White Counter-Revolution? India's Dairy Cooperatives in a Neoliberal Era

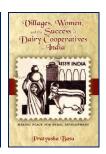
Bruce A. Scholten,* Department of Geography, Durham University, U.K.

Email both: <u>B.A.Scholten@durham.ac.uk</u> & <u>bruce.scholten@btopenworld.com</u> **Pratyusha Basu,** Department of Geography, University of South Florida, Tampa, U.S.A.

Email: pbasu@cas.usf.edu

* Author for correspondence. This article appears in *Human Geography* (Vol 2(1), 2009: pp. 17-28): http://www.hugeog.com/index.php?option=com_content&view=article&id=101:whitecounter&catid=36:2009-issue-2-number-1&Itemid=64





B.A. Scholten (2010) *India's White Revolution: Operation Flood, Food Aid and Development.* Tauris Academic Studies (UK); Palgrave-Macmillan (USA); Viva Books (India).

www.amazon.com/Indias-White-Revolution-Operation-Development/dp/1848851766/ref=sr_1_4?ie=UTF8&s=books&qid=1264781459&sr=1-4

Pratyusha Basu (2009) *Villages, Women, and the Success of Dairy Cooperatives in India: Making Place for Rural Development.* Cambria Press: http://www.cambriapress.com/cambriapress.cfm?template=6&bid=326

ABSTRACT

While the imposition of neoliberal policies by Western development institutions has been widely criticized, the ways in which such policies have found allies in the Third World have not received the same attention. This article focuses on India's cooperative dairying program in order to trace its transformation from an organization seeking to protect small-scale dairy producers against foreign dairy interests to current shifts in favor of the privatization of the dairy sector. The story of how India averted neocolonial dependence in its (dairy) White Revolution merits consideration now, when the global percentage of people in food poverty is again increasing. For decades, the International Monetary Fund and the World Bank enforced the Washington consensus demanding that developing countries adopt structural adjustment programs including privatization of state services, subsidy cuts to indigenous farmers and consumers, and the opening of markets to (often subsidized) food imports from rich countries. Neoliberal policies are implicated in rural poverty, hunger, and migration to sprawling megacities. Given this, it is important to focus on struggles against the possible loss of cooperative institutions and thus build a broader understanding of the ways in which neoliberal policies spawn rural conflicts.

This article is divided into three main sections. In the first section, the growth of dairy productivity in India under the cooperative dairying program is traced from the 1970s onwards, beginning with its ability to utilize EEC food aid for the growth of the national dairy sector in a program called Operation Flood. A large part of the credit for this creative use of monetized food aid is usually attributed to Verghese Kurien, who has been associated with cooperative dairying from its beginnings in the small town of Anand, Gujarat, and whose pro-cooperative philosophy guided national dairy development organizations till recently. The second section of the article focuses on the institutional politics of dairy development, taking as its point of entry the replacement of Kurien by officials who are less likely to be oppositional to the privatization of the dairy sector. The departure of Kurien thus marks a key moment in the neoliberalisation of the cooperative dairying sector.

The third section focuses on the wider politics of the state of Gujarat within which the 'Anand pattern' of cooperative dairying was established. Here, the pro-business policies of Chief Minister Narendra Modi have been focused on attracting foreign investment to the state, leading to accelerated, but not equitable, economic growth. The ways in which agrarian interests have both clashed and intersected with Modi's vision of development provides an understanding of the transformed political economy within which cooperative dairying now has to function. Overall, the politics of cooperative dairying in India provides an insight into the place-based nature of neoliberal experiences, and can serve as an illustration of impending rural struggles across the world.

Keywords: cooperatives, dairying, development, neoliberal policies, rural politics, India Text 6292 words. Abstract, Text & references 8221 words. The published article may have very minor edits.

White Counter-Revolution? India's Dairy Cooperatives in a Neoliberal Era Bruce A. Scholten Pratyusha Basu

Introduction

By most accounts, the future of agriculture has separated from the future of rural populations, as the technologization of agriculture outpaces the ability to sustain small-scale livelihoods. Rural despair has surfaced globally, in the city of Wardha in Maharashtra where 1,200 cotton farmers committed suicide during a period of 18 months in 2005-2006, and at the WTO meeting in Cancun when a Korean farmer killed himself in 2003 (Economist 2007; Shiva 2004). Prominent scholars articulate the contemporary dispossession of rural populations as a new round of primitive accumulation (Patnaik 2008; Harvey 2003). Given this scenario, it is worth reflecting on India's cooperative dairying program as an example of alternative development which has for decades empowered small-scale farmers with its 'Anand pattern', a low-input/low-output model appropriate to the environmental and socioeconomic conditions of much of the rural population in India and across the Global South, and one which provides a sharp contrast to the Western model of intensive dairying dependent on high energy use and confinement of animals.

The aim of this article is to trace the history of national dairy development in India from its post-independence era resistance to Western hegemony to current challenges by neoliberal interests. The extent to which dairy cooperative (aka coop) institutions are facing the brunt of privatization is illuminated in the process. More broadly, this article seeks to extend understandings of the role of the state in neoliberalisation, and situates the specific outcomes of neoliberal agendas not just within institutional politics, but also within the regional context of development. In the case of India's dairy White Revolution, the political economy of the state of Gujarat, within which the national model of dairy development is located, becomes useful to understanding the specific encounter between dairy development and neoliberal expansion. In practical terms, it appears that political meddling in dairy cooperatives, which are perceived as vote banks by politicians, weakens coop performance and privileges private investment which does not benefit poor producers or consumers to the same degree as independent coops.

Pierre Bourdieu (1998) has defined neoliberalism as a political 'program of the methodical destruction of collectives... [such as] workers, unions, associations, cooperatives' which impede the laissez-faire economic globalization sought by 'stockholders, financial operators, industrialists' and their attendant politicians. According to Jamie Peck and Adam Tickell (2002: 381), '[t]he new religion of neoliberalism combines a commitment to the extension of markets and logics of competitiveness with a profound antipathy to all kinds of Keynesian and/or collectivist strategies.' India's Anand Pattern of coop dairying is currently facing such neoliberal pressures, with global implications since plans to replicate it in Africa were announced by the World Bank (2008).

The story of how India averted neocolonial dependence in its White Revolution merits consideration now, when the global percentage of people in food poverty is again increasing (Magdoff 2008; Yoon 2006). Reasons for reversals in food security include price inflation, spawned by demand for meat in emerging economies and the biofuel boom in developed countries. For decades, the International Monetary Fund and the World Bank have enforced the Washington Consensus demanding structural adjustment programs in developing countries that privatized state services, cut subsidies to indigenous farmers and consumers, and opened markets to heavily subsidized food imports from rich countries. Neoliberal policies are also implicated in countryside poverty, hunger, and rural-to-urban migration to

sprawling megacities. By contrast cooperatives have often helped rectify inequalities and stabilized rural societies (Basu 2003).

This article is divided into three main sections. In the first section, data is offered on the macroeconomic success of dairy development in India, with the crucial decisions on pricing and technology that thwarted failure in the country's dairy history through cooperative led Operation Flood (aka OF or Flood, 1970-1996). The second section focuses on the liberalization of the dairy sector, which began around 1991. Here, the voluntary retirement of Dr. Verghese Kurien from longtime OF and National Dairy Development Board (NDDB) leadership in 1998, and especially his dramatic dismissal from other posts in cooperative marketing and in rural development in 2006, serve as key events. Thus, the political implications of the departure of Kurien and the consequent decisions made by the NDDB are examined here, and this section also raises questions about new policies which contradict the farmer-centered ethos of rural dairying in the Operation Flood era. The third section details the social and political economy of dairying in the state of Gujarat building a picture of the wider context in which neoliberal policies intersect with the politics of dairy development. Finally, conclusions are drawn about the value of focusing on cooperative dairying for understanding both the future of rural India and the consequences of neoliberalization for rural places across the world.

The Growth of India's Dairy Sector under Operation Flood

In the 1960s, India's dairy sector was moribund. Milk production of 20 million metric tons (MMT) in 1950 rose to just 22 MMT in 1970 while per capita availability of milk actually fell from 124 grams in 1950 to 114 grams in 1970 (FAO 1990; FAO 1994; Dairy India 1997; Dairy India 2007). The 'milk famine' as it was called was of great concern in a country where products such as ghee (clarified butter) and buttermilk are valued dietary items. State and national governments tried to satisfy urban demand by sporadic sourcing of surplus EEC (later EU) dairy aid, in the form of skimmed milk powder and butter oil donations, which were recombined as milk products. But a glut of such dairy aid could stifle production, so debate seethed on how to raise milk production without dependence on foreign imports.

In her book Operation Flood (1985), Shanti George has shown that under the management of Dr. Verghese Kurien, cooperative dairying thrived in Kheda (aka Kaira) district of the state of Gujarat. In 1965, Prime Minister Shastri, 'requested that an attempt be made to help rural dairymen elsewhere in India ... As a result, the National Dairy Development Board (NDDB) was established in 1965 with Dr. Kurien as chairman' (George 1985: 6-7). Today, the NDDB (2009) declares: '[f]rom the outset, Operation Flood was conceived and implemented as much more than a dairy program.' Thus, cooperative dairying was seen as an instrument of development, generating employment and regular incomes for millions of rural people. But George warned that the program could repeat mistakes of the Green Revolution if inappropriate technology lured India into neocolonial dependence on European aid and worked against locally robust systems of agro-dairying. She wryly suggested renaming NDDB as the National Dairy Plant Development Board since the Anandbased entity collected a 5% royalty from construction of processing plants elsewhere. In her words, '[i]t is in the context of food aid as trap that India has been warned to look EEC gift horses long and hard in the mouth, as they may well turn out to be Trojan horses' (291), since 'EEC donations, accepted with cries of gratitude and euphoria, can destroy India's already precarious dairy economy from within and render it forever dependent on imports (249).

George was one of a group of scholars at the Institute of Social Studies, The Hague, who were providing intensive and critical analyses of cooperative dairying in India. They found that Anand-centrism marked 'strong regional variation in overall performance', and

negatively assessed 'OF's impact on: India's dependency on foreign (EEC) deliveries of skim milk powder; India's domestic dairy production; the incomes of the participating farmers; the existing 'unorganized', or informal, dairy production and marketing; the nutritional levels in rural areas; and the position of rural women' (Doornbos *et al.* 1987: 377, 383; Doornbos and Mitra 1985). Peter Atkins agreed with Doornbos *et al.* that changes were needed on 'exotic cattle genes, the transfer pricing of [milk powder] in favor of urban consumers, and... geographical awareness of the implications of policy alternatives' but predicted that 'OF will prove a great boon to both urban consumers and rural producers' (Atkins 1988: 312).

A few years later, FAO 1994 data showed that EEC dairy aid had dwindled to nothing in the 1990s, and policy changes already underway put India on the path of dairy autonomy. Thus, the dangers of dependence that were inherent in the food aid regimes of the mid-20th century were successfully sidestepped by Operation Flood (Scholten forthcoming 2010). While Western European countries maintained large donations for a long period, when its farmers and commercial groups lobbied for indefinite extension of dairy aid in order to ease the political strife and storage costs of the EEC 'butter mountain' and 'milk lake', the European Parliament eventually rejected them.

India used dairy aid to foster agricultural development, and Prime Minister Shastri took the unusual step of locating the headquarters of the parastatal NDDB far from Delhi, in Anand where farmers' dairy cooperatives were strong enough to resist attempts to install political appointees as managers. A National Milk Grid System (NMGS) was built linking four Mother Dairies in the cities of Chennai, Delhi, Kolkata, and Mumbai. Critics portrayed such infrastructure as benefitting exporting countries more than India, but by the 1980s as much as 98% of such equipment was manufactured domestically (Kamath 1989: 388). Although most milk still remains outside the formal sector, the NMGS scaled India's dairy sector from a regional to a national system. Early assumptions that European genetics were easily transferable to South Asian environments were altered in favor of resilient hybrid cows; accordingly the production share of indigenous buffaloes increased to 55.3% in 2003-4 (Dairy India 2007: 102).

But the top priority in preventing neo-colonialist dependence was to manage the disincentive effects of food aid. World Food Programme policy analyst Bruce Crawshaw (1989) warned of the danger of ignoring market signals: '[e]xperience with WFP-assisted dairy development projects has clearly shown that without sound pricing and import policies, dairy development is fraught with problems.' A pivotal moment came in 1984 when the Jha Report mandated that processors pay more for European dairy commodities than domestic milk (Scholten 1997, 1998, 1999). This policy tweak incentivized supplies from village farmers. Consequently, profits from monetised aid were reinvested in infrastructure which helped increase production from about 20 million metric tons (MMT) in 1961 to 100 MMT in 2008 – past the output of even that perennial world dairy champion, the U.S. Thus, FAO 1990 and 1994 data reveal a reversal of the dairy droughts of the 1960s. In exponential growth of total milk production 1972-93, India (5.2%) outpaced Bangladesh (1.9%) and Pakistan (3.9%) against slow world growth (1.4%). In exponential growth of per capita intake of butter and ghee 1972-92 India improved (+1.9%) as Bangladesh worsened (-4.6%) and Pakistan improved slightly (0.7%) compared to negative world growth (-1.1%). Dairy India 2007 noted that milk passed rice, oilseeds, and wheat in terms of commodity value in 1994-95. Dairy's percentage of GDP rose as that of the overall farm sector declined, even as the national economy shifted to industry and services.

In a study for the World Bank, Candler and Kumar (1998: 59, 12, 60-62) found that Operation Flood had 'a strong impact on employment; support of membership NGOs; increased leadership opportunities for women; education [especially girls]' and 'nutrition and poverty reduction'; they concluded that 'the impact of the Bank's dairy assistance to India

has been large and positive'. However the Bank's 1996 Livestock Sector Review had signaled the end of funding for cooperative dairying in India, triggered 'by a belief that the private sector might be more efficient than the cooperative sector and by a serious misreading of the cost of Operation Flood [at] \$5.06 billion in 1996 dollars... versus a re-estimate by [Candler & Kumar's] study of \$2.98 billion in 1996 dollars' (Candler and Kumar 1998: 12). According to a Bank memorandum quoted by Candler and Kumar, 'the key argument is that the project is not consistent with the present GOI and Bank strategy of leveling the playing field for agro-industrial development between cooperatives and private entrepreneurs' (12). The withdrawal of World Bank funding in 1996 (the World Bank had been a major funder of Operation Flood from 1974), thus, pointed towards the liberalization of India's dairy sector in 1992. As the next section argues, the meanings of this liberalization can be clarified by way of changes in leadership within dairy coop institutions.

Institutional Politics of Post-Liberalization Cooperative Dairying

The two main protagonists in the struggle over the future of dairy cooperatives are Dr. Verghese Kurien, mentioned above, and Dr. Amrita Patel, his former protégé. Associated with cooperative dairying in Anand from its beginnings in the late 1940s as Amul (the brand of Anand Milk Union Limited, owned by GCMMF or Gujarat Cooperative Milk Marketing Federation) which went on to become the model for rural cooperative dairying in India, Kurien was chairman of the National Dairy Development Board (NDDB) from its establishment in 1965 till 1996, and has always been partial to the farmer-led ethos of the program. In recent articles, he elaborates his position: '[i]t is my firm and unshakable belief that the entire value chain from procurement to marketing is the sole and exclusive domain of the farmer. The moment the farmer loses... it, being a small producer, he becomes nothing more than a contract laborer (Kurien 2007a: 8).' This statement exudes Kurien's hostility to interference by politicians or private actors in coops, and he articulated the benefits of cooperative dairying even more emphatically while rejecting the neoliberal case for special economic zones (SEZs). According to him, 'Wherever farmers have had cooperatives, there have been no cases of suicides' (Kurien 2007b).

Amrita Patel, chairperson of NDDB since 1998, comes from a distinguished political lineage, being the daughter of H. M. Patel, who was Finance Minister in the Janata Party government from 1977-79. Today's Bharatiya Janata Party (BJP) is an offshoot of the Janata Party. It is widely regarded that Amrita Patel was chosen by Kurien to succeed him in 1998. Yet, by 2003 they had fallen out due to disagreements over the formation of joint ventures between the NDDB and state-level dairy federations. Like Kurien, Patel's rhetoric is devoted to the cause of small farmers. But unlike him, she may not support Anand pattern cooperatives as the only model for dairy development in India. Addressing a 2003 workshop on 'Livestocks and Livelihoods,' Patel voices strong support for smallholder dairying, but also adds that, '[even as t]here are elements in the [cooperative structure] which continue to be relevant but the structure in its entirety does not appear to be so' (Patel 2003: 8-9). In other forums, she has argued that while dairy productivity is not an issue, dairy marketing continues to stagnate, so that new institutional arrangements are required for marketing. Patel (1997) also stresses the need for cooperatives to match the competition unleashed by neoliberalization, and hence seems to support the need for cooperatives to coexist with private dairy entities, instead of taking a more politically aggressive position. It is likely that this is one of the main differences between her and Kurien.

Disagreements between Kurien and Patel became especially visible in terms of the plan put forward by Patel in 2002 to form joint ventures between the NDDB and state-level marketing federations (Katakam 2003). Through this, the NDDB sought to invigorate state-level cooperatives through joint ventures in which its Mother Dairy brand divested coop

farmers of their control of the marketing of milk and milk products to consumers, the only revenue earning part of the dairy chain. With the NDDB's Patel 'locking horns' with Kurien, Krishnakumar (2004) noted that:

'[t]he grand dispute was about the dangers of a government-owned statutory body like the NDDB potentially bound to follow government policies in an era of globalization and liberalization, entering as a majority stake-holder in joint ventures with dairy cooperatives and threatening the core principles of equity, democratic control and equality within cooperative institutions and perhaps deflecting them from their orientation towards the welfare of dairy farmers.'

Amrita Patel's counterargument was that, except in Gujarat, farmers rarely elect the head of the state dairy cooperative federation, so the loss of farmer control was a moot point. Moroever, state-run cooperatives were languishing due to lack of marketing expertise, so the joint ventures would actually be beneficial to them. In her words:

We simply cannot ignore the growing competition that could threaten livelihoods of millions of households dependent on dairy farming. Steady growth in procurement has not been matched by a commensurate growth in marketing. This has paved way for MNCs and private brands marketing liquid milk. JVs (joint ventures) can ensure a shift from distribution-centered to market oriented business culture' (Times of India 2003a).

In another interview, Patel points out that Kurien himself had promoted joint ventures for marketing milk in West Bengal and Mumbai. She also adds that profits from joint ventures will still flow to farmers, and that joint ventures are voluntary and will be withdrawn when the state dairy federation can run efficiently on its own (Times of India 2003b).

As it turned out, the first such joint venture between NDDB and Milma-Mother Dairy in Kerala resulted in failure in 2004, since farmer-members deeply resented losing control of dairy marketing to the NDDB-Mother Dairy which took a 51% stake (Krishnakumar 2004). Meanwhile, disagreements between Kurien and Patel became the center of a media storm when he was removed from his remaining posts at the Gujarat Cooperative Milk Marketing Federation (GCMMF) and the Institute of Rural Management Anand (IRMA) in 2006. During the announcement of his departure, Kurien continued to level serious allegations against Patel's drive to corporatize the dairy sector (Economic Times 2006a&b).

Parthibhai Bhatol, a little known chairman of the Banaskantha Milk Producers' Union and a member of the Bharatiya Janata Party (BJP), replaced Kurien as GCMMF chief (Telegraph 2006). Meanwhile, Vipul Chaudhary, chairman of Mehsana Dairy and a Congress supporter, offered Kurien a symbolic post as Honorary Advisor, and Kurien's longtime personal assistant, Joseph Purathur, was put on the payroll. In a few months, the Registrar of Cooperatives sacked Chaudhary, who was reinstated only after he joined the BJP. A newspaper asked: 'Is the Rs.3,600-crore GCMMF losing its autonomy to the Gujarat Government? After having its man at the helm post-Kurien, is the Modi government taking complete control of GCMMF?' (Economic Times 2006a). More recently, the Times of India (2008) has declared: '[i]n Gujarat's dairy sector, it's "M" for Modi and not milk.' More recently, in 2006, it was reported that Mehsana dairy is seeking to build marketing links with Reliance, one of India's largest corporations (Economic Times 2006b). The future of cooperative control over dairying becomes murkier in this case.

Another big battle in the counter-revolution against cooperative control is being fought over the brand Mother Dairy. The NDDB uses Mother Dairy as a brand owned by itself although other Mother Dairies exist in India owned by state dairy cooperative federations. A challenge against NDDB's use of the Mother Dairy brand was filed by the GCMMF when Kurien was chairman, but little has been heard about it since his exit. Mother

Dairy has also come into conflict with the Anand Milk Union (Amul) due to the latter's entry into what were exclusively Mother Dairy markets in Delhi leading to Mother Dairy launching its products in other states (Katakam 2003; Raghu 2007). Neoliberalization has thus engendered fierce competition between NDDB Mother Dairy and cooperatives.

Meanwhile, the entry of multinationals in India's dairy sector has had equivocal outcomes. Over 35 private competitors have risen in Kerala since the liberalization of the dairy sector (Krishnakumar 2003). The state of Gujarat has a reputation as a safe haven for external investment, and it was reported that an Israeli firm is building a megadairy whose 10,000 imported cows will supply supermarkets for the burgeoning middle class (Economist 2008). But critics question the footprint of intensive dairying on local ecologies, fearing they could encroach on crops for humans, and increase prices for inputs such as cattle cake needed by small scale coop farmers. Such concerns are fanned by reports that overuse of water by Coca Cola deprived farmers and consumers in Kerala (Havilland 2003). According to projections made by R. S. Khanna (Dairy India 2007: 34-35), of the total organized milk sector volume in 2005, coop and government sources handled 8.5 million metric tons (9% of total volume) with similar figures for private entities; however by 2011 the balance will tip toward private entities, with coop and government milk handling just 12 MMT (10% of supply) against private volumes of 24 MMT. It can also be argued that if cooperatives begin to lag behind the private sector, it is because the NDDB is not using its resources to develop them. For instance, it is government programs that have supported cooperative dairying in backward and hilly regions of India, not the NDDB.

It is useful at this point to more clearly introduce the third significant actor in the current saga of dairy development: Gujarat's Chief Minister, Narendra Modi. The challenges faced by the NDDB thus can be linked not only to the national context of neoliberalization, but also to the regional context of neoliberalization in Gujarat

Politics in Gujarat: Foreign Direct Investment and Religious Fundamentalism

The struggle within the National Dairy Development Board and its associated institutions concerns a transfer of power from those who were linked with its foundational ideologies to those who are geared towards the new economy of India, and this transformation is linked with the changing political climate in Gujarat, one of India's most developed states. The current government of Gujarat has been very supportive of big business. Thus, Chief Minister Narendra Modi of the Bharatiya Janata Party is strongly supported by prominent business entities in India, including the Ambani family of Reliance Industries, who are originally from the region of Saurashtra in north Gujarat (Girdharadas 2008). Reliance is currently seeking to enter the dairy sector in Gujarat, and has already set up grocery stores, 'Reliance Fresh' which buy fresh produce directly from farmers (Reliance Industries Limited 2009). Reliance Fresh has been under attack because it undercuts local vegetable vendors and stores as well as existing wholesale markets for vegetables and fruits, and the company has faced obstacles in establishing itself within the state of Uttar Pradesh (BBC News 2007). In this context, the company's ability to depend on Modi's political support in Gujarat has been especially useful. Modi's ability to draw foreign direct investment to Gujarat has also been much lauded, as well as Gujarat's rise to the top in terms of the amount of FDI attracted among states in India (Rediff India Abroad 2008).

But Narendra Modi's hospitability to business interests is only one part of the politics of Gujarat. A more dangerous facet of his government has been its fomenting of a Hindu-Muslim divide in the state (Sud 2008; Bhatt 2007). Revealed in most bloody fashion in the communal riots of 2002 (Varadarajan 2002) — Modi first became Chief Minister in 2001, and victory in the 2002 elections cemented his power (Bunsha 2002) — the rise of Hindu fundamentalism in Gujarat is especially troubling because Gujarati culture itself has been produced through a mix of various religions (Argade 2002; Mayaram 2002). The extraction of a purportedly pure form of Hinduism from this mix is thus an outcome that can only be achieved through intense violence. Modi's political strategies are very clearly drawn from the Rashtriya Swayamsevak Sangh (RSS), a militant Hindu organization for whom Modi has worked, and the fundamentalist outlook of the RSS also forms the ideological foundation of the Hindu right-wing BJP. Modi's value to the BJP has been heightened by the party's defeats at the national level and in various states across India, which makes Modi's ability to stay in power especially remarkable (Bunsha 2004). When business interests align with Modi's government, they are therefore disregarding his culpability for violence in Gujarat and aiding in Modi's promotion of himself as a well-respected leader. The entry of such religious conflicts into the dairy development program has the potential to undermine the broader membership of village dairy cooperatives.

Identity politics however have been part of dairy development from the very beginning, so that Modi's presence merely signals a new kind of politicization. In fact, the politics of dairy development can be traced back to the beginnings of Amul in Gujarat, whereby the anti-colonial orientation of farmer-controlled cooperative dairying soon became part of two kinds of political struggles in the state. The first was the struggle between the Congress Party and the Bharatiya Janata Party (BJP) at the national level, the former associated with India's independence movement and the latter a right-wing political formation that emerged as the Janata Party in the 1970s, partly from a split in the Congress as well as a wider dissatisfaction with its policies. This political split was reflected in the politics of Gujarat. To return to our initial protagonists, Amrita Patel's family has long been prominent in national and regional politics, with her father, H. M. Patel being Finance Minister during the tenure of Prime Minister Morarji Desai of the Janata Party during the late 1970s. Desai had been a prominent leader of the Congress-led struggle to form cooperatives in Anand in 1946, so the shift in his political loyalties to the Janata party is noteworthy. H. M.

Patel was also widely recognized as a critic of the policies of the Congress, and before the Janata party had been a member of the pro-business Swatantra party. While Amrita Patel's political ideologies should not be simply read off her father's politics, it has to be noted that in bringing her in Kurien was also attempting an alliance with the family of a recognized political figure in Anand district.

Partly mapping onto the Congress-BJP struggle, is the struggle between the Patidar and Kshatriya castes in Gujarat (S. Patel 1990). Dairy development has been strongly associated with the Patidars because of its origins in Anand, part of the Charotar region which is a stronghold of Patidars in central Gujarat. The rise of the Patidars (who use the last name Patel) as a cohesive caste identity has been documented in some detail (Charlesworth 1985; Clark 1979), and their association with cooperative dairying is reflected in the domination of cooperative leadership by members of the Patidar caste. Thus, the first chairman of Amul, the person who hired Kurien as a young dairy engineer newly returned from the U.S., was Tribhuvandas Patel, himself aligned to 'Sardar' Vallabhbhai Patel, a prominent leader of India's anti-colonial struggle and a prominent politician in independent India.

Political differences between Gujarat's Patidar and Kshatriya castes came to the fore when land reforms were instituted in the 1950s (Sud 2007). The Patidars, being landowners, opposed the reforms, while the Kshatriyas welcomed them (Kothari and Maru 1970). Patidar dissatisfaction with the Congress party was heightened in the 1960s by the fact that the Congress initially did not support the division of Bombay into the two separate states of Maharashtra and Gujarat. Patidars believed that Anand's cooperatives would receive greater support within a separate state of Gujarat than they were currently receiving in Bombay state (S. Patel 1990). In the 1980s, however, the Congress won the election, largely due to support from the KHAM (Kshatriya – Harijan – Adivasi – Muslim) alliance. As the Congress began to be seen as a party of lower caste and minority constituencies, the search for a new political niche for the Patidars led them to move towards the BJP (Sud 2007).

There are two positions taken on whether such caste-based political conflicts are reflected within the dairy development program. These criticisms are organized around the binary of technology and politics, representing the power of dairy development officials versus the political control of farmers over the program respectively. According to S. Patel (1990), the dairy development program has been dominated by Patidars. Yet increases in milk processing capacity in Amul's dairy plants meant that Kshatriya membership was crucial for the economic growth of cooperative dairying. The Patidars thus promoted the notion of Amul as an organization led by technocrats, and remained silent on their own dominance in order to ensure that dairy development did not become a site of caste-based political conflict.

Baviskar (1985) however disagrees with S. Patel, and argues that the lack of political conflict within cooperative dairy institutions is due to the fact that dairy cooperatives are not key to political power in Gujarat, and because technocrats actually gained the upper hand within the dairy program. According to Baviskar, there is a 'disjunctive' relationship between milk cooperatives and politics in Gujarat (19), and he contrasts this with sugar cooperatives in Maharashtra, whose members are prominent players in state-level politics. In Baviskar's (1985: 13) words, '...if Baraiyas (lower caste Kshatriyas) have not come into conflict with Patidars for control of Amul, it is because membership in the board of directors of Amul is not viewed as a '[position of] great ... prestige, power, and patronage.' Baviskar contrasts this with the 'symbiotic' relationship between sugar cooperatives and politics in Maharashtra (19). In an earlier article (1971), he suggests that the Maratha caste provides

'dynamic leadership [in sugar cooperatives] ... facilitated by the fact that they enjoy a decisive dominance in the social, economic and political fields. They control not only the cooperatives, but also the panchayat bodies, the ruling

party, and through it the state government. Their position of power in wider politics has helped them to take a successful lead in cooperatives' (290). Baviskar is thus suggesting that the control of Patidars over milk cooperatives in Kheda (unlike the control of Marathas over sugar cooperatives in Maharashtra) is at best a local control and does not carry weight in the wider politics of Gujarat, or even that the power of technocrat-managers over farmers has been conclusively established in the formation of the NDDB. Overall, Baviskar argues that dairy cooperatives have not proved to be a stepping stone to prominence in the politics of Gujarat, and Amul has also proved to be less powerful when compared to the NDDB.

This notion of dairy development as either hiding caste-based politics behind a technical veneer, or marking a shift in the balance of power away from farmers towards development officials needs to be reconsidered given that struggles between officials themselves have come out in the open in the Kurien-Patel struggle. For the most part, the struggle has been represented as one between Kurien's pro-farmer sensibilities and Patel's pro-profit leanings. Yet, Patidar farmers themselves have now moved from a dependence on agriculture to agro-industrial opportunities (Damodaran 2008a&b; Sud 2007; Rutten 1995). The implication of this for dairy development is that, especially among large farmers, dairying is no longer prized due to its links with agriculture, but rather is valued as a business opportunity in its own right. Profits are part of the Anand model ethos, but not if a few intensive farmers are privileged to the detriment of the marginal, small and landless farmers who comprise 60% of the beneficiaries of Operation Flood (Candler and Kumar 1998: xxi).

Narendra Modi participates in this struggle as a politician who draws support not from agricultural constituencies but from urban areas (Bunsha 2008). This is displayed by his antagonistic attitude towards the Bharatiya Kisan Sangh (BKS) within Gujarat, despite it being the farmers' wing of his own party (Bhatt 2007). The BKS has been a vocal critic of liberalization, so that the appeal of Modi's communal agenda has been overshadowed in this instance by his inability to improve the economic condition of the small-scale agricultural sector. One of the policies which has drawn most opposition is the rise of electricity rates within Gujarat (Sharma 2004), and Modi has handled this opposition by the BKS through compromises with its leaders (Shah 2003, 2004). It is likely that the cooperative dairying program can also become a site of resistance to neoliberal policies, especially given its political origins, but since current dairy officials stress a need for cooperatives to coexist with private sector entities, it is also likely that political protests will not be encouraged.

Modi's focus on attracting foreign direct investment is exemplified by the Vibrant Gujarat Global Investors' Summit (2009) organized every two years since 2003. While this investment is being promoted as the reason for Gujarat's prosperity, two criticisms have been made of such economic development. First, the benefits of growth have not spread evenly through Gujarat's population, so that high levels of economic development do not translate into equitable distribution of economic benefits. Second, the social and environmental costs of Gujarat's industrialization are also high, with laborers working in unprotected conditions, and the much touted 'Golden Corridor' of industrial growth suffering deterioration of air and water quality (Mazgaonkar 2001; Bruno 1995). One of the authors of Gujarat's Human Development Report (GHDR 2004), Darshini Mahadevia, has in this vein argued that the 'distortions' of Gujarat's growth are reflected in the 'divergence between the manufacturing and agriculture sectors, between urban and rural Gujarat, and between economic growth and people's well-being.'

The entry of private investment in the dairy sector is thus likely to result in a continuing emphasis on commercialization, which in the long-run will undermine the small-scale basis of dairy cooperatives. Modi himself supports an agro-industrial policy as evidenced by his government's support for contract farming and agri-exports. It should also

be noted that Modi's strategy includes the utilization of religious differences to obscure the class character of his policies. Whether the meanings of cooperative dairying can be politicized to counter this neoliberal agenda is a question for the future. Given that the shift towards neoliberal privatization is apparent in national planning in India, Gujarat serves not as an aberration but a portent of the kinds of conflicts that are likely to characterize cooperative dairying and the agricultural sector in general across India.

Conclusion

The case of India's White Revolution reveals the contested nature of neoliberalization. This article began by presenting data on the success of cooperative dairying and recounted the viewpoints of a range of observers. Cooperative proponents have stressed the ability of coops to spread welfare benefits among even landless farmers with just one or two cattle. Development experts have fixated on the potential bad effects of food aid and warned that a flood of food aid could be very bad. Economists have stressed the need to get prices right to stimulate production and satisfy demand. Altogether, it can be concluded that European dairy aid in Operation Flood was successful only after these viewpoints were arranged in a political constellation that minimized the disincentive effects of food aid on indigenous farmers, and maximized its benefits in income generation among the rural poor in cooperatives. The second section of this article focused on the key points of disagreement within institutions of dairy development, detailing how recent realignments in national and state-level politics have shifted the National Dairy Development Board toward policies of neoliberal capital accumulation, away from its espoused goal of dairying 'as an instrument of development' (NDDB 2009). The third section showed how political and socio-economic networks in Gujarat were conducive to cooperative dairy development in the postindependence period, adding the dimension of regional politics to the institutional politics of dairy development. Criticisms posed by Bourdieu, Peck, and Tickell raise the specter of monolithic neoliberal capital as the nemesis of cooperative movements. But the reality in India appears less global cabal than local networks of caste and patronage systems. Thus, the World Bank ended funding to Operation Flood after 1996 not due to hostility to coops per se, but because it determined that, in the context of liberalizations it had encouraged, politicians would stymie cooperative objectives. In 2008, World Bank President Robert Zoellick declared that the Bank would try to replicate the low-input/low-output 'Anand pattern' in Africa, and Bank Group Managing Director Ngozi Okonjo-Iweala extolled the new South-South Experience Exchange Facility which can apply India's lessons in Africa (World Bank 2008). An NDDB team of specialists has already met with dairy counterparts in Tanzania and Uganda (Hindu Business Line 2009). These announcements are welcomed by researchers who believe the environmentally sustainable Anand model averted neocolonial addiction to surplus European dairy commodities, while improving the welfare of millions of cooperative producer families. But it is important to distinguish between the lessons of the farmer coopled White Revolution of Kurien's day, compared to the accommodations with private capital in Patel's tenure that threaten a White Counter-Revolution. This article has been critical of neoliberal policies adopted by NDDB, but adherence to one tenet of neoliberalism would radically improve the economic sustainability of dairy development: coops should be shielded from political meddling.

It should be recognized that replication of the Anand pattern across India is an unfinished dream in the words of Kurien (1997). The inefficiencies that beset dairying in the 1960s milk droughts still inhibit many state-linked cooperatives. Kurien identifies such political interference as a problem that can be overcome by allowing cooperatives more of the same flexibility enjoyed by private companies since 1991. Setting up even a small coop office sometimes requires consultation with government officials, so Kurien had proposed a

national change in the Companies Act allowing cooperatives freedom from such restraints. If this echoes recent NDDB proposals to turn coops into Producer Companies, the big difference is that Kurien ruled out Joint Ventures in which coop farmers were minority partners (Damodaran 2006).

Kurien (2007b) has remarked that '50 Kuriens a year' are graduated by rural management institutes in India. If these 'Little Kuriens' learned their lessons well, they know that if the White Revolution is to achieve maximum development benefits in India – or Africa - the role of farmer control in cooperatives throughout the value chain, from procurement through processing, and especially marketing to consumers, must not be neglected. In the context of neoliberalism, it is these lessons that need to be remembered.

REFERENCES

- Amul (2007) *Chairman's speech: 33rd Annual General Body Meeting held on 14th June, 2007.* http://www.amul.com/chairmanspeech_annual07.html, last accessed Mar 2 2009.
- Argade, Ranjana (2002) The dialogue of Vali Gujarati and Hanumanji. In *Gujarat: The making of a tragedy*, ed. Siddharth Varadarajan, 401-403. Penguin.
- Atkins, Peter J. (1988) Rejoinder: India's dairy development and Operation Flood. *Food Policy* 13: 305-312.
- Basu, Pratyusha (2003) Rural Cooperatives and Agrarian Inequalities: Local Narratives of Successful Dairy Development in Gujarat and Madhya Pradesh, India. Unpublished Ph.D. dissertation, The University of Iowa, Iowa City, USA.
- Baviskar, B. S. (1971) Cooperatives and caste in Maharashtra: A case study. In *Two blades of grass: Rural cooperatives in agricultural modernization*, ed. Peter Worsley, 275-292. Manchester University Press.
- Baviskar, B. S. (1985) *Milk and sugar: A comparative analysis of cooperative politics*. Brighton, England: Institute of Development Studies.
- BBC News (2007) Protest over India stores closure. http://news.bbc.co.uk/2/hi/south_asia/6961963.stm, last accessed Mar 2, 2009.
- Bhatt, Sheela (2007) Analysis: Modi's gambit and the battles within. http://www.rediff.com/news/2007/dec/06spec1.htm, last accessed Mar 2, 2009.
- Bourdieu, Pierre (1998) Utopia of endless exploitation: The essence of neoliberalism. *Le Monde Diplomatique*, Dec. http://mondediplo.com/1998/12/08bourdieu, last accessed Mar 9 2009.
- Bruno, Kenny (1995) Gujarat's industrial sacrifice zones. *Multinational Monitor* 16(7&8). http://www.multinationalmonitor.org/hyper/issues/1995/07/mm0795_06.html, last accessed Mar 2, 2009.
- Bunsha, Dionne (2002) Journeyman Modi. *Frontline* 19(20). http://www.hinduonnet.com/fline/fl1920/stories/20021011003802600.htm, last accessed Mar 2, 2009.
- Bunsha, Dionne (2004) A second wind for Modi. *Frontline* 21(14). http://www.hinduonnet.com/fline/fl2114/stories/20040716005601600.htm, last accessed Mar 9, 2009.
- Bunsha, Dionne (2008) Modi's mandate. *Frontline* 25(1). http://www.hinduonnet.com/fline/fl2501/stories/20080118509812400.htm, last accessed Mar 2, 2009.
- Candler, Wilfred and Nalini Kumar (1998) *India: The Dairy Revolution: The impact of dairy development in India and the contribution of the World Bank*. Washington, DC: World Bank.

- Charlesworth, Neil (1985) *Peasants and imperial rule: Agriculture and agrarian society in the Bombay Presidency, 1850-1935.* Cambridge: Cambridge University Press.
- Clark, Alice W. (1979) Central Gujarat in the Nineteenth Century: The Integration of an Agrarian System. Ph.D. dissertation, University of Wisconsin, Madison.
- Crawshaw, Bruce (1989) Pre-Requisites for the Use of Food Aid as an Instrument of Progress. In *Proceedings: International Seminar on Dairying as an Instrument for Progress: the Indian Experience*, 184-194. National Dairy Development Board (NDDB), Anand, India.
- Dairy India 1997 (1997) Edited by P. R. Gupta, assisted by Sharad Gupta. New Delhi: Dairy India Yearbook.
- Dairy India 2007 (2007) Edited by Sharad Gupta. New Delhi: Dairy India Yearbook.
- Damodaran, Harish (2006) Amul may become producer company. *Hindu Business Line*. http://www.thehindubusinessline.com/2006/05/16/stories/2006051605470100.htm, last accessed Mar 2 2009.
- Damodaran, Harish (2008a) Consumers, producers lose in Delhi milk market. *Hindu Business Line*, http://www.thehindubusinessline.com/2008/09/25/stories/2008092551401300 .htm, last accessed Mar 2 2009.
- Damodaran, Harish (2008b) *India's new capitalists: Caste, business, and industry in a Modern Nation.* India: Permanent Black.
- Doornbos, Martin (1990) Dairy aid and development: India's Operation Flood. London: Sage.
- Doornbos, Martin and Manoshi Mitra (1985) *Politics of international dairy aid.* ISS/IDPAD working paper, The Hague.
- Doornbos, Martin, Piet van Stuijvenberg and Piet Terhal (1987) Operation Flood: Impacts and issues. *Food Policy* 12(4): 376-383.
- Economic Times (2006a) *Verghese Kurien resigns after utterly bitterly fight.* March 21, 2006, http://www.articlearchives.com/trends-events/resignations/1748571-1.html, last accessed Mar 9 2009.
- Economic Times (2006b) Vibrant Gujarat sends political tremors through AMUL: Government calling the shots with tourism year ads, by Harit Mehta, May 20.
- Economist (2007) *Cotton suicides: The great unravelling*. Jan. 20, http://agrariancrisis.wordpress.com/2007/01/20/the-great-unravelling-cotton-suicides/, last accessed Mar 2 2009.
- Economist (2008) *The stay-at-home giants*. Mar. 13, http://www.economist.com/business/displaystory.cfm?story_id=10853684, last accessed Mar 2 2009.
- FAO (1990, 1994) FAO Agrostat PC computerized information series statistics. Food and Agriculture Organization of the United Nations (UN): Rome, Italy.
- FAO (1994) FAO Agrostat PC. Food and Agriculture Organization of the UN: Rome, Italy.
- George, Shanti (1985) *Operation Flood: An appraisal of current Indian dairy policy*. Delhi: Oxford University Press.
- Giridharadas, Anand (2008) Indian to the core, and an oligarch. *The New York Times*. June 15, http://www.nytimes.com/2008/06/15/business/worldbusiness/15ambani.html?page wanted=1&ei=5124&en=07987d3b0e619ae1&ex=1371268800&partner=permalink&exprod=permalink, last accessed Mar 2, 2009.
- GHDR 2004 (2004) Gujarat Human Development Report 2004, by Indira Hirway and Darshini Mahadevia, MGLI.
- Harvey, David (2003) The New Imperialism. Oxford: Oxford University Press.
- Havilland, Charles (2003) Coca Cola challenged in Kerala. *BBC News*. http://news.bbc.co.uk/2/hi/south_asia/3125520.stm, last accessed Mar 2, 2009.

- Hindu Business Line (2009) *NDDB to provide support for dairy sector in Africa*. http://www.thehindubusinessline.com/2009/02/11/stories/2009021150671600.htm, last accessed Mar 2 2009.
- Kamath, M. V. (1989) *Management Kurien-style: The story of the White Revolution*. Delhi: Konark.
- Katakam, Anupama (2003) Dairy war. *Frontline* 20(6). http://www.hinduonnet.com/fline/fl2006/stories/20030328001408500.htm, last accessed Mar 2 2009.
- Khanna, R. S. (2007) Milk flow from producer to consumer 2005-2011. *Dairy India* 2007, 34-35. New Delhi: Dairy India Yearbook.
- Kothari, Rajni and Rushikesh Maru. 1970. Federating for Political Interests: The Kshatriyas of Gujarat. In *Caste in Indian Politics*, ed. Rajni Kothari, 66-95. Hyderabad, India: Orient Longman.
- Krishnakumar, R. (2004) A failed venture in Kerala. *Frontline* 21(14). http://www.hindu.com/fline/fl2114/stories/20040716002503400.htm, last accessed Mar 2 2009.
- Kurien, Verghese (1997) An Unfinished Dream. New Delhi: Tata McGraw-Hill.
- Kurien, Verghese (2007a) The dairy scenario. Empower the farmer. *Dairy India* 2007, 7-8. Delhi: Dairy India Yearbook.
- Kurien, Verghese (2007b) Farmers don't commit suicides where they have cooperatives, by Ashok V. Desai. *Voice of the South*, June 23. Http://voiceofsouth.org/2007/06/22/verghese_kurien/, last accessed Mar 2 2009.
- Magdoff, Harry (2008) The world food crisis: Sources and solutions. *Monthly Review*. http://www.monthlyreview.org/080501magdoff.php, last accessed Mar 2 2009.
- Mayaram, Shail (2002) Genocide and the Idea of Gujarat. In *Gujarat: The Making of a Tragedy*, ed. Siddharth Varadarajan, 404-407. Penguin.
- Mazgaonkar, Michael (2001) *Toxic corridors*. http://www.indiatogether.org/stories/gidcpss.htm, last accessed Mar 2 2009.
- NDDB (2009) *Operation Flood.* http://www.nddb.org/aboutnddb/operationflood.html, last accessed Mar 2 2009.
- Patel, Amrita (1997) OF: The next step. Dairy India 1997, 39.
- Patel, Amrita (2003) *Smallholder dairying in India: Challenges ahead.* http://www.fao.org/ag/againfo/programmes/en/pplpi/docarc/LL03.pdf, last accessed Mar 2 2009.
- Patel, Sujata. (1990) The Anand pattern: A socio-historical analysis of its origin and growth. In *Resources, institutions and strategies: Operation Flood and Indian dairying*, eds. Martin Doornbos and K. N. Nair, 27-56. Delhi; Newbury Park, CA; London: Sage Publications.
- Patnaik, Prabhat (2008) The accumulation process in the period of globalization. *Economic and Political Weekly*, 43(26): 108-113.
- Peck, Jamie and Adam Tickell (2002) Neoliberalizing space. Antipode 34(3): 380-404.
- Raghu, Sunil (2007) Mother Dairy to take on Amul milk in Gujarat. *Wall Street Journal*. http://www.livemint.com/2007/12/30230620/Mother-Dairy-to-take-on-Amul-m.html, last accessed Mar 2 2009.
- Rediff India Abroad (2008) *Modi to promote brand 'Gujarat' aggressively*. http://www.rediff.com/money/2008/mar/03inter1.htm, last accessed Mar 2 2009.
- Reliance Industries Limited (2009) *Growth through value creation*. http://www.ril.com/html/business/business_retail.html, last accessed Mar 2 2009.
- Rutten, Mario (1995) Farms and factories: Social profile of large farmers and rural industrialists in West India. Delhi: Oxford University Press.

- Scholten, Bruce A. (1997) *International Dairy Product Aid & Trade 1960s-1990s: Focusing on the EU and India in Operation Flood*. Unpublished M.A. dissertation, Durham University Geography Dept., U.K.
- Scholten, Bruce A. (1998) Dairy India 1997 (Book Review). Food Policy 23(2): 211-212.
- Scholten, Bruce A. (1999) India's winning the White Revolution: The success of India's Operation Flood will soon make it the world's top producer of milk. *Hoard's Dairyman*: 287.
- Scholten, Bruce A. (2010) *India's White Revolution: Operation Flood, Food Aid and Development*. London, New York: I.B. Tauris (available USA, June 22, 2010).
- Shah, Rajiv (2003) Kisan Sangh drops 'Maha-Kumbh' against Gujarat govt. *Times of India*. http://timesofindia.indiatimes.com/articleshow/136291.cms, last accessed Mar 2 2009.
- Shah, Rajiv (2004) Modi gives sops to farmers in run up to polls. *Times of India*. http://timesofindia.indiatimes.com/articleshow/472750.cms, last accessed Mar 2 2009.
- Sharma, Jyotirmaya (2004) Ire over power tariffs may upset poll arithmetic. *Hindu*. http://www.hindu.com/2004/03/16/stories/2004031605171200.htm, last accessed Mar 2 2009.
- Shiva, Vandana (2004) The suicide economy of corporate globalisation. http://www.countercurrents.org/glo-shiva050404.htm, last accessed Mar 9 2009.
- Sud, Nikita (2007) From land to the tiller to land liberalization: The political economy of Gujarat's shifting land policy. *Modern Asian Studies* 41(3): 603–637.
- Sud, Nikita (2008) Secularism and the Gujarat state: 1960–2005. *Modern Asian Studies* 42 (6): 1251-1281.
- Telegraph (2006) *Modi man replaces Kurien*. http://www.telegraphindia.com/1060427/asp/nation/story_6150883.asp, last accessed Mar 2 2009.
- Times of India (2003a) Amrita Patel defends move to have Joint Ventures. *Times of India*. http://timesofindia.indiatimes.com/articleshow/47700851.cms, last accessed Mar 2 2009.
- Times of India (2003b) Amrita Patel denies Kurien's charges against NDDB. *Times of India*. http://timesofindia.indiatimes.com/articleshow/36802890.cms, last accessed Mar 2 2009.
- Varadarajan, Siddharth (ed.) (2002) Gujarat: The Making of a Tragedy. Penguin.
- Vibrant Gujarat (2009) *Vibrant Gujarat Global Investors' Summit 2009*. http://www.vibrantgujarat.com/index.aspx, last accessed Jan. 24, 2009.
- World Bank (2008) *Can India's dairy revolution be repeated in Africa?* http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21936907~pagePK:34370~piPK:34424~theSitePK:4607,00.html, last accessed Mar 2 2009.
- Yoon, Byeong-Seo (2006) Who's threatening our dinner table? The power of transnational agribusiness. *Monthly Review*. Http://www.monthlyreview.org/1106yoon.php, last accessed Mar 2 2009.