coordinate less with the Union, ejidatarios "think the Union isn't necessary anymore and so don't come to meetings and don't pay their

quotas.” Another peasant interviewee remarked that “when the Union becomes distanced, the power of the [timber] industrialists increases.”

Post 1992 forestry laws placed the UAFs in chronic financial crisis as they now compete with technicians who offer only permit paperwork. UAF competitiveness is further undermined as declining volumes of large diameter timber obligate staff to reduce authorized harvests. The Union supports these UAFs by helping persuade members not to opt for lower-quality services and helps obtain external resources. For example, the Union received in 1997 US\$45,000 from the Ministry of the Environment to support UAF technical programs. As one forestry staffer explained, “The Union has the ability to request outside funds. We need good relations with the Union. The government wouldn’t give it directly to us. They want to deal with peasants.” With Union support, the UAFs have kept most of their clients, though they have drastically cut costs, halving their staffs and curtailing fieldwork.

Thus, the complicating of the UAFs’ technical mission by the post 1992 forestry laws weakens the Union’s direct relevance to members. To continue to provide benefits necessary to keep members’ support, the Union has diversified into regional development activities. With a new department of Project Management, financed by government funds, the Union has extension agents supporting agriculture, cattle-raising and other local development projects. Leaders explain that they are “taking problems off the back of government” and helping address the poverty underlying Durango’s deforestation, narcotic cropping and out-migration. Yet diversification also responds to an organizational imperative to remain relevant to a diverse and largely inactive membership.

SPFEQR: Direct Provision of Technical Services

By contrast, the SPFEQR provides technical services via employee foresters. This technical team has supported sustainable harvesting while still retaining strong ejido support. In 1997, most of the SPFEQR’s forestry staff were ejidatarios or sons of ejidatarios and trained ejidatarios worked as auxiliary forest technicians. Significantly, the Society’s technical staff has been lowering authorized harvests as new inventories reveal lower actual mahogany populations than previously estimated. For example, one ejido’s annual authorized harvest was recently reduced from 1,500 m³ to 800 m³, with proportionate reductions in benefits (Argüelles Suárez and Armijo Canto 1995:39). The ejidos’ acceptance of these reductions underscores the Society’s local authority and credibility. As in Durango, the SPFEQR’s technical services help generate solidarity between with its ejidos. Foresters transmit information about the Society’s activities and help maintain connections with members. Because technicians are Society employees, however, the link ejidatarios make between their work and the SPFEQR is more direct than in the UNECOFAEZ.

Nevertheless, the SPFEQR’s technical services are in serious financial crisis. Though subsidies were available until the late 1980s, the Society is now wholly responsible for financing its technical department. Most of the cost is charged to mahogany extraction; the charge per cubic meter for mahogany is almost four times that for tropical woods, though the actual costs of services is similar (Taylor and

Zabin 2000). Economies of scale make service financing easier in ejidos with larger Permanent Forest Areas and more mahogany. As in Durango, the Society's technical department now competes with foresters who bid low by offering only harvest permits. Competitive pressures are intensifying as declining volumes of precious timber lead staff to reduce authorized harvests. The SPFEQR has drastically cut costs, including reducing its forestry staff. It recently lost one of its two certified forestry engineers to the Ministry of Environment.

Outside advisors have urged the Society to diversify its activities to promote non-timber forest product development, including ecotourism. It could then help address the poverty underlying clandestine felling and land use change, particularly in ejidos with little precious timber. Diversification could attract external funds, stimulating local support and relieving the SPFEQR's acute organizational and financial crises. Nevertheless, the Society does not seek to diversify. Its leaders seek external support for forestry services and focus shrinking resources on more prosperous ejidos where timber generates the most revenue and political visibility. One ejidatario who had helped found the SPFEQR explained in a 1998 workshop that non-timber activities would overwhelm the Society's organizational capacity. "Diversification would be our death" he insisted.

INTERNAL GOVERNANCE AND THE REDEFINITION OF "COMMUNITY" FORESTRY

Ostrom writes that common pool resource regimes are more likely to succeed if those with rights to benefit from the resources are a relatively small, stable group with well-defined boundaries (1990:90; 1999:7, 8). In Mexican community forestry, that "group" represents the people with rights to participate in managing and benefiting from the forest. For intermediate level community forestry organizations such as the UNECOFAGEZ and the SPFEQR, "community" is the stakeholders who benefit from and participate legitimately in the organization's activities. Rather than constituting a stable group once and clearly defined, the UNECOFAGEZ and SPFEQR's communities of stakeholders have been continually redefined as participants renegotiate internal governance. This at times conflictual negotiation over who is to control the resource-related activity and how, has been peopled by titled ejidatarios and comuneros, new groups emerging within the ejidos and agrarian communities, and an evolving set of external support agencies.

The UNECOFAGEZ: Centralized Leadership

For most of its turbulent years of struggle, the UNECOFAGEZ was led by two individuals elected by the delegates assembly to two consecutive three year terms each. In 1997, though a new president assumed office, decisionmaking remained concentrated in the hands of a relatively stable administrative board, with limited direct participation by ejidatarios and comuneros. Many distant communities delegate their vote to the President, ensuring a legal assembly quorum but weakening institutional controls over leaders' discretionary power.

Nevertheless, internal governance became contested after the Union acquired the plywood factory. One interviewee complained that "after they won the battle with

PROFORMEX, the conflicts began. People wanted to seize control of the Union for their own personal benefit.” For their part, dissenters have argued against re-election, called for broader participation in the Union’s higher leadership and advocated linking communities’ voting power to the size of their commercial timber volumes. In 1992, an internal movement to prevent the incumbent president from being re-elected failed after extensive assembly debate, when the incumbent president won with 80 percent of the vote (UNECOFAGEZ 1992).

Fernandez Villegas argues that with the peasant movement’s change in terrain, the “half-*caudillo agraristas*, half *compadres* with a well-established clientele, who based their power and influence on political mediation, have been displaced by a new type of leader, more apt at economic management and administration, whose influence and prestige rests on their management capacity” (1991:35). The stability of the Union’s top leadership has almost certainly helped it form lasting networks with policymakers. It has also helped the Union accumulate the experience necessary to operate its income generating activities profitably. Interviewees in Mexico City and in Durango admitted that power in the Union is relatively concentrated, but characterized its elected leaders over the last fifteen years as exceptionally honest and capable individuals. The Union aims to institutionalize integrity and competence by giving new leaders experience in different activities and finding administrative spaces for past leaders.

The SPFEQR: Strong Assembly

By contrast, the SPFEQR might be said to have more participatory internal governance than the UNECOFAEZ as its general assembly of delegates exercises closer and more frequent oversight over elected leaders. Indeed, the Society’s frequent turnover of leadership inhibits the capacity to effectively develop policy, administer projects and represent ejidos’ interests. The Society’s leadership is elected from the assembly’s own ranks to one year terms and can be re-elected. In practice, the president and usually the entire administrative committee, are replaced annually, removing leaders just as they gain the experience to operate effectively.

According to interviewees, the frequent turnover stems from delegates’ fear that elected leaders are susceptible to corruption. This suspicion and its results are mirrored in the ejidos themselves, where elected authorities (*comisariados*) are frequently replaced by the ejido assembly before their terms are ended. “Nobody leaves looking good” one ex-comisariado complained. Second, except for election procedures, the SPFEQR’s assembly lacks a formal means to evaluate performance and if necessary impeach an incumbent leader. Ironically, a Society leader can be removed if his home ejido withdraws his status as forestry delegate. This, interviewees reported, has recently happened to two of the SPFEQR’s presidents.

Article 27 and Agrarian Law Reform and Work Groups

In addition to these electoral issues, a new problem of governance and the definition of “community” was set in motion by the new Constitutional Article 27 and related Agrarian Law. Before 1992, any activity employing collective resources had to be open to all titled members and formally administered by the local assembly.

Reforms permit smaller groups of peasants to carry out for-profit activities using their share of the collective resource (López Nogales and López Nogales 1999). In Durango and Quintana Roo, forestry work groups have emerged as a new way of organizing extraction and processing.³ During the fieldwork periods, work groups ranging from ten to one hundred members each had formed in five communities in the UNECOFAEZ and in three in the SPFEQR. They compel the Union and the Society to rethink the composition of their communities of stakeholders and the ways in which they arrange governance.

Though facilitated by the new neoliberal legal framework, work groups also emerged from peasants' long-standing frustration with inefficiency and corruption in collectively organized forestry. With the new model, ejidatarios and comuneros form smaller groups, each allotted shares of the community's annual cut. Each selects a chief to coordinate technical services, allocate tasks, supervise harvest and negotiate sales. Profits accrue only to group participants. Interviewees asserted that smaller groups encourage more efficient, transparent operations because the comisariado no longer manages funds. Taking operational decisions out of assembly hands both broadens participation and distributes benefits more fairly than the collective system, in which some factions controlled forestry and blocked access to coveted jobs. In one Quintana Roo ejido, for example, profit distributions per member reportedly rose four-fold in the first year of group work.

Nevertheless, the groups pose several existing or potential disadvantages. Production costs can increase as economies of scale are lost. Now that forest funds no longer pass through the comisariado's hands, group chiefs find themselves assuming responsibility for members' social welfare. Vital community expenditures are often neglected. Existing collective facilities such as sawmills become more difficult to maintain and capitalize when operated by multiple groups. The cost of technical services rises, for the UAFs in Durango, and for the SPFEQR in Quintana Roo, as technicians make multiple trips to a community and become involved in the often conflictual allocation of timber volumes. Collecting technical and membership fees becomes more difficult as groups market timber and pay quotas separately. With the work groups, the social boundaries of the UNECOFAEZ and SPFEQR's communities of stakeholders are effectively being redrawn. Some participants spoke of their groups as a nascent form of representative government. Others feared they were participating in the political disintegration of the ejido and community. Though still few in number, the groups significantly challenge the formal governance structure of intermediate forestry organizations designed to serve and be controlled by undivided ejidos and communities. At a minimum, groups require that the Union and the Society deal with several local leaders rather than a single elected authority. More significantly, one community with groups in the UNECOFAEZ and another ejido with groups in the SPFEQR have demanded, thus far unsuccessfully, separate assembly delegates for each group. Both organizations

3. Though peasants have long organized in small groups for some non-timber forest production such as *chicle* (gum) extraction in Quintana Roo, interviewees in both field sites were unanimous in characterizing timber extraction in groups as a post 1992 development.

are reluctant to agree as the change would drastically alter existing distributions of power in favor of ejidos and communities with groups and encourage the formation of groups for political rather than technical motives. Moreover, Union leaders and some peasant interviewees concurred that a community's internal division makes it more difficult to attract outside project funds. Another danger, some critics insist, is that the groups may encourage the parcelization of forests.⁴

Neither the UNECOFABEZ nor the SPFEQR directly oppose the work groups. The Union view them as a matter internal to member ejidos and communities. The SPFEQR's policy currently is to engage the groups to reinforce their generally positive goals of efficiency and professional management while minimizing their disadvantages. Nevertheless, significant tensions are emerging as both organizations struggle to incorporate this new form of participation. The phenomenon underscores that community forestry confronts a new set of pressures distinct from those of earlier years when it mainly sought to win a radical expansion of participation in forestry. Declining volumes of wide diameter pine in Durango and precious species in Quintana Roo, plus the inefficiency problems of much collectively-organized activities, mean that the economic benefits of community forestry no longer fulfil participants' expectations. Significantly, the peasants are not waiting for external solutions, but actively seek new answers to their forestry problems.

The Role of Outside Agencies: Donors and Stakeholders?

Internal conflicts over internal governance and the redefinition of the communities to which the UNECOFABEZ and SPFEQR are accountable are also shaped by their ties with external support institutions. According to Bartra, such external relationships potentially compromise the autonomy of peasant-controlled organizations. Understanding "autonomy" to mean "political indefinición," he argues that when peasant organizations are dependent on national agencies, they become more subordinate to gain access to development funds (1991). Though outside government, donor and NGO institutions lack a formal role in the UNECOFABEZ and SPFEQR's internal governance, by granting technical and financial support they gain influence in management and, thereby, represent part of the organizations' communities of stakeholders (see Ostrom 1999:preface).

The UNECOFABEZ has received little international support but has relied heavily on federal funds. The Union has received assistance from federal sources such as the Ministry of Environment, the National Reforestation Program, the Secretariat of Development and Solidarity, the Ministry of Agriculture, the Bank of Mexico, and others. According to NGO interviewees in Mexico City, the UNECOFABEZ is widely identified with the ruling PRI (Institutional Revolutionary Party). Because the federal agencies supporting the Union are PRI-controlled, this perception of partisanship is unsurprising. Though the PRI still controls Durango's governorship,

4. Though formally dividing the forest is illegal, one large agrarian community in Durango has divided into eleven subcommunities called "annexes." By internal agreement, the forest plots of each annex are claimed by individual families who receive most of the profits from the "collective" resource.

the PAN (National Action Party) won the municipality of Durango in 1994 and in 1998 gained control of Santiago Papasquiaro municipality. Given the evidence of movement in Mexico toward a multiparty system, the Union may find that its identification with a single party becomes a liability both in Durango and in the nation's capital.

These party considerations aside, the Union's external ties influence its trajectory and introduce new constituencies. For example, the Bank of Mexico, Nacional Financiera and the Agricultural Ministry assisted the Union in establishing a Credit Union in 1993. Instead of exclusively serving peasants, the Credit Union's beneficiaries include urban businesspeople. The road committees organized by the Union with federal and state funds include participation by private landowners and local timber industrialists as well as peasants. The National Program of Reforestation and the Ministry of Development and Solidarity helped the Union establish its nursery, whose services are available to the public. The UNECOFAEZ agricultural and animal husbandry extension project is funded via the latter Ministry and targets not the Union's traditional peasant foresters but farmers and housewives. These activities, then, represent not only outside agency involvement in key Union services but the broadening of the community the Union serves and the range of stakeholders to which it is accountable.

External assistance to the SPFEQR, by contrast, has emphasized timber-related activities. The SPFEQR has received support from Mexican government agencies and NGOs such as the Environmental Ministry, the Ministry of Development and Solidarity, Ecosur, and the University of Quintana Roo. The Ministry of Development and Solidarity, for example, has financially supported forest inventories and the Society's involvement in timber marketing.

Unlike the UNECOFAEZ, the SPFEQR has also received significant assistance from international agencies concerned with tropical forest conservation. The GTZ long provided crucial financial and technical support to the PPF forestry societies, including the SPFEQR, by financing inventories, forestry training, and alternative timber species development. Today, ex-GTZ advisors still influence the Society's activities because of their experience and institutional memory. The British Department for International Development has supported extraction infrastructure and advised the SPFEQR on organizational matters. The MacArthur Foundation funds a wildlife monitoring project in the Society, through which it supports an eco-tourism project in one of the ejidos. Because of Quintana Roo's tropical forests, the SPFEQR operates in more of a fishbowl than does the UNECOFAEZ, attracting significant international attention. By contrast with the Union, most of the external assistance channeled through the Society has consistently benefited titled, mostly male forestry peasants in its four most timber-rich ejidos rather than creating new beneficiaries/constituencies.⁵

5. Armijo and Robertos (1998) point to still-overlooked stakeholders in Quintana Roo's managed forests, who include young people, women and non-ejidatario residents who also use the forest and contribute to pressures on it.

Nevertheless, in both the UNECOFAEZ and the SPFEQR, controversy over how the organization is to be controlled and by whom remains largely in the peasant hands. Governance issues are frequently revisited, especially with the appearance of the work groups. Despite the influence of external institutions, the UNECOFAEZ shapes its own trajectory through autonomous choices of projects to pursue. Though the SPFEQR operates in the bright light of external interest in tropical conservation, it has resisted pressures to diversify and, for better or for worse, concentrated on its traditional strength – supporting precious species timber exploitation. In both organizations, but especially in the UNECOFAEZ, the “communities” of stakeholders who require accountability have been renegotiated over time. They include today not only peasants involved in traditional forestry activities, but beneficiaries of the organizations’ non-timber projects, the new economic associations emerging within member ejidos and agrarian communities, and the external agencies that provide funds and technical assistance.

CRISES OF LEGITIMACY

Both the UNECOFAEZ and the SPFEQR face crises of legitimacy brought on by their internal restructuring, the shifting boundaries of the communities they serve, and external pressures from changing policy and legal frameworks. The Union’s transformation into a production organization with business-oriented objectives has encouraged growing distance from its member base. Though the plywood factory is legally owned by shareholding ejidos and communities, one interviewee remarked that the Union “concerns itself mainly with the plywood factory.” Another claimed that the Union has become “a timber buyer like any other.” One comisariado complained, “[the Union] doesn’t do anything for us...,” though he then added, “except we do have the radio [a Union-sponsored network].” When asked about some members’ concern about the factory, one senior leader replied “those who are too far away don’t understand the business. They’re not willing to take the risk [of participating].”

When it was a grassroots political organization, the Union’s task was simpler: uniting ejidos and communities around the objective of gaining control over forestry production. Today, the Union’s major emphasis is on its business, and communities’ material interests in its activities vary widely. Some ejidos and communities have substantial forest resources and experience but forestry is economically irrelevant for many member communities. Most rely heavily on agriculture and animal raising or are quite impoverished; their Union ties are consequently weak. The UNECOFAEZ has no direct role in delivering forestry technical services to bind its members to it and few members have appreciable direct contact with the Union’s plywood factory. Its roles in lobbying, keeping road committees operating, maintaining the radio network and influencing timber prices, are not readily visible to most peasants.

The Union’s reluctance to grant work groups separate delegates has caused a rift with one of its largest agrarian communities, which has eleven annexes. One Union leader explained: “if the annexes legally convert to independent agrarian communities, we will be happy to have each as separate members with their own

delegates. Until then, we can only deal officially with the legal agrarian community.” From the perspective of one comunero from that community: “the Union fears that with forty-four delegates, we could take over the organization.” While this controversy remains unresolved, Union relations with other ejidos and communities in the same area have also become strained.

The SPFEQR also faces a crisis of legitimacy. Its internal financial problems and external structural pressures undermine its capacity to deliver concrete benefits. The disarray of the Society’s technical services is serious, as they are vital not only to forest conservation but to the survival of the organization itself. Zabin (1998) notes that the privatization of forestry technical services appears to be triggering the disintegration of secondary regional organizations of ejidos throughout Mexico. The Society’s four resource-rich ejidos have long complained that they subsidize services to the poorer ejidos. In 1996, nearly 80 percent of the Society’s revenue came from these four communities (Taylor and 2000). In reality, the SPFEQR’s technical team devoted most of its attention to its timber-rich ejidos. Nevertheless, the Society’s leaders have feared that these members might emulate one Mayan ejido which left its forestry society, the OEPFZM, in 1995 to hire its own technical services. Their fears were realized in 1998 when the SPFEQR’s most prosperous ejido left the Society and contracted its own services from a private firm established by members of the PPF’s original technical team. Ejidatarios from less financially well-off ejidos express discontent, too: one complained recently that the SPFEQR “does not approach the ejido, perhaps because it is considered small and simple” (Armijo Canto and Albrecht Arellano 1998:68).

There are also signs that the SPFEQR’s credibility with key external support agencies has been weakened. Interviewees in several of these institutions criticized the Society for not firmly opposing the forestry work groups. They feared that the groups represent the breakdown of PPF principles, signal the political disintegration of the ejido, and lead to the eventual physical division of the forest.⁶ They have suggested that the forestry civil societies no longer possess the distance to effectively advocate their conservation agenda. Significantly, at the 1997 Forestry Agenda Forum, a plan to institute municipality-based technical services in the Maya Zone was originally supported by some public agencies though quickly denounced by the forestry societies (Galletti, et al. 1997). In a 1998 workshop on the role of forestry support agencies, one government representative proposed that the responsibility for delivering technical services be removed from the forestry societies.

Neoliberal policy reform contributes to these crises of legitimacy by helping popularize the notion that it is the collective tenancy of the forest itself which has permitted “disproportionate, anonymous depredation” (Cabarle et al. 1997:28). A World Bank Sector Review states that ill-defined ejido and agrarian community boundaries create tenure insecurity, forest management is rarely a community

6. This fear is not far-fetched, despite legal barriers to division. In Durango, in at last one of the agrarian community annexes referred to above, the forest has been mapped and fenced into “individual” plots by internal (albeit extra-legal) arrangement.

priority, technical support for sustainable systems is lacking, and mutual distrust between private industries and communities discourages joint venture investment (1995:xi, xii). Constitutional reforms have created a “legal framework for a redeployment of institutional power that seeks to bypass existing rural organizations by dealing directly with the individual (usually male) ejidatario” (Harvey 1996:152). Indeed, as an influential policymaker put it, “one of the principal objectives of the new forestry policy is to establish conditions so that the economic agents involved in the activity will be the principal custodians of the forest resources” (Téllez Kuenzler 1994:268). Wexler and Bray (1996) suggest that this statement indirectly advocates “private stewardship of forests” (1996:238).

CONCLUSION

Common pool resource management regimes can be fruitfully approached as historically embedded processes rather than as static legal and organizational arrangements. This approach makes possible a more textured assessment of the external structural pressures and social agency shaping local organization. In Mexico, neoliberal reform has direct and indirect influences on how collective forest resources are managed by reorganizing technical services and facilitating more individualistic forms of local organization. Nevertheless, these external pressures’ impact is mediated at the local level by human actors who grapple with their own political, social and technical issues. Mexican community forestry organizations are historical processes in which collective objectives, management arrangements and the social boundaries of cooperation are periodically renegotiated.

The variety of possible agentic responses to structural pressures helps account for why two community forestry organizations began with similar problems of parastatal control of local timber resources yet developed into quite different organizations. The UNECOFAEZ modified its collective objective as it moved from a political movement to a production organization with a strong focus on business profitability. The SPFEQR has maintained a primary focus on supporting members’ timber activities. Unable to directly provide technical services, the Union developed a diversified array of services which are, however, less effective in generating local participation. The Society’s technical services allow it to exercise a direct role in local level forestry but its financing crisis threatens its ability to deliver the benefits that maintain its social base. Both organizations have struggled with issues of who is to govern the organization and how; the Union has developed relatively stable yet centralized control while the Society’s assembly intervenes frequently to replace its leadership. These governance questions are complicated by shifts over time in the stakeholder communities to whom both organizations are accountable.

Both the Union and the Society risk ceasing in future to be peasant organizations effectively controlled by peasants. The Union’s very success with a growing range of productive activities is a source of pressure away from the service orientation necessary to keep its social roots. The Society’s fall back to emphasis on its most prosperous members and within those ejidos, smaller groups increasingly assuming

political and social functions beyond their original forestry mandate, are likely to weaken the effective control a more broadly representative assembly of delegates can exercise. The loss of their social bases could make these organizations vulnerable to outside threats, from their traditional enemies to changing policy conditions.

One question the crises of legitimacy raises is whether the historical moment of intermediate level peasant-based forestry organizations has passed. What would be lost in Durango and Quintana Roo if the peasant-based forestry unions and societies were to disappear? Experience in Mexico and elsewhere suggests that neither top-down, repressive state enforcement nor privatization can promote forest conservation where trees and large numbers of poor people exist side by side (Fortmann and Bruce 1988). Community forestry emerged from the insight that forests can be best protected by first, encouraging forest dwellers to view trees as renewable resources and second, genuinely involving them in managing those resources (Bruce and Fortmann 1991:481). While neoliberal forestry reform has ostensibly aimed to improve competitiveness (Téllez Kuenzler 1994:268), it is likely to prove counter-productive economically, socially and environmentally if it undermines peasants' capacity to participate effectively in managing their forests.

Neither the UNECOFABEZ nor the SPFEQR are likely to disappear in the short run. Both the UNECOFABEZ and the SPFEQR still enjoy significant credibility and support among their members. The UNECOFABEZ can meet international competition, its plywood factory is a revenue generator and it exercises significant influence in official policy circles. Interviewees expressed pride in their Union's achievements, even as they criticized it for its growing distance. Most associated ejidos and communities have followed the Union's advice to continue paying for comprehensive technical services from the UAFs rather than opting for cheaper, limited services. Though the SPFEQR's crisis appears to be the most severe and immediate, it still enjoys strong grassroots support. The Society answers a strongly felt need for technical assistance and for peasant political representation in Quintana Roo. The Society remains at the center of current debates over the future of the state's forestry policy. Despite its top-down origin, it has become a more participatory and broad-based organization.

Without their peasant members' active commitment, the UNECOFABEZ and the SPFEQR would have long ago become merely paper organizations, like others in Mexico (see Hellman 1994). However imperfect, these two organizations are still run by peasants and remain committed to creating and consolidating the conditions necessary for community-managed forests. Forestry communities have been controlling their own resources and production for less than twenty years, with less support than that given to other branches of agrarian production (Merino Pérez, 1997:73). Even so, the UNECOFABEZ and the SPFEQR have served as effective advocates for their peasant members and for an ecologically sustainable forestry. They have promoted effective technical assistance and facilitated a real transfer of skills and knowledge to several generations of community leaders and technical staff. They have been of key importance in bridging and coordinating the interests

of peasants and outside agencies. They represent, in sum, a significant augmenting of the local governance capacity essential for sustainable common pool resource management.

Their experiences with forestry are also relevant to broader issues of agrarian production because timber, agriculture and animal-raising activities have long been closely related in Mexico. This relationship has often been associated with deforestation as policies promoting colonization, federal subsidies of agriculture and animal raising (Galleti 1994), geographical isolation and forestry's inefficiency problems (Merino and Alatorre 1997) create incentives toward land use change from timber to food production. Nevertheless, forestry, agriculture and other agrarian production activities do not necessarily involve zero sum resource management relationships. As one Durango Union leader put it: "People here have always been farmers and done a little cattle raising as well as forestry. For subsistence. They never stopped being one for the other." The overall economic strategies of many peasant families and communities include forestry, agriculture, animal raising and wage labor. An important question is whether those diverse economic strategies represent sustainable activities which allow peasants to remain in the community or unsustainable production which eventually propels peasants outward as permanent migrants. Both the Union and the Society have begun to realize that they need to consider timber in a broader context of the rural development of Durango and Quintana Roo, respectively. Viable timber production and viable food production will together result in less pressure toward land use change and in more opportunities for rural families to meet their needs in their own communities.

Despite strong outside interest in Mexico's forests, today the peasant producer carries nearly all the cost of forest conservation. External support of peasant forestry is customarily derided as "subsidy," unquestionably anathema in the neoliberal globalizing world in which community forestry operates. Yet Mexico's forests are not privately owned and appropriated resources, but represent important means for community livelihood, a constitutionally protected national heritage, and a source of vital ecological services to Mexico, the region, and the globe. In other words, the "community" with a stake in Mexico's forests includes public and private actors at state, national and international levels. Assistance to forest owners' efforts to be responsible stewards might best be seen not as "subsidies" but as co-investments in a common sustainable future. Such co-investment is needed to assist with the physical and technical infrastructure necessary for a healthy forestry sector, including financial, technical and other organizational support for peasant-based forest management. Despite their weaknesses, the peasant forestry organizations are one organizational means by which peasants exercise real control over their resources. The history of the parastatal era, marked by social injustice and environmental devastation, suggests that when local people are denied effective participation, they, and with them the forest itself, suffer. Mexico and the other stakeholders in its forests may find that the sustainability of local people's commitment to their communities and their environment is too valuable to entrust wholly to the global market.

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REPRISE ON COMMODITY SYSTEMS METHODOLOGY

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INTRODUCTION

This paper urges the elaboration of commodity systems methodology based on inductive methods in empirical research. Expanding an earlier suggested methodology (Friedland 1984), three new methodological arenas are identified: the scale of commodities, sectoral organization and the state, and commodity culture. Before turning to these three arenas, the paper examines the current state of commodity and commodity systems studies, theories, and methodologies.

While agricultural commodities and commodities systems have become, in recent years, an increasing foci of study by sociologists, this has not always been the case. If one examines the two “pioneer” books that helped to crystallize the sociology of agriculture, Rodefeld, Flora, Voth, Fujimoto, and Converse (1978) and Buttel and Newby (1980), a reader would be hard put to find either commodities or commodity systems as a preoccupation of the contributors to the two volumes. Similarly, Newby’s assessments of rural sociology (1978; 1980; 1983), while noting the rise of the sociology of agriculture and beginning to summarize material on commodities, contain no mention of commodity systems. This area of study had not yet appeared upon the scene.

The analysis of commodity systems¹ as part of the sociology of agriculture is now an accepted part of the field. Agricultural economists have long focused on the economics of particular commodities but have been less interested in studying commodity systems, let alone social, political, or cultural aspects of commodities. A notable exception is Goldberg (1968) but most commodity chain studies by economists are usually devoid of human beings.²

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1. The nomenclature in this field has not yet settled down. Three terms can generally be found that encompass what has been designated as _commodity systems_ analysis. The PEWS (Political Economy of the World-System) Group refers to commodity chains (Hopkins and Wallerstein 1986; Gereffi and Korzeniewicz 1994). The French, who initiated studies in this arena prior to others, refer to “filieres” which can be translated as “channels” (Bertrand, Laurent, and Laclerc 1984; Lauret 1983). I can detect no clear conceptual differences between these three terms and, in this paper, will use all three interchangeably. A fourth term, “systems of provision,” is also probably equivalent; see below and Fine 1994.

2. See, for example, CGPRT Centre (1988).

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In contrast, rural sociologists had, for the most part, abandoned research on agricultural matters (Friedland 1982) and, as a consequence, devoted little or no attention to agricultural commodities and their production. This changed once the sociology of agriculture became an accepted part of rural sociology during the 1980s.

Buttel, Larson, and Gillespie (1990), summing up *The Sociology of Agriculture*, recognized commodity systems analysis as a significant segment of the “new” sociology of agriculture. A decade later, Buttel (2000:9) sees commodity studies as “one of the major emphases of 1990s agrarian studies.”

A survey of the literature indicates that, while there has been a significant volume of empirical research over the past two decades, more has been on specific aspects of commodities rather than on commodity systems. Commodity analyses often utilize some approaches taken from commodity chain studies but rarely attempt to take on the totality of a commodity. There is good reason for this; even simple commodity filieres are very complex and their analysis can involve considerable time and space. As Dixon (2000:14) puts it, “a single commodity could consume a life-time’s research”

One way to understand the difference between a commodity study vs. a commodity systems analysis would be to compare processing tomato harvest mechanization and lettuce harvesting. A cluster of tomato studies (Friedland and Barton 1975; Thompson and Scheuring 1978; de Janvry, Leveen, and Runsten 1980) are essentially commodity studies focused on one particular aspect of the commodity, mechanized harvesting and its social consequences. Similarly, one study of lettuce harvesting (Thomas 1985) examines the effects of citizenship and gender on the labor process. An earlier lettuce study (Friedland, Barton, and Thomas 1981), in contrast, considered lettuce as a distinctive system, projecting the social consequences of potential mechanical harvesting. To make the projections, the authors examined the network of social relationships in the lettuce industry and relationships of production to nonagricultural aspects of life.

Yet another way of considering the distinction is to examine how several different researchers have focused on particular aspects of commodities, sometimes being system analytic, but in other cases focusing on a particular aspect of a commodity. Wells (1996), for example, centres her strawberry commodity analysis on labor but also deals with ethnicity, grower types, worker-grower relations, and patterns of paternalism. Other aspects of the strawberry commodity system are not dealt with, especially strawberry distribution and marketing. Morgan’s (1980) study of the grain complex overlooks labor and contains barely any mention of growers; instead Morgan concentrates on the “merchants of grain,” the global trading companies that dominate the world grain trade. On the other hand, by focusing attention on the state, the transition from fordism to postfordism and environmental issues in their tuna study, Bonanno and Constance (1996) make their study more of a commodity system analysis than a commodity study. The same can be said for Stanford’s (1994) examination of Mexico’s cantaloupe export sector.

There is no intention to make invidious distinctions between commodity studies

versus commodity systems analyses. The latter takes far more time. Further, analysis of commodity systems will often depend upon clusters of commodity studies. It is important to encourage the systematic comparative analysis of commodities, something that the Political Economy of the World-System (PEWS) group undertook in their 1992 conference (Gereffi and Korzeniewicz 1994).

If commodity and commodity systems analyses are now an established part of the sociology of agriculture, less attention has been given to methodology. Working in a very different tradition of agricultural administration, McGinity (1979) argued for the use of a systems approach to manage agroindustrial development, setting out seven stages: farm supply, farming, consolidation, processing, wholesaling, retailing, and consumption. Friedland (1984) set out the first sociological attempt at methodology. Hopkins and Wallerstein (1986), possibly anticipating the emergence of actor network theory, see commodities as networks of labor and production crossing multiple frontiers and resulting in a finished commodity. Busch (1990), addressing the French filiere approach, sets out a methodology centred on the role of science and technology and, by emphasizing the actor, began the application of actor network theory to agricultural matters. Among other things, Busch suggests eleven rules to guide commodity systems analyses: there is nothing natural about nature; there is nothing natural about society either; production neither starts nor stops at the farm gate; commodity chains have values embedded in them; the weakest link in the chain will stop commodity production; science, technology, and bureaucratic decisions can create and recreate commodity chains; commodity chains have histories; commodity chains have geographies; the power relations in commodity chains change when an actor in the chain attempts to modify it; and finally, commodity chains do not exist (they are conceptual creations).

Two recent researchers – Dixon (1999a; 1999b; 2000) and Wright (1999) – agree that the omission of consumption in Friedland's original methodology leaves an important gap. This leads each independently to emphasize consumption and culture in studying discrete commodities. Dixon calls for inclusion of two additional dimensions: regulatory politics and state-producer relations, and product design, as well as setting out five components of consumption: tertiary production practices, the means of access, delivery dimensions, the eating environment, and the experience of consumption. More will be said about Dixon and Wright below.

A peculiarity of commodity and commodity systems studies has been that they often begin with either an empirical or a social problem. It is the problematic that drives the research more often than theoretical preoccupations. The various tomato and lettuce studies, for example, developed out of agricultural mechanization and its social consequences, an issue which preoccupied agricultural engineers and social scientists during the 1960s and which led to a suit against the University of California for its enthusiastic support for mechanization research (Friedland 1991). Many studies have their impetus from technological change and its consequences.

Some studies have focused on labor or the environment or the state, or another particularized aspect, in some cases, based on theoretical concerns generated elsewhere in the social science literature. Methodologies tend to be drawn

eclectically from a variety of sources. In other words, methodology has been built more on empirical concerns – how should one study strawberries or cotton or kiwifruit? – rather than from theoretical preconceptions. Methodology has been inductively developed rather than, as is sometimes the case, with research focused on theoretical issues where methodologies tend to be deductive.

The advantage of a priori or deductive approaches is that they stand on their own. This is an advantage when compared to empirically derived approaches, which usually require expansion or elaboration based on new empirical findings. In this respect, there is a need for an expansion of the methodological framework set out in the 1980s based on studies of iceberg lettuce and processing tomatoes. Friedland's (1984) paper set out five basic foci for research: production practices or labor process; grower organization and organizations, how growers organize the labor process and organize themselves with respect to other actors; labor, the character of the labor market, labor supply, and the ways in which workers organize themselves with respect to production; science production and application, how scientists are mobilized and conduct their research and how this affects commodity production; and marketing and distribution, how commodities are handled once they pass beyond the farm gate.

Before turning to the three new methodological arenas, a review of research relevant to filiere analysis will be undertaken.

COMMODITY STUDIES AND COMMODITY SYSTEMS ANALYSIS: THE STATE OF THE ART

This section examines research developments bearing directly or indirectly on the evolution of commodity and commodity chain analyses. Directly concerned are studies by Dixon and Wright and globalization studies. Less direct are two other developments: Ben Fine's "systems of provision" and Actor Network Theory.

Growing interest in commodity studies and commodity chain analysis has, in all likelihood, been a consequence of two major developments: the industrialization of agriculture and the globalization process. The past two decades have witnessed a growing literature on various aspects of commodities although there has not been much of a focus on methodology.

The cluster of studies that is most impressive is that utilizing specific commodities to analyse a particular problematic. For example, globalization has been a central problematic in a number of studies from apples to shrimp, sugar, and tomatoes. Antipodean researchers in Australia and New Zealand – most often geographers and sociologists – as a result of being proximate to export-oriented agriculture, have been particularly enthusiastic in this respect. As well, several studies have used commodity chain analysis, either explicitly or implicitly, to examine commodities historically. Notable in this respect is Mintz's (1985) study of sugar and Roche's (1999) examination of the frozen meat trade.

AMPLIFYING AND EXTENDING COMMODITY SYSTEMS METHODOLOGY

Research by Dixon (1999a; 1999b; 2000) and Wright (1999), respectively on the chicken filiere in Australia and burley tobacco in Kentucky, while utilizing Friedland's (1984) methodological suggestions, found significant omissions and suggested elaborations and augmentations.

Wright demonstrates how the entry of new actors – nonconsumers – into the tobacco filiere has involved the state in contradictory representations. The state has had historic relationships with tobacco to encourage accumulation as well as to provide an important source of state revenue. Having served the accumulation function historically, the state has responded to anti-tobacco forces thereby fulfilling a contradictory legitimization function. Wright and Dixon have demonstrated the importance of following the filiere from producer to consumer. Dixon, in particular, shows the importance of intermediaries between production and consumption and their effects on consumption. Both argue for following the commodity through to its final denouement when the commodity is “destroyed” in consumption.

Wright (1999:13) raises interesting issues around commodity culture – or, as she prefers to call it, the “culture of commodity production.” The peculiar status of tobacco should perhaps be noted at the outset: tobacco is an agricultural commodity but agriculture is often defined as the production of food and fibre – of which tobacco is neither.³

Wright demonstrates the powerful economic and cultural components among the producers of burley tobacco. Burley “tobacco remains the ‘golden leaf’ in Kentucky because no other legal crop approximates its economic value [whose] production and processing approximates nearly six percent of the state’s entire economy” (p. 300). Further, “...tobacco was the commodity that shielded many small farms from the national farm crisis of the 1980s” (p. 295). Thus, the material base of the commodity is economically and socially important. In addition, there are the producers’ cultural commitments: “it is firmly etched into local communities and marks a long-standing legacy” (p. 300).

Change has been produced in the tobacco system less by consumers than non-consumers who consider tobacco an addictive carcinogen, a threat to consumers but also to nonsmokers. While one might quibble with Wright about the influence of nonconsumers on consumption, there is no gainsaying their effects on the tobacco filiere.

Dixon (1999a; 1999b; 2000) pursues the limitations of Friedland’s methodology even further (as well as beyond the paper delivered in 1997 from which the present paper has been derived).⁴

3. Nor, of course, are other similar agricultural products such as coca leaf or opium poppies.

4. Dixon (2000) has an expanded and empirically detailed version in her dissertation, which is summarized in more accessible sources (1999a, 1999b). It is to be hoped that both researchers will make their empirical findings available in book form in the near future.

Calling for an elaboration of Friedland's original five areas, she includes two new components of production: product design and regulatory politics. Besides calling generally for attention to consumption, she specifies five distinct arenas of research: tertiary production practices, means of access, manner of delivery, the eating environment, and the eating experience (Dixon 2000:Table 3.2, p. 67).

Dixon's problematic is: where does power lie in the Australian chicken complex? Dixon conducted interviews and perused literature through the length of the filiere, from growers to processors, commodity organizations, supermarkets and other retail outlets including fast food chicken stores, and on to nutritionists, researchers and others who influence chicken consumption (and other foods), and regulators and politicians. This is, without doubt, the most comprehensive commodity chain analysis I have seen, probably made feasible because Australian chickens are an "enclosed" commodity, almost entirely isolated from global food circuits and because of the comparatively small size of Australia's population.

Rejecting "the authority of the consumer" approach of Keat, Whitely, and Abercrombie (1994), Dixon shows that effective power and control are neither at the beginning of the filiere with growers or processors or at its end, with consumers. Power is located in between, with supermarket retailers and, to a more limited extent, with fast food producers but taking into account nutritionists, market researchers, and specialists in cultural symbol manipulation.

Dixon concludes her research by making a dual argument for a possible 'third regime of reflexive accumulation', adding to Friedmann and McMichael's (1989) two-food regime argument. She also promulgates the need for incorporating a cultural economy perspective to parallel Marx's three circuits of capital (production, realization, and reproduction) with three circuits of culture (commercial, social, and emotional) (2000:Table 10.3, p. 253).

Space does not permit an extended discussion or critique of Dixon's theoretical and methodological suggestions. Suffice it to say that her empirical data have generated an important contribution to commodity systems analysis.

BEN FINE AND "SYSTEMS OF PROVISION"

The argument to include consumption in commodity systems analysis is compelling but there are significant problems inherent in its inclusion. One major argument for a consumption focus has been made by Ben Fine (1994) and his associates. A later work (Fine, Heasman, and Wright 1996) demonstrates the difficulties that can be encountered.

In his 1994 paper that generated a storm of criticism, Fine broke with the main approach in British consumption studies of the 1980s. That approach considered any and all forms of consumption to be the focus of analysis. A good example of this can be found in the special issue of *Sociology*, the journal of the British Sociological Association, on the sociology of consumption (Vol. 24, No. 1, February 1990). This issue contained analyses of consumption of tourism (Urry 1990), medical care (Busfield 1990), housing (Savage, Watt, and Arber 1990), control of money and household spending (Pahl 1990), and food (Beardsworth and Keil 1990).

This approach, which considers all forms of consumption, Fine regards as “horizontal” and specifically rejects (Fine et al. 1996:62) in favour of “vertical systems of provisions” (SoPs) (seemingly the equivalent of what we have been referring to as commodity systems). Whether Fine would argue for vertical SoPs in all commodities is unclear but he makes the case for vertical analysis of food because of its “organic” character, i.e., because of its biological character, food is subject to spoilage. Fine sees food production linked to consumption through vertically integrated chains of activities beginning with inputs to agriculture and including processing, transportation, distribution, marketing, and consumption. While he includes agriculture in the food SoP, he rejects the idea of a political economy of agriculture “decisively” because “...agriculture and rural restructuring [are]... heavily determined by factors further, possibly much further, along the food chain, whether these be in banking, processing, retailing or even consumer concerns over health and the environment (Fine 1994:520).

While anyone knowledgeable about agriculture would agree that sectors other than agriculture are important, the cavalier dismissal of a political economy of agriculture is hardly sustainable especially since Fine uses research based on agriculture to provide material for his analysis of SoPs.

Fine et al. (1996) explore three SoPs: sugar, meat, and dairy. The first problem surfaces with the meat system: “Is it appropriate to differentiate between the separate meats as SoPs – the poultry, beef, pork and sheep systems – or do these constitute a single SoP...?” (p. 202). To answer this dilemma – where there are differences in the agricultural processes between the four commodity forms – Fine and his colleagues initially consider vegetarianism and conclude that “meat is heterogeneous.” “Paradoxically, then, while criticizing the existing literature for homogenizing meat at the level of consumption,” Fine et al. treat meat as “a single SOP, encompassing a variety of meats and meat products” (p. 202).

When we turn to the chapter on the meat system, we learn only fragments about its agricultural components let alone anything about its inputs. Fine delineates two distinct meat SoPs in Britain “separated by the Second World War” (p. 202). Focusing on agriculture, we learn that, in the first SoP, beef was Britain’s “core meat.” In the current meat SoP, we are informed that poultry has been industrialized but not what this means at the point of production. The authors turn immediately to consumption providing no information about other segments of the meat SoP. Later, brief mention is made about “a tendency toward specialization (most obviously in chicken and pig ‘farming’...” (208) but we learn nothing about what this specialization is, how many “specialists” there are, occupations, or stratification.

Although the chapters on sugar and dairy vary somewhat from the meat chapter, a similar truncation of agriculture is maintained. Thus, the insistence by Fine that there is a need to encompass the totality of SoPs turns out, empirically, to be an illusion.

There is no question that researchers are free to define research problems in any way they choose. Making claims for inclusiveness without empirical delivery, however, leaves grounds for concern. This suggests a second critique of Fine’s SoP

approach. The social relationships embodied in any commodity are complex, especially if we are dealing with commodities that are in broad production and consumption. There are undoubtedly simple commodity systems in the United Kingdom but meat, sugar, and dairy are hardly simple. Fine and his colleagues provide useful information about some aspects of their commodities but any claim for comprehensiveness or inclusiveness is overwrought. It can also be argued that, while events within agriculture are substantially determined by forces outside it, this hardly means that a political economy of agriculture (initial production) is unworthy of consideration. Precisely because agriculture represents the initial stage of being “organic,” agriculture has its own rhythms, dynamics, and problems and its political economy can contribute to the analysis of the political economy of food. Self-praise in describing this research as “landmark” and constituting “a bold claim” (p. 3) hardly seem justified.

GLOBALIZATION

Changes in the distribution and marketing of some agricultural commodities as they have become globalized suggested another look at filiere methodology. It is true, of course, that some agricultural commodities have been in wide spatial circulation historically. Sugar, for example, spread spatially with the development of mercantilism and colonialism (Mintz 1985). But colonial production was geared primarily for metropolitan markets of the colonial powers and not for global distribution: British islands in the Caribbean fed sugar to Britain; French production in the Caribbean and Africa was intended for France; Cuban production was linked to U.S.

Hopkins and Wallerstein (1986), utilizing historical periodization, indicate the utility of historical analysis of commodity chains, anticipating “turning points” (p. 230) of economic expansion and contraction when change might be taking place in the chains.

To the extent that there was distribution of agricultural commodities until recently beyond metro nations, it was either limited (high quality and expensive for very wealthy people) or bulk commodities such as grains (for example, wheat produced in Russia and eastern Europe and exported to France and Britain; wheat from Argentina, Australia, California and later the midwest U.S. and Canada exported to Europe and elsewhere).

During the 1980s a new global process developed in foods: the globalization of fresh fruits and vegetables grown in a variety of locations (Mexico and Central America, South America, New Zealand, Australia, Southeast Asia, and South Africa) for markets primarily in the northern hemisphere (Cook 1990; Friedland 1994). This phenomenon is primarily south-to-north with production from the southern hemisphere feeding markets in the northern hemisphere although, in the last few years, some reversal in movement has begun.⁵

5. Korzeniewicz, Goldfrank, and Korzeniewicz (1995) challenge the south-to-north argument by showing the trade in fresh fruits and vegetables and wine still occurs primarily between northern core nations. Undoubtedly accurate, this approach does not give adequate

Chilean table grapes began the first mass development of this new market extension. Where table grapes were unavailable in North America and western Europe between November and May, Chilean production marked the elaboration of a global production/distribution system; table grapes became available year-round.

Expansion of growing seasons has been going on for a long time. After the Second World War, California grapes became available to U.S. and Canadian markets in late June. With the development of early varieties and plantings in the desert valleys of California, the table grape season began at least a month earlier. Better storage capability and late varieties extended the table grape season into December. Beyond December, there were, until the early 1980s, relatively few table grapes available except for specialty grapes grown for high-cost markets. Chilean production "massified" grapes to a commodity available year-round.

Globalization spread during the 1980s with the elaboration of nontraditional export agriculture in locations such as Costa Rica producing broccoli for the U.S., Kenya and Zimbabwe producing mange tout (snow peas) for Great Britain, New Zealand producing kiwifruit for Europe and North America, to mention only a few. And the banana system, which had originally tied colonies to metro areas underwent a transformation as banana companies such as Chiquita, Dole, Del Monte, Fyffe, Pomona, and others shipped bananas to locations beyond their original metro markets.

These developments have encouraged considerable research on agricultural commodities and their long-distance movement. Globalization, and the increased scale of commodity distribution, has also increased the extensiveness of food safety problems. As commodity systems have extended beyond the local or regional or national levels, when a food scare such as Mad Cow disease, e-coli contamination, or hoof-and-mouth disease occurs, what was once considered to be a local problem now becomes global in character. This process is amplified by the extensiveness of media coverage which brings news of food safety problems to larger and larger audiences.

ACTOR NETWORK THEORY AND METHODOLOGY

By the late 1980s, what had emerged was a very different system of production/distribution and, hence, very different sets of social relations. These changes restructured production/distribution systems, suggesting additional arenas of research in commodity systems. Here I turn to new theoretical developments that some scholars have argued could enhance commodity chain studies: actor network theory (ANT).

Actor network theory (henceforth ANT) has generated a substantial literature in recent years. I will utilize one summary (Law 1992) to consider the potential utility of ANT to commodity systems analysis. Essentially, actor network theory (ANT) is a theoretical approach to the specification of institutions with one major

recognition to the counter-seasonality of the south-to-north fresh fruit and vegetable trade.

augmentation, the inclusion of nonhuman things. Law (1992:381) states that “the social is *nothing other than patterned networks of heterogeneous materials* ...[including] machines, animals, texts, money, architectures – any material you care to mention” (emphasis in the original).

When undertaking the analysis of a filiere, researchers will find that even simple ones involve an enormity of things: humans, organizations, the state, the biological character of the “thing.” Certainly all of these elements are bound up in commodity chain analysis. The question a researcher must ask is: how much importance should one give to this element or that factor?

ANT researchers have used the approach for the analysis of scientific networks. Does this mean that ANT will provide stimuli to commodity researchers that will open areas they might not have thought of? Certainly any commodity in modern society is enmeshed in a network of entities to get produced; but what particular benefit does the theoretical approach yield to justify any claims to its application to filiere analysis?

In attempting to assess the potential value of ANT approaches, an examination was made of one such application to the study of rapeseed/canola, a seed of limited utility until a scientific network was mobilized to remove certain negative qualities which then converted rapeseed into a major globalized commodity (Juska and Busch 1994; Busch and Tanaka 1996; Busch and Juska 1997; and Tanaka, Juska, and Busch 1999).

Busch and Juska (1997) are particularly helpful in setting out an actor network methodology (ANM) which I would distinguish from ANT itself. Busch and Juska (1997) develop two distinct network analyses. The first (p. 697) sets out four institutional networks: military, pharmacology/nutrition, agriculture, and chemistry which include formal organizations, laboratory animals, pharmacological and chemical “things” and processes, and the rapeseed plant itself. The second network (p. 700) is based on five institutions (Agriculture Canada, the University of Manitoba, the University of Alberta, Svalof AB of Sweden, and the University of Guelph) but is composed of individual scientists who did the research necessary to make rapeseed into edible canola. Busch and Juska provide a useful exercise which examines the individuals and institutions that took an agricultural product of limited utility and converted it into a widely used commodity. At the same time, several things become clear as limitations of ANM.

First, ANM works best at the micro level. At the macro level, Busch and Juska’s “first network” is more amorphous than at the micro level, their “second network.” Second, ANM works best when a system is undergoing change. When a system is “stable,” the network is taken for granted and reconstruction of its creation can be difficult. Third, ANM works best when a change is successful; when an attempt at change fails, it is not always possible to determine which people, organizations, institutions, or “things” failed to be enlisted. Finally, ANM cries out for visual summarization, i.e., making charts and diagrams that show principle institutions and individual actors, a significant aide in conveying complex analyses to readers.

In summary, ANT appears to be more useful as methodology than as theory.

But ANT and its methodological application raise a second issue because of its inclusion of entities beyond human beings, in particular with respect to agricultural commodities, the question of ‘nature’. Agriculture, as has been noted by many scholars, involves the interaction of nature and human beings. I will not attempt to subsume the extensive literature on this matter; suffice it to note that a claim has been made that the political economy approach has depriviledged nature in its emphasis on humans, institutions, economy, and society. FitzSimmons and Goodman (1998), for example, call for “nature” to be brought “back in” to social theory by contesting its abstraction from “society” (p. 194). This is unexceptional advice. Anyone who studies commodities such as tomatoes, lettuce, cherries, grapevines and their various commodity forms, or citrus, must take account of the fundamental biological characteristics (“nature”) of the commodity. Some agricultural products are vulnerable to spoilage whereas others are storable for considerable periods. Cherries are determinate (all become ripe at the same time) whereas tomatoes, in their “natural” state (not manipulated by human beings) tend to be indeterminate (ripen sequentially). Anyone contemplating mechanized harvesting must first overcome the “natural” indeterminacy of the tomato vine.

Similarly, each of the three main commodity forms of the grapevine – fresh table grapes, raisins, and wine – has very different biological characteristics. Human beings manipulating natural biological systems must take “nature” seriously – as must the social scientists who undertake to study agricultural production/consumption systems.

Nature doesn’t have to be “brought in” if a commodity study is done properly. While all of the things human beings manipulate have “natural” elements, in agriculture this is particularly the case. This is not to argue that ANT or “nature back in” theorists are incorrect; rather that theoretical parsimony argues that one does not use more theory than one needs to explain or examine a particular empirical phenomenon.

We turn now to a consideration of three arenas that augment Friedland’s original methodological suggestions.

ELABORATING THE METHODOLOGY: SCALE

As research began on globalization of fresh fruits and vegetables (FFV), one new dimension, scale, became significant for filiere analysis. Scale (Wilson and Wilson 1968:25–30) refers to a geographic or spatial dimension and to social relationships and their intensity. In traditional societies, for example, range or physical spatiality is usually limited while social relationships are direct, primary, intensive, with high salience for actors. In complex modern societies, scale is much more extended, indirect, and involves much greater numbers, but the salience of relationships is attenuated.⁶

Applying scale to agricultural commodities reveals the differences which can be

6. This is, of course, the classical societal dichotomy set up by the founders of sociology.

seen by comparing several commodities. Bananas, a tropical fruit, are produced in a great many locations but are distributed in two very different ways: many bananas are produced for local distribution and consumption but others are involved in long-distance global circulation, from Caribbean, African, southeast Asian, Central and South American production locations to North America, western Europe, and Japan (often via U.S.-based transnational corporations). In contrast, apples are a temperate zone commodity mainly in local or regional distribution. Because they grow widely in both northern and southern hemispheres and storage techniques are well developed, there is some counter-seasonal movement of apples from the southern hemisphere to the north but it is relatively limited compared to bananas. New Zealand and South Africa are the two primary locations for this movement; New Zealand has been particularly successful in this trade because of its “new” varieties that have not traditionally circulated in the northern hemisphere (McKenna, Roche, and LeHeron 1999; McKenna 2000). Washington State is also a specialist in supplying apples outside the U.S. to markets in Japan and elsewhere in Asia but, like South Africa, has lagged in introducing new varieties (Sonnenfeld, Schotzko, and Jussaume 1998).

Other commodities provide different examples. Potatoes are hardly in any global movement, being produced nationally for national markets with some trade across national boundaries to adjacent national markets. Some Canadian potatoes can be found in the U.S. and vice versa or British and Dutch potatoes may be exported to France or Germany – or vice versa, but, on the whole, the movement of potatoes is circumscribed. In contrast, after many decades of pure localism, kiwifruit globalized during the 1980s from New Zealand but rapidly relocalized with production in Italy, Spain, the United States, France, and elsewhere.

Because bananas move internationally over long distances and are perishable, they require close (“just-in-time”) integration of growing, harvest, ground transportation, shipping, and “ripening” near the point of retail sale. Social relationships in the banana commodity system are spatially more extensive than with apples because of the necessity to coordinate many different dispersed activities. Social relationships may be more intensive in apples but are more limited in range than bananas. In movement through space, some agricultural commodities, impose qualitatively different levels of social organization and social relations than other commodities which are more limited in circulation.

There is an historic dimension to this phenomenon. As previously noted, it was not until the 1980s that table grapes became “massified” on an annual basis. In the U.S., citrus became a massified commodity a century ago when technological developments in storage and transportation and a national distribution and marketing system was organized. By the end of the second world war, fresh oranges were an established “national commodity” in the U.S. This was also the period in which orange juice became converted into a quotidian commodity as the technology of concentrating juice and transporting it in frozen state was resolved.

Each commodity system, in other words, develops a distinctive history as distribution, marketing, and scale change, a process characterized by uneven

development. In the eastern U.S., for example, consumption of iceberg lettuce on an annual basis began much earlier than tomatoes. By the end of the second world war both commodities were in year-round distribution. Other commodities were available during short seasons; cherries and stone fruit, for example. Many commodities have now moved into year-round availability through the extension of growing seasons, the development of new varieties, or new production locations. Others, such as cherries, have seen some extension of their seasons but are still largely limited temporally.⁷

As production seasons are extended or production locations develop in different hemispheres, marketing requires the establishment of reliable and predictable financial and social relationships.

A commodity, in other words, if it is to be analysed, should be studied historically and its spatial and social relations dimensions must be examined.

SCALE AND COMMODITY “COMMUNITIES”

One consequence of differentials in scale is the variability in the organization of commodity communities. Community has two meanings, spatial and functional; while community often refers to people living in a common space, especially one with political dimensions, it also refers to groups of people sharing a common function or interest such as the “financial community,” “academic community,” the “global” or “human community.”

One way to examine commodity “communities” is to consider communities constructed around commodity systems that share a common plant. The grapevine, for example, contributes to three interrelated but distinct commodity chains: table grapes, raisins, and wine.

In table grapes, the community of growers is dispersed over some distance (approximately 300–400 miles). It consists of growers and grower-shippers; workers in preparatory activities, harvesting, and packing; buyers (mainly supermarkets but also buyers at great distances such as Asia); and regulatory bureaucrats. Growers and grower-shippers constitute a coherent and organized grouping even though they are involved in competitive economic relations. Workers are organized to a degree as a community since the packing of table grapes and some parts of the growing process (girdling) require considerable skills. Workers became more of a community when they were organized by Cesar Chavez in the 1960s who made their social relationships vis-a-vis growers more coherent. Buyers constitute a vaguer community since they usually purchase many different fruits and vegetables and deal with many growers and shippers. Buyers’ major point of reference, or “primary community” are the supermarket chains (or other organizations) for which they purchase grapes. In contrast, regulatory bureaucrats are a very tight community; their numbers are small and they are in continuous contact with one another protecting and elaborating the organizational system that

7. In Europe, cherry production in Norway comes relatively late in Europe’s summer permitting export of cherries well after the harvest of cherries further south has been completed (Eurofruit Magazine, 9/93:35–39).

maintains relationships between growers, workers (especially when workers are organizing), transportation, and other entities in the filiere.

Raisin grapes display a very different picture. Because raisins are not perishable like table grapes and because all raisins in the U.S. (constituting 40 percent of world production) are produced in a small geographical space in California's San Joaquin Valley within a 50 mile radius of the city of Fresno, spatial contiguity makes for a relatively tight grower community which has been divided historically along ethnic lines (although this has faded considerably in the past several decades). Raisin grape workers are a much vaguer community than table grape workers since raisin harvesting requires very large numbers of workers for brief intensive periods. Because raisin harvesters are both local and long distance, the basis for worker solidarity is attenuated. Since raisins are used in a great variety of ways, the market relationships beyond production are dispersed and it is difficult to talk about a "community" of raisin buyers. As with those involved with table grapes, regulatory bureaucrats are tiny in number and are in continuous and intensive relationships with one another and with growers.

Wine shows the greatest amount of spatial and social dispersion. California is by far the main wine producer but wine is currently made commercially in over 45 of the 50 U.S. states. If we limit ourselves to California to simplify the analysis, we can see different communities among wine grape growers and wine makers. Despite several campaigns by an organization of winegrape growers to create a joint effort with winemakers to expand the consumption of wine, the differential interests of these two groups have precluded such organization.

Because some regions in California make premium and ultra-premium wines while others make only 'ordinaries', community among winemakers is limited. Wine producers such as Gallo in the San Joaquin Valley see little community of interest with tiny ultra premium boutiques in the Napa Valley. The Napaans, in contrast, are able to cooperate and create a Napa winemakers' community for some purposes (promotion of Napa wines) while competing in marketing (Conaway 1990; Lapsley 1996). Wine grape workers also have differential interests from winery workers precluding common activities. Field workers work in fields seasonally whereas winery workers usually live in urban circumstances working under factory conditions. Field workers are presently not organized (for the most part) into a union whereas winery workers are.

The wine market is highly differentiated. The various marketers included wine specialists, supermarkets, liquor stores, state alcohol authorities, direct sales to consumers from wineries, etc., and preclude coherence as a community. The regulatory apparatus is complex and dispersed because the legislation that eliminated Prohibition provided that, in addition to the federal government, each state could set regulations with respect to alcohol consumption. Finally, wine industry organizational bureaucrats are divided by the various functions of their organizations so that this community is more tenuous than found in table grapes or raisins.

ELABORATING THE METHODOLOGY: SECTORAL ORGANIZATION AND THE STATE

Sectoral organization refers to the political economic location of a commodity. Every commodity, agricultural or nonagricultural, exists in some economic sector which differentially involves the state. This methodological issue represents an attempt to "bring the state back in" to filiere analysis.

The state has usually been present in empirical analyses of commodities but its role has been more implicit than explicit. However, the state should never be taken for granted, especially since its intervention and involvement in regulation and support are ubiquitous in modern capitalist economies. State intervention in commodity production, and its consequences, has long been present. In Great Britain, for example, the export of grain was forbidden as early as the fourteenth century to keep prices low. The battle in English politics over the corn laws of the 1800s involved the state first favouring agricultural landowners and subsequently industrialists (Barnes 1930).

In the United States, tariffs represented an early example of state involvement in agricultural production. Later forms of state support to agriculture came through legislation such as the Homestead (1862), Morrill (1862), Hatch (1887), and Smith-Lever Acts (1914). However, it was not until the 1930s, during the administration of Franklin D. Roosevelt, that systematic and continuous involvement of the state began with the elaboration of support to basic commodities, the installation of marketing order legislation at the federal and state levels, and the elaboration of federally-supported irrigation programs.

In considering sectoral location of specific commodities, it is useful to utilize the economic sectors set out by O'Connor (1973): competitive, monopoly, and state. In agriculture, while most commodity systems ostensibly belong in the competitive sector, a closer examination of specific commodities raises questions as to how to accurately characterize different segments of each.

If we consider grain, for example, a commonsensical consideration would position grain as consisting of several competitive commodity systems; corn and wheat alone involve tens of thousands of agricultural producers. At the level of production, wheat and corn should be characterized as competitive. However, as Morgan (1980) makes clear, at the level of distribution, five transnational corporations dominate the global trade in grain, placing distribution in the monopoly sector.

If we consider the three commodity forms of the grapevine, table, raisin, and wine, the complexities of economic sectors are again revealed. Table grapes are very much in the competitive sector although state-subsidized irrigation, science, and a marketing order play a significant role in the organization of the commodity. Raisins, like grapes, are produced by some 4,000 growers which would indicate belonging in the competitive sector. Yet raisins are organized by the growers in two organizations (Sun Maid, the Raisin Bargaining Association) and two marketing orders (one of which became extinct recently) so that the commodity operates essentially as a monopoly. This is because one marketing order, the Raisin

Administrative Committee, regulates flow to market thereby establishing order where, otherwise, raisin prices would be chaotic.

Wine poses similar complications. At the level of production and retail, wine is undoubtedly competitive. Historically, however, there have been periods in which wine functioned as a monopoly. Currently, wine production is oligopolistic with a handful of companies producing the overwhelming percentage of wine. This has not yet created a monopoly situation although at one period prior to Prohibition, wine marketing was dominated by a single company, and, between 1939 and 1974, because of the wine marketing order, a private California trade organization – the Wine Institute – monopolized two segments of the industry: the direction of scientific production and the shape of legislation affecting wine.

Sectoral organization creates considerable dilemmas for some commodities. Tobacco is a good case in point. This is a commodity in which one sector of the state provides a powerful regulatory apparatus while another sector of the state raises questions about the social value of tobacco. Burley tobacco's producers are many, small, and family-based while its processors are firmly in the monopoly sector (Wright 1999). Empirical reality confounds the neat placement of an entire commodity into a single sector.

It will undoubtedly be noted that, in the preceding discussion, no empirical examples of agriculture in the state sector were set out. This is because, in the American experience, no agricultural commodity exists solely in the state sector. Yet, the degree of state involvement in an agricultural commodity – and how it became involved, whether it remains involved, and its character – is an important element in the analysis of a commodity filiere.

As one example of how state involvement affects a commodity system, one might consider the ban on the importation of rice which the Japanese state maintained until recently even though domestic rice was far more costly than imported rice. This ban was only in part a function of concern by state bureaucrats about food security (that is, maintaining a certain level of local production so that a basic staple would not be overwhelmingly dependent on foreigners). Equally as important were the thousands of small-scale rice growers who constituted a backbone of support to the ruling Liberal Democratic party.

State involvement in commodity systems can be extremely variable. In the U.S., some basic commodities (wheat, corn, soybeans, tobacco, sugar, etc.) have benefited for decades through state involvement in the form of direct subsidies, price supports, or restrictions on acreage. Other commodities have received very different forms of support. It is always amusing to hear California growers complain about government support to Midwest commodities while being oblivious to their own forms of state support of subsidized water and science and the maintenance of legal structures that facilitate commodity organization. Indeed, it was not until federal and state marketing order legislation was adopted during the 1930s that powerful commodity organization emerged. This form of organization in milk, cotton, vegetables, and fruit was structurally dependent on the adoption of marketing order legislation.

Marketing orders in the U.S. can be established if 65 percent of growers or those with 50 percent of acreage (or vice versa) in a specific commodity agree by ballot to establish or continue a marketing order. Growers who want to establish a marketing order must therefore create organizations and organize other growers so that they will vote to accept the order. Marketing orders, it should be remembered, allocate limited powers of the state to organized groups of agricultural producers.

This structural form of state involvement is often “invisible” to growers, nevertheless it represents a significant element of state involvement in a filiere.

ELABORATING THE METHODOLOGY: COMMODITY CULTURE

Not every agricultural commodity – or nonagricultural, for that matter – generates an elaborated culture. Some commodities such as wine, tobacco, olive oil, for example, develop elaborate commodity passions and give rise to unusual aspects of commodity life. Other commodities might be characterized as ordinary, quotidian, or indeed, perhaps being even “uncultured.” In all likelihood, producers of every modern commodity generate some cultural elements; even broccoli, ostensible a quotidian vegetable, drew a reaction from its producers when then-President Bush admitted that he disliked the vegetable.

In addition, a distinction should be made between producers of a commodity and its consumers and, in some circumstances, in agents in the filiere between producer and consumer. Producer culture may involve not only beliefs about the processes of production but also symbolic meanings. For consumers, although there may be differential interest or curiosity about production processes, the symbolic apparatus may partially overlap that held by producers but may also have distinctive elements. Mothers/housewives, as a result of their belief system, may be concerned to feed broccoli to their husbands and children because it is “healthy.”

This view may be shared by broccoli growers who also may have cultural beliefs about the optimal conditions under which the vegetable can be produced. Broccoli harvesters may be totally disinterested in any of this but might think broccoli is a fine crop because they don’t have to stoop to harvest it. And the truck drivers who convey the vegetable from its source in the Salinas Valley to consumption in Philadelphia may be completely indifferent to the vegetable they are toting 3,000 miles. At the same time, while broccoli may “sell” itself when displayed on a supermarket shelf, an automobile will generate a lot of culture for those responsible for selling it as well as those that produce and consume it. Each commodity, in other words, has varying degrees of culture and the elucidation of that culture is part of the problem of conducting filiere analysis.

The comparative cultures of some commodities reveals the empirical differences. Wine is an example of a highly cultured commodity; it has a long historical record in many different cultures and societies. Wine’s culture is related not only to the wine itself but to the symbolism of grapes in art, architecture, and literature. While wine publications – trade journals, consumer magazines, winemaker publications, coffee table books, how-to books, wine tourism guides, and wine computer programs – can be found in profusion, similar publications are sparse for other

commodity forms derived from the grapevine; table grapes and raisins get scarce cultural recognition. Other agricultural commodities like broccoli, Brussels sprouts, or celery, generate relatively little or no cultural interest.

Wine culture is exceptionally rich. Not only can one find a complex of producer and a plethora of consumer organizations, but also a rich panoply of cultural forms. Considering only the ways in which grapes and their vinous form have appeared in art alone would require encyclopaedic research, and if all the architectural stones chiselled into the shape of grape bunches were collected, it would provide a volume equal to that found in art.

Of the various commodities that have been researched, wine and tobacco can be said to have developed extensive cultural apparatuses. Grapes are widely found in artistic expressions but I would argue that such grapes clusters are used symbolically to represent, like the cornucopia, the abundance of nature; moreover, grape bunches have great symbolic association with wine.⁸

In contrast, raisin grapes generate little culture. Tomatoes stimulate a small amount of cultural interest – witness the posters showing various tomato forms and the occasional bar of soap smelling of tomato essence and shaped like a tomato and various other tomato forms in art. But iceberg lettuce generates no interest culturally; it “gets no respect.”

In cultural manifestations we can see a hierarchy of commodity statuses. It is useful to understand the degree to which commodities generate cultural apparatuses.

CONCLUSION

It was originally suggested that the analysis of commodity systems involved five major areas of consideration: labor process, grower organization, labor, science, and marketing and distribution. The present paper calls for an augmentation of these five to include scale, sectoral organization and state involvement, and culture. Empirical examples have been provided as to the potential utility of these new areas.

That post-factum empirical research has suggested additional areas for consideration in the methodology of commodity chain analysis, also suggests the possibility that additional empirical research will open yet other areas for inclusion. Let me anticipate at least two in addition to the suggestions discussed earlier of Wright and Dixon: the financial organization of a commodity⁹ and the length of commodity systems.

Commodity financial organization has been avoided not because it is unimportant

8. While photographs carrying the symbolism of wine invariably show someone holding a wine glass, it would look peculiar if someone were to be holding a bunch of grapes. Similarly, in artistic renderings, the bunch of grapes is found far more frequently than the glass of wine.

9. Henderson (1999) makes the circulation of capital in agriculture a central element of his analysis of California. He deals with capital circulation in agriculture generally rather than focusing on any specific commodity chain.

but because of the difficulties of conducting empirical research. It should be obvious that there are differential financial considerations in different commodities; although all involve financial matters, annual crops require lower levels of investment than trees and vines. A grower can plant tomato or lettuce acreage with much lower investments than grapes or olives since growers of the latter two must wait three and seven years respectively before returns can be realized. Similarly, wine production requires greater capitalization than table grapes or raisins since heavier capital requirements (machinery, storehouses, wine casks, etc.) are necessary and, except in unusual circumstances (for example, beaujolais nouveau and other “nouveau” wines), red wines must be aged thereby tying up capital for long periods of time.

This kind of financial analysis in commodities is possible. What is more difficult is obtaining data on costs in the various segments of production, distribution, and marketing. Some agricultural economists have done relevant analyses. What cannot be found, however, is what the Bank of America or Wells Fargo or other banks have invested in specific commodities and how these investments are broken down either by specific commodity forms or by area/region.

A second area of concern has already begun to emerge: the length and shape of commodity systems. Several critical papers relating to commodity and food systems analyses have suggested the need for amplification of the five areas Friedland originally set out.

Three topics, in particular, will probably need fleshing out in the future. One is the actual process of consumption and how this relates to the production, distribution, and marketing arrangements of the commodity, something in which the contributions of Dixon and Wright will prove useful. Secondly, as FitzSimmons and Goodman (1998), and Goodman (1999) and others have pointed out, most food studies take nature for granted as a “black box” having some relationship to commodity filieres but paying little attention to how commodities interact with nature.

The third is the internal dynamics of the commodity system: in the complex of actors and activities in any commodity chain, who does what and where are the loci of control (the problem that preoccupied Dixon). A recent report on how Costco, the “big-box” retailer, is now handling inventory control, a critical element in retailing, is suggestive. Nelson and Zimmerman (2000) point out that Costco has passed the responsibility of resupply of diapers, a paper product, to their supplier, Kimberley-Clark. Because Costco – and other “big-box” retailers such as Wal-Mart, Target, and J.C. Penney – can track sales of particular products as they are sold, that information can be passed on to suppliers immediately so that shortages in supply can be anticipated. The head of supply chain activity for Proctor & Gamble is quoted as saying: “A shopper buys a roll of Bounty paper towel, and that would trigger someone cutting a tree in Georgia. That’s the holy grail.” The retailers have, through this process, relieved themselves of yet another responsibility in their drive to cut costs. While this suggests that control has passed from the retailer to the manufacturer-supplier, this is likely far from the case. Future filiere analyses will, in all probability, yield new areas for the further elaboration of commodity systems methodology.

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