

The Transformation of China's Agriculture System and Its Impact on Southeast Asia⁺

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Abstract

The increased role for agribusiness and larger scale production in China's agricultural system is limited by China's severe lack of arable land. The Household Responsibility System provides farmers a measure of power, hampering agribusiness from acquiring land needed for expansion. Some Chinese companies have sought cheaper and often more accessible land in nearby regions, including Southeast Asia. While such investments have the potential to deliver benefits, including increased productivity, structural constraints such as weak land ownership and environmental laws, highly unequal distribution of land and underdevelopment of peasant organizations prevent many poorer farmers from benefiting from these investments.

Keywords: *China, Southeast Asia, agriculture, land*

JEL classification: *F59, Q12, Q15, Q34*

1. Introduction

China's agriculture system is undergoing revolutionary changes, involving the increased role for agribusiness and larger scale of production. Based in part on their enduring household-based and land rights system that still serves as the backbone of China's agrarian system, Chinese farmers have adopted a number of types of relationships with agribusiness and local governments. Each type of relationship, in turn, has had both positive and negative effects on the economic and social positions of Chinese farmers. Despite this diversity of forms, one constant factor undergirding these changes is China's severe lack of arable land. As a result, agribusiness companies and even ordinary farmers are looking to poorer countries nearby as sources of cheaper land and expanded production. How do these profound changes in China's agricultural system, especially the scale of agricultural production, affect China's neighbours, especially ASEAN countries?

To understand this requires some background about China's agriculture system. In the wake of the death of Chinese Communist Party Chairman Mao Zedong in 1978, China's agricultural system, starting in the early 80s, shifted fundamentally away from communal farms toward small plots of land farmed by individual farming families. Under this system, actual land ownership was retained by the village collective. However, in most parts of China, individual rural households were allocated land usage rights, and given the right, for the first time in decades, to make all major farming decisions. The State supported the system by subsidizing inputs and other forms of support. Spurred by the combination of individual initiative and state support, the Household Responsibility System (HRS) worked for a time to increase production and enhance rural incomes (World Bank, 2001). Rural poverty plummeted, as hundreds of millions were lifted out of poverty. Despite the HRS's success, however, one problem remained: these small-scale farms and subsistence farmers were not conducive to modernization. As the rest of China industrialized and modernized, the agriculture system was left behind.

By 1990, then Chinese supreme leader Deng Xiaoping articulated a vision of a modern agriculture sector. Today, due to the increased involvement of agribusiness and entrepreneurial farmers, this vision has come closer to a reality in some rural areas. The household-based, small-holding agricultural production system has in some areas been transformed into specialized, commercialized, vertically integrated, and larger-scale form of agricultural production. For example, Shouguang County in Shandong province boasts the largest vegetable production base and vegetable trading market in the country, with hundreds of long-haul trucks departing daily to ship vegetables to all corners of the country. The entire county's farmland is covered with greenhouses for growing vegetables. Yunnan province's Chenggong County, where agriculture has shifted entirely to commercial flower and vegetable production, now houses the largest flower trading and auction market in Asia, ships fresh cut flowers to markets in neighbouring Asian countries and the United States, and is projected to become in 10 to 15 years the biggest flower producer and exporter in Asia, if not in the world.¹ These are but two examples of how China's agribusinesses have rapidly expanded in scale, promoting productivity and expanding exports.

At the same time, the HRS as an institution remains intact. While a number of forms of large-scale production have emerged in spite of the system, the HRS itself gives a measure of power to farmers, largely preventing agribusiness from acquiring all the land they need to continue expansion. Agribusiness firms we interviewed during fieldwork trips conducted in 2007 and 2009 expressed a desire to expand production and increase in scale. While China's lack of skilled labour (paradoxical given China's gigantic population) constrains to a certain extent the ability of

companies to achieve this, the primary barrier to expanding agricultural production bases is the lack of access to land.

2. Land, Agricultural Production and Agribusiness in China

Farmland in China is controlled by farmers, but is not owned by them. The rural farmland allocated to rural households can be rented, but not sold. This fact has compelled many companies and entrepreneurs to form production bases on previously unproductive land that they themselves have opened up. Many companies must negotiate with Chinese farming households, forming relationships that allow increased scale production while also benefiting farmers. Still other companies, frustrated by the lack of available arable land in China, have sought cheaper and often more accessible land in nearby regions such as Southeast Asia (Zhang and Donaldson, 2010: 481).

The lack of arable land for farming is a problem not unique to China. Many foreign agribusiness firms, not just Chinese ones, have been making inroads into Southeast Asia for the same reasons. In spite of this, we expect that the way Chinese agribusiness firms operate and manage their businesses in Southeast Asia will be different from other foreign agribusiness firms, for two main reasons. First, Chinese agribusinesses, a significant number of which are state-owned enterprises, often receive strong backing from the Chinese government, which tilts the power balance in their favour when dealing with governments and other agents in the poorer parts of Southeast Asia, who may be pressured by political and diplomatic considerations to make significant concessions to their Chinese counterparts. Second, the burgeoning scale and volume of Chinese trade and investments with Southeast Asia have helped to consolidate China's influence in the region. This may, in some ways, elevate Chinese firms to a more privileged status than the rest, which will in turn affect the way they do their business in Southeast Asia. Representatives of agribusiness encouraged a business environment and relationship with the government that is largely familiar and relatively easily navigated. The debated question of a possible Chinese hegemony in East and Southeast Asia justifies specific attention on government-backed Chinese firms.

Chinese agribusinesses looking to venture overseas find no lack of support within the Chinese government because of rising concerns about food security in recent years. Anxious about its need to satisfy the country's growing demand for food, the Chinese government has been exploring ways to secure greater amounts of external food supplies. As the population steadily rises in affluence, domestic consumption has surged ahead of domestic supply. In 2005, China overtook the US as the world's largest consumer of grain, meat, coal and steel. Although in terms of consumption on a per-capita

Table 1 World Bank Estimates of China's Food Demand (in million tons)

Year	Production	Demand	Imports
2010	483	502	19
2020	568	600	32

Source: Heilig, 1999.

basis the US still dwarfs China, this gap is narrowing.² This, combined with China's off-again, on-again commitment to food self-sufficiency, explains China's urgent attempts to augment its food production.

What is more, China finds it increasingly difficult to satisfy the growing needs of its population through supplies within its own boundaries. The World Bank estimates that China's domestic food production will continue to lag behind demand for the next decade, and that imports will be crucial in making up the shortfall (Table 1). Corn, wheat and soybeans are three main agricultural products in which China faces increasing shortages (Gale *et al.*, 2004). China is already the world's largest soybean importer, and over the next 10 years, the country is expected to account for 80 per cent of the world's 27 million ton growth in soybean trade (US Department of Agriculture, 2008). Non-food agricultural commodities are also lacking. The total consumption of natural rubber in China, for example, was 2.13 million tons in 2006, and yet domestic output of natural rubber was only 533,100 tons that year, a mere quarter of the demand.³ The problem of shortfalls in domestic agricultural supply is exacerbated by the rapid loss of arable land in China, due to reforestation, industrialization, urbanization, natural disaster and environmental degradation (Fischer *et al.*, 1996). This trend is accelerating. Between 2000 and 2005 alone, China recorded an astounding 6.16 million hectares loss in arable land, or an average of 1.23 million hectares annually.⁴ At the end of 2008, the official Chinese figure for the total amount of arable land is 121.7 million hectares, dangerously close to the government's red line of 120 million hectares needed to ensure food securities.⁵ China is scouring the world for the natural resources needed to feed its breakneck-paced economic growth. Securing agricultural resources is a part of this trend.

While China attempts to manage the shortfall in domestic agricultural output by purchasing imports from the global market, this option invariably brings problems of its own. Commodity prices, often vulnerable to external shocks, are highly volatile. In 2006, prices of wheat reached a 10-year high when a drought in Australia, the world's third largest producer, dramatically

affected the global supply.⁶ Prices of corn also mushroomed in the same period, due to the growth of ethanol as a source of alternative energy.⁷ The Chinese government is acutely aware of the high political costs that are incurred when food prices are not kept in check. The series of violent food riots that erupted throughout the developing world in 2008 serves as a sobering reminder that the poor will sometimes take to the streets when food prices explode.⁸

3. The *Zou Chu Qu* Policy and Southeast Asia

In short, the Chinese government's goal to secure stable supplies of food and the local agribusinesses' ambition to acquire inexpensive foreign land has driven the urgency with which China is acting overseas. This has shaped the Chinese government's policy of "*Zou Chu Qu* 走出去", literally meaning "going out" or "going abroad". In 2001, the policy was formally announced with the launching of China's 10th five-year plan (2001-2005). In the subsequent years, Chinese outward FDI accelerated at breakneck speed, and by 2004, China had established 8,299 overseas enterprises and had more than US\$15 billion cumulative FDI in over 150 countries (Cheng and Stough, 2007). ASEAN has not been left out of this trend, bringing in US\$336 million of China's outward FDI in 2006, or nearly half of China's outward FDI in Asia, excluding Hong Kong (Chen, 2009). More than one-third of China's investment in ASEAN has gone to developing countries in the Greater Mekong Subregion (Lim, 2008).

While the Chinese government frame "*Zou Chu Qu*" as a strategy to bolster Chinese outward foreign direct investments, many also see the policy as an active push for overseas land and natural resources acquisition. Through agricultural cooperation deals sealed with other governments, Chinese firms are able to gain access to farmland in exchange for Chinese technologies, training and infrastructure development funds (GRAIN, 2008). An example of such a deal would include the US\$5 billion pledged by the China Africa Development Fund, a private equity fund whose shareholder is China Development Bank, to finance food and cash-crop production in the continent for the next 50 years.⁹

Likewise, in the less-developed regions of Southeast Asia, agriculture is one of the few sectors to attract Chinese capital. The Opium Replacement Special Fund established by China's State Council in 2006 is an example of China's "Going Out" strategy as manifested in the poorer countries of ASEAN. Under this special fund, RMB250 million (US\$36.6 million) was set aside to provide subsidies for Chinese companies to invest in commercial farming in Laos and Myanmar. In 2007 alone, investments by these Chinese companies totalled RMB411 million (US\$60.2 million), making up

approximately eight per cent of total FDI inflows to Laos and Myanmar for that year. By 2008, 102 companies in Yunnan helped to plant just over one million *mu* (one *mu* is ~0.1647 acres) of cash crops in these two countries.¹⁰ Other large-scale Chinese investments come in the form of provincial initiatives, particularly from provinces bordering Southeast Asia. For instance, Yunnan's provincial government has signed agreements with Laos, Myanmar and Cambodia on establishing agricultural technology model parks, and Guangxi's government signed agreements with Quang Ninh Province of Vietnam on agricultural cooperation (Embassy of People's Republic of China in India, 2008).

Chinese agricultural investors are attracted to ASEAN mainly for the availability of inexpensive, uncultivated land, close to China's southwest border. Cambodia, for example, has 500,000 hectares of land with soil conditions ideal for growing rubber trees, and yet, as of 2007, only 75,000 hectares had been used for that purpose.¹¹ Likewise, land is abundant in Myanmar, with more than six million hectares of largely uncultivated land owned by the state (Asian Development Bank, 2009). Aside from the abundance of land, the low rental cost is another appealing factor to Chinese investors. Land rental in the northern part of Laos costs a mere RMB50 to 100 (US\$7.30 to US\$14.60) per *mu* per season, nearly one-tenth the price of land directly across the border in China's Xishuangbanna region (Shi, 2008).

Given the right conditions, Southeast Asia's developing countries benefit from the influx of Chinese agricultural investments in a number of ways. First, increasing production of agricultural products such as wheat and rice may help to push down prices of food and make them more affordable to lower-income consumers. It is estimated that the poor in Southeast Asia spend about 64 per cent of their income on food, and that a 15 per cent decrease in food prices is equivalent to a 10 per cent increase in income, a strong indication that lower food prices play an important role in poverty alleviation (Raitzer *et al.*, 2009) While there are concerns that Chinese agribusinesses may be exporting much of the food back to China, the Chinese government has claimed that it is not using overseas land acquisition to boost domestic food security.¹² Second, higher levels of investment in agricultural research helps to improve the resistance of crops against environmental shocks, hence reducing the volatility of agricultural supplies and food prices. Changes in food prices have severe implications for poverty reduction, since the poor are the ones who are least able to cope with dramatic changes in food prices. World Bank President Robert Zoellick estimated that surging food prices in 2008 could have resulted in "seven lost years" in the fight against worldwide poverty (CNN, 2008). Hence, it is important to not only increase the production of food, but also make output more stable and less susceptible

to unpredictable environmental changes. A “super green rice” project started by China and funded by the Bill and Melinda Gates Foundation is an effort – lauded by some, criticized by others – towards such a goal. The US\$18 million project aims to develop new varieties of rice that can stand drought, flooding, cold weather, and toxic minerals such as salt and iron. These new varieties will then be delivered to small-scale farmers in Asia and Africa (Chinese Academy of Sciences, 2009). Third, while agricultural production in countries such as Laos and Cambodia used to be limited to subsistence-based farming, Chinese investments have helped to channel funds and technology to modernize and commercialize their agriculture sector, benefiting some. Commodities such as cassava, palm oil, corn and rubber are major sources of Chinese investments in the GMS. Fourth, investments in agricultural research aimed at improving the nutrient content of food-related products can aid in the reduction of malnutrition. Micronutrient deficiency is a persistent problem in several parts of Southeast Asia, such as Cambodia, where 44 per cent of the children under the age of five suffer from malnutrition (Cambodia Food Security and Nutrition, 2009). Agricultural research can help to tackle these problems by improving the accessibility of micronutrients (Raitzer *et al.*, 2009).

While capital investments from China have the potential to bring about agricultural modernization and poverty reduction in the developing countries of ASEAN, the social and environmental costs that accompany such benefits are equally important. In Laos for example, the expansion of rubber production is linked directly to the growth in demand for rubber, much of it from China's burgeoning automotive industry. Chinese entrepreneurs, joined by counterparts in Vietnam, Thai and Lao state-owned companies, have been authorized to grow rubber trees totalling 42,050 hectares in Laos. In the process small-scale farmers affected typically lose their farmland, according to news reports and non-government organizations. The farmers are compensated for their losses at “inconceivably low fee rates”, in part because the farmers themselves are left to negotiate on their own compensation from the company.¹³ In Cambodia, Chinese investments in the timber trade have been accused of massive illegal logging and deforestation, further exacerbating Cambodia's rapid loss of native forests (Vutha and Jalilian, 2008).

4. Debating the Benefits of Foreign Investment in Agriculture

Social scientists have long debated the effects of foreign investment on the development of the recipient country and the fate of that country's poorest and most vulnerable. Many neoclassical economists and social scientists contend that such overseas investment and involvement will generally benefit recipient economies. While not denying the negative social effects that occur, such

scholars argue that such investment will create economic growth in general, as well as new opportunities for poor people. Moreover, social changes will shift the country's traditional rural population into the modern urban sector. These forces of modernization will help develop the overall economy, and the nation as a whole will shift through several stages of growth until it ultimately reaches the status of a fully developed country. Thus, according to this "modernization" thesis, poor backward countries should accept foreign investment and trade, for this becomes a major force for the modernization of the entire country.

By contrast, other more critical scholars argue that foreign investment and trade causes more harm than good. Not only do poor people rarely benefit from the investment, but recipient countries rarely develop in the first place, at least not beyond the political elites living in the national capital. More powerful foreign actors usually have designs on the poorer target country's raw materials, and typically invest in only those areas that facilitate its removing needed commodities from the country, exploiting in the meantime, that country's often desperate workforce. These commodities fuel the further industrialization of the investor, which then exports more expensive completed goods made with the poorer country's own commodities. While the political and economic elites of the capital city will tend to benefit, the vast majority of the population is left behind. This "dependency" view, a popular analytical approach in the 1960s and 1970s, has in recent decades lost favour, as the economies of those countries that closed their doors to investment and trade, and tried to industrialize on their own, floundered in comparison to more open counterparts.¹⁴

Most governments in Southeast Asia encouraged by the World Bank and others (World Bank, 2009) are predisposed towards the modernization point of view, having witnessed how the four Asian tigers (Hong Kong, South Korea, Singapore and Taiwan) rapidly evolved into highly developed economies through trade and economic liberalization – the Asian Financial Crisis notwithstanding. Hence, even as China has been cautiously regarded as an economic threat, most Southeast Asian nations simultaneously eagerly embrace China's economic role in the region. Overall, economic ties between China and ASEAN are increasingly strong. In 2009, despite the global financial crisis, trade volume between the two partners exceeded US\$230 billion, raising expectations that ASEAN together will soon replace Japan as China's third largest trading partner.¹⁵ The two trading partners also marked the beginning of 2010 with the establishment of the world's largest free trade area, the China-ASEAN FTA, which covers a population of 1.9 billion people, and is the world's third largest regional agreement in terms of economic value.¹⁶ Will the poorest and most disadvantaged in Southeast Asia stand to gain from this increased cooperation between the two emerging economies?

5. The Impact of Land Investments in Southeast Asia on Poor Farmers

Many contentious issues have emerged out of China's agribusiness dealings in ASEAN, land expropriation being one of the most controversial. This is not unexpected given that land ownership has always been a highly sensitive issue in largely agrarian societies. Many such cases have risen. Opposition from Filipino farmers forced the cancellation of a deal made by the Philippine government to lease 1.2 million hectares of land to Chinese investors to grow rice. The agreements were forged between Philippines and China during the ASEAN Leaders Summit in 2007, but were suspended due to widespread fears among farmers that they might be displaced from their lands.¹⁷ International non-governmental organizations and human rights groups have lobbied to block such investment in overseas agricultural production, denouncing them as part of a "global land grab" scheme that only serves to exacerbate poverty in developing countries (GRAIN, 2008).

The issue of land expropriation is especially salient in developing countries where land rights are not formally institutionalized, and where norms of land tenure security are weak. One indicator of land tenure security is the percentage of land parcels that are formally registered or certified, as land that is uncertified is more vulnerable to expropriation by the State. Table 2 shows that land registration rates are dismal throughout most of Southeast

Table 2 Registration of Land Parcels in Selected East Asian Countries

Country	Number of parcels (million)	Number of parcels registered (million)	Percentage of parcels registered or certified	Type of documentation
Cambodia	4	0.5	13	Title
China	300 (estimated)	–	–	Land use allocation, land grant, land use contract (rural)
Indonesia	80	17	23	Title
Lao PDR	1.6	0.8*	50	Title
Philippines	25	>10	30	Deed or title
Thailand	30	19	63	Title
Vietnam	105	90	86 (90% of rural, 15% of urban)	Land use certificate

Notes: * Includes 200,000 titles and 600,000 temporary land use certificates.
– Not available.

Source: World Bank, 2004, Table 2-1, p. 11.

Asia's developing countries. In Cambodia, Philippines and Indonesia, less than 50 per cent of land parcels are registered or certified.

Indigenous minorities living in the forested areas of Southeast Asia are often among the first to have their land expropriated. This is because in most parts of the region, recognition of land rights is confined to non-forested land. This is a prevalent phenomenon in former British colonies, as customary laws that recognized the land rights of the indigenous people were ignored or cancelled during the colonial era. With decolonization, most of the newly independent states continued to be guided by the same colonial land tenure policies that favoured the ruling elites and denied the indigenous population of their customary rights to land (Ngidang, 2005). Meanwhile, efforts to reform the system and institutionalize the rights of the minorities have been half-hearted. In Cambodia for example, the 2001 Cambodian Land Law grants legal recognition of collective land rights of indigenous communities, but as of 2004, not a single indigenous community received ownership titles to its collective property (NGO Forum on Cambodia, 2006). Formal recognition of customary rights have been repeatedly denied, despite the fact that these minority groups have settled and cultivated the land for many generations, and have even established whole towns or communities on what is misleadingly classified as "forest land" (Burns and Dalrymple, 2006). Such indigenous groups are particularly vulnerable to land expropriation when a sudden change in policy opens forested land to commercial development. In Laos for instance, village-managed landscapes have been demarcated as "degraded forest" available for commercial plantation developers (Barney, 2007).

The absence of formal land titles often disadvantages rural dwellers when bargaining with Chinese firms during land disputes. In Cambodia, a forest concession covering seven communes in three districts was granted to a joint venture between Chinese plantation firm Wuzhishan and Cambodia pulp-and-paper producer Pheapimex. Due to the unregulated process of land allocation in Cambodia, a majority of the villagers affected by the concession do not possess any legal documentation proving ownership of their land. When Wuzhishan started its operations, these villagers were warned by the authorities that they were occupying the land illegally, and that unless they cultivate their land, they will risk losing the land to the company. Those who chose to cultivate their land had to pay taxes amounting to US\$50 per hectare, a hefty sum for these largely subsistence farmers. Without the legal protection that formal land titles would have granted, there was little the villagers could do to prevent the firm from taking away their land (World Rainforest Movement, 2005).

The underlying cause of the problem is the hierarchical nature of the land concession granting process that lacks transparency and is thus susceptible to corruption and collusion. In countries such as Laos and Cambodia,

concessions have been awarded without environmental and social impact studies, without a transparent process, without consultation with the local people, and many times, in ways that apparently violate existing land laws. The prime minister personally backed Cambodia's land concession to Wuzhishan, despite being a transfer 20 times larger than that permitted by law. Commune councillors who were subsequently directed by the provincial authorities to sign their approval had little choice but to follow their leaders' orders (World Rainforest Movement, 2005). In the case of Chinese rubber investors in Laos, the contracts concluded at the provincial or higher levels often become "a tool of negotiation and coercion at the lower level". If villagers resisted, governmental authorities, even the armed forces, sometimes working in collaboration with Chinese investors, may be used to enforce compliance. In such cases, villagers have few options but to sell their land or abandon their land use rights. One study of Laos and Cambodia highlighted several other weaknesses with the concession granting process in both countries. These include an unclear division of responsibilities between national and provincial authorities, inadequate land-use planning at a macro level, a blatant disregard for the results of land-use planning processes at the local level, a lack of formal review (or an ineffective implementation of) processes for large-scale concessions, little cooperation between agencies with overlapping responsibilities, and state representatives who are often complicit in allowing land seizures that hurt poor farmers (Shi, 2008; WWF MPO and WWF GMPO, 2007).

Even if small farmers' land rights were fully protected, many other problems work against their interests. A second issue is the degree to which small-scale farmers are able to exploit the benefits of increased Chinese investments in agriculture. As mentioned elsewhere, most research findings argue that participating in contract farming with foreign or local investors bring about a range of benefits, such as increase in income, better access to technologies and credit, higher yields and better prices for their goods (Bijman, 2008). However, there is much less consensus on whether small-scale farmers have been included in these contracts, and whether they enjoy the same benefits as large-scale farmers. Depending on a number of factors, such as the type of agricultural product contracted, and the socioeconomic conditions of these farmers, small-scale farmers may be precluded from entering into contracts with agribusiness firms.

To most small-scale farmers in Southeast Asia's less-developed regions engaging in subsistence farming, a transition to commercialized farming bears inherent risks, such as the possibility that investors will pull out of the venture and leave farmers with cash crops that they cannot themselves consume or sell locally. The nature of contract farming also increases the risk that the farmers have to bear. For instance, they are not typically compensated for their labour,

which is considered an investment input by the farmers. Given that most of these farmers have low savings, few alternative incomes and poor access to social safeguards, uncompensated labour can be a major disincentive. For example, poor farmers tend to avoid the risky but potentially lucrative venture of tree contract farming. Poor households that enter into such contracts risk crippling cash flow problems due to fluctuating income, and are more likely to be heavily dependent on credit. Some face the additional risk of being thrown off their leased land if they are not able to pay for services charged to them by contractor, or keep up with their debt repayments (Baumann, 2000). Given the risk aversion of poor farmers throughout Southeast Asia, these risks sometimes prove to be too much for many poor farmers to bear.

Chinese investors also may shun working with small-scale farmers due to the prohibitive transaction costs needed to coordinate the activities of the farmers. Working with poor farmers is expensive, due to costs of credit, inputs, extension services, and collecting and grading the harvest (Key and Runsten, 1999). This is especially true in the case of the production of niche, high-value products, where quality is paramount, volume of supply needs to be consistent, and farming techniques must be carefully monitored to achieve the desired quality. Working with larger scale farmers lowers the contractor's risk of producer default, as these farmers usually have more advanced skills and more resources available (Bijman, 2008).

To what extent do Chinese agricultural investments involve the growing of the crops that are considered "high-risk" to local small-scale farmers, and "high-value" to investors? High-risk crops are typically highly perishable, have long maturing periods, and require the use of expensive fixed-cost processing facilities that have low disposable value and cannot be used in other forms of production (Sartorius and Kirsten, 2007). High-value products are usually characterized by the specialized inputs needed to ensure quality, and the technical complexity of the production process. Many Chinese investors have largely engaged in the contracting of such crops, namely rubber and timber, two of the main commodities that Chinese agribusiness firms cultivate in the Greater Mekong Subregion countries of Cambodia, Laos, Myanmar and Vietnam (Rutherford *et al.*, 2008, WWF MPO and WWF GMPO, 2007). Rubber has a long maturation cycle of seven to eight years before it yields any income. This barrier has, for instance, deterred poorer villagers in the Luang Namtha province of Laos from entering into contract farming with Chinese investors (Shi, 2008). Similarly, timber cultivation, which requires access to technical advice and specific inputs, has been found to favour larger landholders with significant land, labour and capital endowments, and are unlikely to benefit the poorest of poor (Baumann, 2000).

To the extent that large-scale farmers are favoured as partners for contract farming with Chinese investors, and that small-scale farmers are systemically

marginalized, Chinese investments in agriculture exacerbate income disparities and stratification in the receiving regions. As farmers with larger landholdings see their earnings increase, they may be encouraged to expand their farmlands to increase production. This further augments the competition for cultivatable land. Vongkhamor *et al.* observes that the competition for land among farmers in Oudomxay and Luang Prabang provinces of Laos is “facilitating privatization of land”, and it is the more well-off households who are “taking advantage of the current privatization”. Those who are able to mobilize capital and labour and have the ability to negotiate with local authorities, often have the upper hand in terms of claiming more productive land. Fujita *et al.* (2006) also points out that conversion of land into permanent rubber field “strengthens private ownership land”, which provides wealthier farmers an added incentive to expand the size of their landholdings. In their report on land use transformation in Northern Laos, other researchers documented cases in which productive land was converted into rubber fields under the name of village and local leaders (Fujita, 2007; Fujita *et al.*, 2006; Phanvilay *et al.*, 2006). Thus, the benefits of such crops appear to mainly accrue to the wealthier of the villagers.

Third, even if small-scale farmers do manage to establish partnership deals with Chinese investors, uncertainty persists about whether the farmers have sufficient leverage to bargain for contractual terms that are fair and non-exploitative. Large investors are endowed with a wealth of resources, have better access to market information, and usually wield monopolistic powers in the regions in which they have ventures. In some parts of Laos where Chinese investors operate, for instance, there are no sources of market information on rubber other than the ones provided by the Chinese themselves. Given the unequal power relations between the investors and smallholders, investors may manipulate the contractual terms to their own advantage, thus entitling themselves to a disproportionate share of the gains. The low education levels of most farmers in the remote parts of Southeast Asia renders them even more vulnerable to such exploitation. In Northern Laos, for example, contracts between Chinese investors and local farmers are written in Lao or Chinese, neither of which is typically the language used by highlanders. Contractual terms may also be vague or contradictory, potentially giving investors the opportunity to claim ownership over the farmers' lands (Cohen, 2009).

Governments can play a role in checking the often disproportionate powers of agribusiness firms by enacting competition policies, introducing special contract laws, providing low cost arbitration mechanisms, and improving accessibility to market information (Bijman, 2008). However, oftentimes the governments of most of Southeast Asia's most impoverished countries lack the capacity or political will to advance and enforce such

policies. In addition, many of the government officials themselves have personal vested interests in helping the Chinese investors secure their contracts. In Buakkhu, Laos, for example, the official contract between the investors and villagers allocated 60 per cent of the profits to the investors and 40 per cent to the villagers. However, it was subsequently discovered that an informal addendum was added to the official contract, distributing half of the villagers' share of profits directly to the district government (Shi, 2008).

Some scholars suggest that civil society can fill the void left by government in protecting the interests of poor farmers (Prowse, 2007; Little and Watts, 1994; Runsten and Key, 1996). Small-scale farmers can organize into farming associations or producer organizations that can help to improve farmers' access to market information, credit, technology and training, hence reducing the latter's dependence on the agribusiness firms to provide such inputs. Such groups are also potentially in a stronger position to negotiate for better contractual terms with the investors (Sartorius and Kirsten, 2007). However, the formation of such farming associations requires considerable political, economic and social resources. Without assistance from the government, international organizations or non-government organizations, it is difficult for these associations to take root indigenously. Mekong governments often repress independent groups, fearing the creation of a public space that they cannot control. In Cambodia, NGO workers have noted that the government's attitude toward local NGOs is "more of suspicion than cooperation", and that governmental support rendered to NGOs has been dismally inadequate (Pednekar, 1995). Currently, Cambodian President Hun Sen is pushing for a new "NGO Law" that would require NGOs working in Cambodia to complete a complex registration process and submit to stringent financial reporting requirements (Asian Philanthropy Forum, 2008), a move which many NGOs perceive as a repressive tactic to keep the civil society under tight reins.¹⁸

Fourth, the disturbing trend towards increasing land inequalities and landlessness in the Mekong region imply that fewer farmers are able to reap the benefits from foreign agribusiness ventures. A study conducted in six villages in Cambodia revealed that "despite a relatively egalitarian distribution of agricultural lands in the late 1980s, considerable inequality in land holdings and landlessness has emerged through the last decade" (Sedara *et al.*, 2002). Vietnam's Mekong Delta region has also displayed a rapid increase in landlessness among the rural poor, where the poorest quintile of the population that was landless surged from 26 per cent in 2001 to 39 per cent in 2003. According to the 2002 Vietnam Living Household Standard Survey, 31 per cent of the poor in the Mekong Delta have no land, and 16 per cent have less than 2,500 sq m, the level below which the Bank for the Poor classifies households as having "little land" (Cuong *et al.*, 2006). A few

factors contribute to the prevalence of landlessness and near-landlessness: (1) distressed selling of land to pay for emergency expenses such as medical costs (Sedara *et al.*, 2002), (2) use of land to service debt borrowed at exorbitantly high interest rates (Sovannarith *et al.*, 2001), (3) rapid population growth which has led to further fragmentation of land (Biddulph, 2000), (4) speculative activities causing upward pressure land prices and making it harder for farmers to buy land (Sovannarith *et al.*, 2001).

Where local villagers are too land-poor to engage in contract farming with the Chinese investors, employment becomes the only potential benefit they might gain from the Chinese investments. However, in the case of Chinese timber investments in Cambodia, there have also been numerous reported cases of poor working conditions and inadequate remunerations provided by the employers. Workers hired by the Wuzhishan firm endured squalid living conditions, as basic accommodation was not provided. Diseases associated with unclean water were rife, and those who were too sick to work were quickly dismissed. The firm also reneged on many other employment benefits that were required by law (World Rainforest Movement, 2005).

Fifth, there have been concerns that this recent wave of Chinese-led commercialization of agriculture in Southeast Asia have largely been left unmonitored, and hence may pose a serious threat to food security in the region. Most of these investments have been directed towards the production of non-food crops such as rubber and palm trees, which command higher selling prices on the market. Many of these developing countries in Southeast Asia into which Chinese investors are foraying face severe food shortages. Cambodia, for example, has some of the highest malnutrition rates in Asia, with 44 per cent of children under five years of age undernourished (Cambodia Food Security and Nutrition, 2009). In addition, in Laos, there have been complaints that the conversion of forests into rubber fields deprives the poor of forest food and products that are a traditional component of their diet (Fujita *et al.*, 2006). As more farmers in these developing areas abandon subsistence farming for the growing of export-oriented, non-food crops, food supply shortages threaten to become more frequent and larger in scale.

The more developed, industrialized countries in Southeast Asia also invest in agricultural production in neighbouring countries, and are generally wary of competing investments from China, as an influx of Chinese investments may potentially drive up prices of agricultural land and resources overseas. For this reason, food security is a top priority especially for net food-importing countries like Singapore. On 31st July 2009, Singapore's National Development Minister Mah Bow Tan announced that the government is encouraging local agribusiness firms to "work with farms overseas to ensure that Singapore has a ready and stable supply of produce". The island-state is not the only

country in ASEAN to pursue such policies, as several other countries in the region, including Malaysia and Indonesia, are also net food-importing (Ng and Aksoy, 2008). The failure to control food supplies and food prices has serious political and social ramifications, as exemplified by the violent food riots in 2008 sparked by soaring soybean prices that unsettled Indonesia.¹⁹

Sixth, economic development in rural areas often comes with environmental costs, and the case of Chinese agricultural investments in Southeast Asia is no exception. In the uplands of China, Laos, Thailand, Vietnam, Cambodia, and Myanmar, more than 500,000 hectares of land have been converted to rubber fields. It is projected that the area of land dedicated to rubber and other diversified farming systems could more than double or triple by 2050, “largely by replacing lands now occupied by evergreen broadleaf trees and swidden-related secondary vegetation” – or put simply, by deforestation. However, deforestation is not the only undesirable outcome. Rubber planting as a form of monoculture agriculture system reduces biodiversity, and is linked to a myriad of environmental problems such as soil erosion. There are also similar concerns that conversion of forests to timber plantations in Cambodia are likely to result in the extinction of numerous species of plants (World Rainforest Movement, 2005). Despite the detrimental effect on the environment, rubber and timber cultivation have been largely promoted because they are regarded as equivalent to reforestation under the Chinese governmental policies (Cohen, 2009; Ziegler *et al.*, 2009). Other business activities undertaken by the agribusiness firms, not just the cultivation of crops, may also have adverse impact on the environment. In the village of Ksach L’eath in Cambodia, the local irrigation system bringing water to the village was disrupted by Wuzhishan when it built dams on two streams in order to fill reservoirs for the nurseries and plantations. Alternative sources of quality water were not made available to the villagers when such disruptions occurred (World Rainforest Movement, 2005).

6. Conclusions

In sum, the political forces behind issues that on the surface seem to be voluntary exchanges, must be scrutinized. The investment of Chinese agribusiness, encouraged by the State, is no different. Six serious concerns – land expropriation, the degree to which small farmers can benefit, the fairness of the business transactions, the exacerbation of land inequality, food security and the environmental impact – have emerged from increased investment in agriculture. These do not include other related topics, such as the safety of food imported from China, that have emerged from the economic relationships regarding agriculture. In many cases, the countries themselves have benefited from Chinese and other forms of investment. Overall, however, Chinese

investment has to some degree harmed the interest of poor and vulnerable Southeast Asian farmers.

This does not imply that Southeast Asia should close its doors to all investment opportunities offered by China. It would, however, take much political will, tenacity and ingenuity to ensure that the local farmers and villagers, who have their livelihoods affected by these investments, are not denied of their rightful share of the gains that could be attained. A number of policies have been identified by analysts and researchers as crucial in achieving this goal. First, there is an urgent need to accelerate the land titling process and build up the capacities of relevant land administration agencies, in order to effectively tackle the problem of land expropriation. Second, a more secure social safety net should be constructed and would reduce the risk of engaging in contract farming, encouraging more poor farmers to enter into such agreements. Contract farming and other forms of risk would increase the diversity of the local economy to provide alternative sources of income, so as to avoid excessive reliance on profits from contract farming alone. Third, to level the playing field between investors and smallholders, credit provision and technical assistance should be extended to poorer households, and reliable and timely market information should be made widely available. Fourth, stricter monitoring of the firms' operations and activities would have to be enforced to address the problems of human rights abuses and violations of environmental regulations (Balisacan, 2005; Shi, 2008). Finally, the countries can adopt the Chinese practice of attracting conditions to investment – conditions that help promote farmers' interests.

Yet each of these suggestions assumes conditions that are rarely found in Mekong countries, where contracts are selectively enforced, rule of law is weak, and farmers have little representation. Thus, modernization theorists are often too sanguine about the trickle-down effect of economic growth and liberalization, ignoring the various inequalities in power that impede a fairer distribution of benefits and costs among the stakeholders. Moreover conditions for these kinds of policy approaches are worsening as China's economic and political influence in Southeast Asia continues to accelerate. The potential for Chinese agribusinesses to contribute to poverty reduction in Southeast Asia is great, yet the region's poor farmers are unlikely to benefit.

Notes

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1. "Bouquet of Roses May Have Note: Made In China", Keith Bradsher, *New York Times* (2006).
 2. "China Emerges as Global Consumer", BBC (2005) <<http://news.bbc.co.uk/2/hi/asia-pacific/4272577.stm>> (downloaded 5th May 2009).
 3. "Natural Rubber Continues to be Short of Supply", Huang Xunjing, *China Chemical Reporter* (2007) <<http://www.highbeam.com/doc/1G1-164221624.html>> (downloaded 5th May 2009).
 4. "China's Arable Land Shrinks to 121.8 mln Hectares", Luan Shanglin, *Xinhua* (2007) <http://news.xinhuanet.com/english/2007-04/12/content_5968972.htm> (downloaded 10th September 2009).
 5. "China Arable Land Fears End Reforestation Drive", Reuters (2009) <<http://www.reuters.com/article/2009/06/23/us-china-land-idUSTRE55M27F20090623>> (downloaded 23rd February 2009).
 6. "Australia's Food Bowl Lies Empty", BBC (2008) <http://news.bbc.co.uk/2/hi/middle_east/7289194.stm>.

7. "The Rising Tide of Corn", *Washington Post* (2007) <<http://www.washingtonpost.com/wp-dyn/content/article/2007/06/14/AR2007061402008.html>>.
8. "Indonesian Food Riots Spread Force Government to Declare Emergency as Rising Soybean Prices Fuel Unrest", Jim Lane, *Biofuels Digest* (2008) <<http://biofuelsdigest.com/blog2/2008/01/16/indonesian-food-riots-spread-force-government-to-declare-emergency-as-rising-soybean-prices-fuel-unrest>> (downloaded 10th September 2009).
9. "China Earmarks US\$5 Billion for Food Production on Continent", *Allafrica.com* (2008) <<http://allafrica.com/stories/200804230844.html>> (downloaded 6th May 2009).
10. "Poppy Substitute Plan in Golden Triangle Bears Fruit", Bi Mingxin, Xinhua (2008) <http://news.xinhuanet.com/english/2008-06/25/content_8438237.htm> (downloaded 10th September 2009); United Nations Conference on Trade and Development, 2009.
11. "Experts See Bright Future for Rubber Market", Sun Yunlong, Xinhua (2007) <http://news.xinhuanet.com/english/2007-06/16/content_6249572.htm> (downloaded 10th September 2009).
12. "MOC Official: ASEAN Likely to Become China's Third Largest Trade Partner", Xinhua (2009) <<http://english.peopledaily.com.cn/90001/90776/90884/6634770.html>> (downloaded 10th September 2009).
13. "Laotian Authorities in the Rubber Industry: Forests Destroyed, Farmers Evicted from Land", *Asia News.it* (2009) <<http://www.asianews.it/index.php?l=en&art=15732>> (downloaded 10th September 2009); "Laotian Farmers Feel Rubber Squeeze", *Asia Times* (2009) <http://www.atimes.com/atimes/Southeast_Asia/KG08Ae01.html> (downloaded 10th September 2009); Rutherford *et al.*, 2008; World Rainforest Movement, 2009.
14. Many developmental states however opened their borders selectively, allowing importation of raw materials and other needed resources, while restricting the importation of goods that competed with domestic industry (Wade, 1993).
15. "China-ASEAN Trade Tops US\$230 bln", CCTV (2009) <<http://www.cctv.com/english/20090410/109563.shtml>> (downloaded 28th August 2009); "MOC Official: ASEAN Likely to Become China's Third Largest Trade Partner", Xinhua (2009) <<http://english.peopledaily.com.cn/90001/90776/90884/6634770.html>> (downloaded 10th September 2009).
16. "Ajar for Business", *The Economist* (2010) <http://www.economist.com/world/asia/displaystory.cfm?story_id=15211682>.
17. "China's Appetite for Filipino's Paddies Breed Farmers' Opposition", Luzi Ann Javier, *Bloomberg* (2009) <<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=asDsyKQXxrKI>> (downloaded 10th September 2009).
18. LICADHO, 2009; "New Laws May Curb NGO Activity", IPS (2008) <<http://ipsnews.net/news.asp?idnews=45108>> (downloaded 2nd April 2009).
19. "Indonesian Food Riots Spread Force Government to Declare Emergency as Rising Soybean Prices Fuel Unrest", Jim Lane, *Biofuels Digest* (2008) <<http://biofuelsdigest.com/blog2/2008/01/16/indonesian-food-riots-spread-force-government-to-declare-emergency-as-rising-soybean-prices-fuel-unrest>> (downloaded 10th September 2009).

References

- Asian Development Bank (2009), *Proceedings from Technical Meeting on GMS Cross-border Agriculture Trade and Contract Farming*, Bangkok, Thailand.
- Asian Philanthropy Forum (2008), “Cambodia’s NGO Struggle” <<http://www.asianphilanthropyforum.org/2008/11/cambodias-ngo-struggle.html>> (downloaded 5th November 2009).
- Barney, Keith (2007), “A Note on Forest Land Concessions, Social Conflicts, and Poverty in the Mekong Region”, in *Proceedings from International Conference on Poverty Reduction and Forests*, Bangkok, Thailand.
- Baumann, Pari (2000), *Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural Tree Crops*, London: Overseas Development Institute.
- Biddulph, R. (2000), *Making the Poor Visible*, Phnom Penh: Cambodia Land Project, Oxfam GB.
- Bijman, Jos (2008), “Contracting Farming in Developing Countries: An Overview” <<http://coqa.nl/wp-content/images/bijman-contract-farming-100508.pdf>> (downloaded 20th December 2009).
- Burns, Tony and Kate Dalrymple (2006), “Land Administration: Indicators of Success, Future Challenges” <http://siteresources.worldbank.org/RPDLPROGRAM/Resources/459596-1161903702549/S8_Burns.pdf> (downloaded 9th September 2009).
- Cambodia Food Security and Nutrition (2009), “Food Security in Cambodia” <<http://www.foodsecurity.gov.kh/CamSituation.aspx>> (downloaded 10th September 2009).
- Chen, Deming (2009), *China Commerce Yearbook 2008*, Beijing: Ministry of Commerce.
- Cheng, Shaoming and Roger R. Stough (2007), “The Pattern and Magnitude of China’s Outward FDI in Asia”, in *ICRIER Project on Intra-Asian FDI Flows*, New Delhi.
- Cohen, Paul T. (2009), “The Post-opium Scenario and Rubber in Northern Laos: Alternative Western and Chinese Models of Development”, *International Journal of Drug Policy*, Vol. 20, No. 5, pp. 424-430.
- Cuong *et al.* (2006), “Agricultural Land Distribution in Vietnam: Emerging Issues and Policy Implications” <http://mpira.ub.uni-muenchen.de/25587/1/Land_distribution_in_Vietnam.pdf> (downloaded 12th January 2011).
- Embassy of People’s Republic of China in India (2008), “Country Report on China’s Participation in GMS Cooperation” <http://en.ndrc.gov.cn/newsrelease/t20080430_208063.htm> (downloaded 10th September 2009).
- Fischer Gunther, Yufeng Chen and Laixiang Sun (1996), *The Balance of Cultivated Land in China during 1988-1995*, Laxenburg, Austria: IIASA.
- Fujita, Yayoi (2007), *Key Issues in Smallholder Rubber Planting in Oudomxay and Luang Prabang Provinces*, National Agriculture and Forestry Research Institute.
- Fujita Yayoi, Sithong Thongmanivong, and Thouthone Vongvisouk (2006), *Dynamic Land Use Change in Sing District, Luang Namtha Province, Lao PDR*, Laos: National University of Laos International Program for Research on the Interactions between Population, Development, and the Environment.

- Gale Fred, Bryan Lohmar and Francis Tuan (2004), "China's Demand for Commodities Outpacing Supply", *Amber Waves* <<http://www.ers.usda.gov/AmberWaves/November04/Findings/chinademand.htm>> (downloaded 10th September 2009).
- GRAIN (2008), "Seized! The 2008 Land Grab for Food and Financial Security" <http://www.grain.org/briefings_files/landgrab-2008-en.pdf> (downloaded 10th September 2009).
- Heilig, G.K. (1999), "Can China Feed Itself?" <http://www.iiasa.ac.at/Research/LUC/ChinaFood/index_m.htm> (downloaded 5th May 2009).
- Key, Nigel and David Runsten (1999), "Contract Farming, Smallholders, and Rural Development in Latin America: The Organization of Agroprocessing Firms and the Scale of Outgrower Production", *World Development*, Vol. 27, No. 2, pp. 381-401.
- Lim, Tin Seng (2008), *China's Active Role in the Greater Mekong Sub-Region: A "Win-Win" Outcome*, Singapore: East Asian Institute.
- LICADHO (2009), "Is an NGO Law in Cambodia Justified?" <<http://www.licadho-cambodia.org/reports/files/131LICADHOBriefingPaper-IsanNGOLawinCambodiaJustified.pdf>> (downloaded 20th December 2009).
- Ng, Francis and M. Ataman Aksoy (2008), *Who Are the Net Food Importing Countries?*, Washington DC: World Bank.
- Ngidang, Dimbab (2005), "Deconstruction and Reconstruction of Native Customary Land Tenure in Sarawak", *Southeast Asian Studies*, Vol. 43, No. 1, pp. 47-75.
- NGO Forum on Cambodia (2006), "Indigenous Peoples in Cambodia" <[http://www.ngoforum.org.kh/Land/Docs/Indigenous/INDIGENOUS%20PEOPLES%20IN%20CAMBODIA_final\(3\).pdf](http://www.ngoforum.org.kh/Land/Docs/Indigenous/INDIGENOUS%20PEOPLES%20IN%20CAMBODIA_final(3).pdf)> (downloaded 10th September 2009).
- Pednekar, Sunil Subhanrao (1995), "NGOs and Natural Resource Management in Mainland Southeast Asia", *TDR Quarterly Newsletter*, Vol. 10, No. 3 <<http://www.gdrc.org/ngo/thai-ngo.html>> (downloaded 12th December 2009).
- Phanvilay Khamla, Sithong Thongmanivong, Yayoi Fujita and Jefferson Fox (2006), *Agrarian Land Use Transformation in Upland Areas of Northern Laos*, MekongInfo.
- Rutherford Jeff, Kate Lazarus and Shawn Kelley (2008), *Rethinking Investments in Natural Resources: China's Emerging Role in the Mekong Region*, International Institute for Sustainable Development.
- Sartorius, Kurt and Johann Kirsten (2007), "A Framework to Facilitate Institutional Arrangements for Smallholder Supply in Developing Countries: An Agribusiness Perspective", *Food Policy*, Vol. 32, pp. 640-655.
- Sedara et al. (2002), *Land, Rural Livelihoods and Food Security in Cambodia*, Cambodia Development Resource Institute (CDRI) <<http://www.cdri.org.kh/webdata/download/wp/wp24e.pdf>> (downloaded 15th January 2011).
- Shi, Weiyi (2008), *Rubber Boom in Luang Namtha: A Transnational Perspective*, GTZ RDMA.
- Sovannarith et al. (2001), *Social Assessment of Land in Cambodia*, Cambodia Development Resource Institute (CDRI) <<http://www.cdri.org.kh/webdata/download/wp/wp20e.pdf>> (downloaded 15th January 2011).
- United Nations Conference on Trade and Development (2009), "Myanmar", *World Investment Report 2008* <http://www.unctad.org/sections/dite_dir/docs/wir08_fs_mm_en.pdf> (downloaded 10th September 2009).

- US Department of Agriculture (2008), "USDA Agricultural Projections to 2017" <<http://www.ers.usda.gov/Publications/OCE081/OCE20081.pdf>> (downloaded 5th May 2009).
- Vutha, Hing and Hossein Jalilian (2008), *Environmental Impacts of the ASEAN-China Free Trade Agreement on the Greater Mekong Sub-Region*, Cambodia Development Resource Institute.
- Wade, Robert (1993), "Managing Trade: Taiwan and South Korea as Challenges to Economics and Political Science", *Comparative Politics*, Vol. 25, No. 2, pp. 147-167.
- World Bank (2001), *China: Overcoming Rural Poverty*, Washington, DC: World Bank.
- World Bank (2004), "Regional Study on Land Administration, Land Markets and Collateralized Lending" <<http://siteresources.worldbank.org/INTEAPREG/TOPRURDEV/Resources/573691-1141228934263/2280904-1153493824735/RegionalStudyonLand+Administration.pdf>> (downloaded 10th September 2009).
- World Bank (2009), *World Development Report 2009: Reshaping Economic Geography*, Washington, DC: World Bank.
- World Rainforest Movement (2009), "Rural Livelihoods Made Vulnerable as Rubber Investments Take Over Land in Laos" <<http://www.wrm.org.uy/bulletin/137/Laos.html>> (downloaded 10th September 2009).
- WWF MPO and WWF GMPO (2007), "Addressing the Environmental and Social Challenges Resulting from Large-Scale Agricultural Land Concessions in Cambodia and Lao PDR" <http://assets.panda.org/downloads/cambodia_and_laos_land_concessions_project_wwf_july_07_2_.pdf> (downloaded 10th September 2009).
- Zhang, Forrest Q. and John A. Donaldson (2010), "From Peasants to Farmers: Peasant Differentiation, Labor Regimes and Land-rights Institutions in China's Agrarian Transition", *Politics & Society*, Vol. 38, No. 4, pp. 458-489.
- Ziegler Alan D., Jefferson Fox and Jianchu Xu (2009), "The Rubber Juggernaut", *Science*, Vol. 324, No. 5930, pp. 1024-1025.