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CP maize contract farming in Shan State, Myanmar: A regional case of a place-based corporate agro-feed system

Kevin Woods

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Abstract

The Bangkok-based Sino-Thai company Choern Pakard Group (CP Group), Asia's largest and most prominent agro-food/feed corporation, has led an industrial maize contract farming scheme with (ex-)poppy upland smallholders in Shan State, northern Myanmar to supply China's chicken-feed market. Thailand, as a Middle-Income Country (MIC) and regional powerhouse, has long-tapped China's phenomenal economic growth and undersupplied consumer demand. The study presented demonstrates how changes in multi-scalar political economies and subsequent agro-food/feed systems creates concomitant effects on rural smallholder producers linked into the globalising of production-supply chains. Thailand's agribusiness sector 'going out' aimed to reduce domestic input production costs, supported through neoliberal regional investment and trade policies and crafted behind closed doors by CP executives. Since then, the ethnic minority-populated uplands of Shan State have become a major CP maize production zone for China's market. This has triggered a historically significant agrarian transformation in Shan State, from low-input subsistence economies to cash cropping of high-input, company-owned seeds for export to foreign markets. The CP maize smallholder production scheme tends to trigger differential socio-economic outcomes and redistribution of wealth within the village. The differential dispossessory outcomes is shaped by differences in village-level household capital, lack of smallholder access to affordable rural finance, ethnic Chinese migrations, and (il)licit border economies tied to Cold War-era politics. The particularity of places, such as differences in their political history, migrations, agro-ecology, geography, and relationship to the opium economy, also influences the dynamics of village- and household-level differentiation of wealth due to CP maize cultivation in Shan State. This paper therefore showcases, through empirical village-level field research, how the corporatisation and regional-/globalisation of the chicken feed market has radically transformed agrarian relations and structures of debt and dispossession in rural, upland Shan State.

Keywords: Myanmar; Shan State; China; agrarian transformation; maize production; CP Group

Introduction

While smallholder contract farming arrangements in Southeast Asia are nothing new, trends have shown increasing regional-globalisation and corporatisation of agro-food/feed systems, matched by enhanced vertical integration of a company's entire production-supply chain. For the case of Myanmar, however, contract farming schemes present a relatively novel mode of production due to the country's challenging political and economic context, as well as a government and private sector bias against farmers.¹ However, Myanmar's initial buffer against inserting its smallholders into regional and global agro-food/feed supply chains is expected to rapidly change as several global firms, foreign government development agencies and international finance institutions (IFIs) have committed intentions to implement contract farming schemes. Myanmar companies investing in large-scale agribusiness estates are also becoming more interested in contract farming.² As Myanmar's economy continues to open up to the international market, global agro-food/feed corporations, in part supported by international development agencies, are set to integrate smallholders into global supply chains as "pro-poor" sustainable economic growth. While this mode of production bypasses the problems often associated with agribusiness land grabs, new challenges arise, especially given the particular agrarian political economy context of Myanmar.

The arrival of commercial agricultural modes of the production of industrial, high-input agriculture crops, to smallholders engaging in small-scale household farming for both subsistence and the market, marks a profound agrarian transformation, as peasant studies literature has well documented.³ Most important and crucial to understanding this process of marketization of agriculture and rural household farm economies is to empirically detail the "historical specificities" of the process of market-led agrarian differentiation tied to particular village sites and geographical locales during moments of noteworthy transition.⁴ The dynamics of the market's dispossession effects, rather than "extra-economic means" to forcibly separate the producer from their means of production, have been underway and gaining momentum during the current neoliberal agrarian reforms throughout Myanmar. Agrarian dysfunction in Myanmar with exceedingly high poverty and landless rates, below-sufficiency land holdings, increasing wage labour migration, and high incidences of seasonal food insecurity demand to go beyond the more simplistic land grab narrative to focus attention on the complicated and far-ranging effects of the silent compulsion of the market.

Political ecologists, human geographers, historians and anthropologists have collectively put the importance of 'place' on the map when investigating capital accumulation narratives, which peasant studies literature certainly borrows from and contributes to. It is therefore important to bring together agro-ecologies with rural modes of production, socio-economic dynamics and differential patterns of accumulation in specific localised places rising out of certain political-economic, contingent histories.⁵ Political ecology in particular has provided the analytical tools to examine how land, water and resource use, access and allocation for marginalised groups intersect with ecologies, politics and power.⁶ Political ecology has been more silent however, noteworthy exceptions aside, on micro-level socio-economic differentiation, processes of exclusion, and the creation of poverty, landlessness and

¹ For example, Chinese companies investing in rubber production under China's opium substitution programme use a contract farming scheme in northern Laos, but rely on large-scale concession model for northern Myanmar (see Kramer, T. and K. Woods, 2012).

² Woods, K. 2013a

³ Akram-Lodhi and Kay 2010a; Hall, D., Hirsch, P. and T.M. Li, 2011

⁴ Bernstein, W. 2004:125.

⁵ See, for example, Akram-Lodhi and Kay 2010b and Hollander 2008 for how global agricultural commodities shapes agrarian places.

⁶ See Peet, R., P Robbins and M. Watts, 2011.

food insecurity.⁷ Therefore, this article attempts to merge political ecology concerns with that of agrarian change and peasant studies⁸ through presenting an overview of differential dispossession effects on rural farm households who have engaged in an regional corporate agro-feed production scheme, but under the specific terms of their locales' structures of agrarian political economy. A review of the state of agrarian affairs in Myanmar is complimented by an in-depth field research case study on the country's longest-running contract farming scheme by one of Asia's, and indeed the world's, largest agro-food and feed corporations that binds Thailand-China-Myanmar.

Charoen Pokphand Group of Thailand (hereafter just CP Group for the company, and CP for their maize product) and their CP maize (or corn) contract farming scheme in upland rural Shan State, northern Myanmar started in the early 1990s in Shan State, northern Myanmar. CP Group's vertically integrated maize production system predominately targeted supplying China's domestic chicken-feed market. Thailand, as a Middle-Income Country (MIC), has played an important role in facilitating agribusiness development, in particular contract farming schemes. As Thailand's domestic input costs — land, labour and agricultural inputs — have steadily increased, Thai agribusiness corporations, especially the CP Group with their ambitious production quotas, have sought cheaper production costs and new consumption markets in the Greater Mekong Region and China. The CP Group's maize contract farming arrangements in Shan State, Myanmar, intended to supply China's chicken-feed market, provide a useful regional case study through which to examine the dynamic intricacies of a multi-scalar, tri-country agro-feed supply chain.

Particular focus is put on (1) how CP Group, through developments in the regional political economy, has repositioned their control over an expanding regional market supply chain; and (2) the village-level differential dispossession outcomes and redistribution of wealth by smallholder CP maize producers in Shan State as a result of the CP Groups' particular business model and Myanmar's agrarian political economy. Findings are based on key-informant interviews over a span of one year, complimented by field research in eight CP maize-producing villages — four each in the north and south of Shan State. Selecting villages in the northern and southern regions of Shan State, with marked differences in geography, agro-ecology, political and migration histories, illicit economies, and cultural and ethnic identities, have allowed this research to shed light on the importance of a range of non-technical factors influencing outcomes, which are most often ignored in political economy studies.

The political economy of CP Group's regional maize livestock feed industry

Industrial high-yielding maize is an agricultural commodity worthy of attention, as it is a globally prioritised industrial 'flex' crop used as food for humans, livestock feed and biofuel.⁹ The United States has been the world's dominant maize producer and exporter for some time, but with growing middle-class aspirations in Asia, and corresponding increases in meat consumption per capita, maize production has shifted more toward Asia in order to meet exponentially rising demand, especially in China. Global annual maize demand for livestock feed has been exceeding global supply, with demand in Asia reaching 100 million tons by 2009. These dynamics have caused the global market price of maize to rise 30 per cent in the past five years, further incentivising production to feed rising demand.¹⁰ But it is not just the agricultural crop that is significant, nor just the mode of production, but

⁷ Noteworthy exceptions include Watts, M. 2013 (new edition); Peters 2004, 2006; Li, T. 2014.

⁸ The merging of these concerns and literatures was brought to my attention by Gray, L. and B. Dowd-Urbe, 2013 detailing cotton production in South Sahara Africa.

⁹ Borras et al. 2014

¹⁰ Chung, P. 2011

also the regional-/globalisation and corporatisation of industrial maize production.

The CP Group originated in the 1920s as a small Sino-Thai agricultural trading company started by two ethnic Chinese brothers who decided to seek their fortune in Bangkok. They initially established their business as the Bangkok Farm company, expanding to include a vertically-integrated¹¹ poultry processing operation in 1973, where Thai farmers raised chickens for processing under contract farming schemes. Initially, CP Group's target market was to export chickens to Japan, and then later became more focused on domestic consumption, as Bangkok underwent considerable economic growth. As the regional livestock feed industry became a more competitive field, CP Group began looking to expand their market penetration ahead of their competitors. CP Group found its initial big break in the place where the founding family members initially fled — China. CP Group (known as Chia Tai Group in China) quickly became one of the largest (and indeed, first) foreign investors in China, and eventually the major foreign contender in the animal feed and poultry sectors in China — now the world's largest such markets.¹² Initial attempts at CP Groups' poultry production in China under contract poultry farm schemes were lacklustre, and so instead switched to large-scale corporate farms — a modality that brought the CP Group incredible success. As China's livestock feed market continued to grow in size and scope, CP Group's regional and domestic maize operations followed China's demand, and with it a more global financialisation of the market. Charoen Pokphand Group, of Thailand's subsidiary company, CP Pokphand, a Hang Seng-listed company in Hong Kong created in 1988, is the investment arm of the CP Group in China.¹³ By 2001, the CP Group came to be the largest poultry processor in China, accounting for more than one-fourth of China's market — a staggering accomplishment, not least because of the profits accrued.¹⁴ By the time of the Asian financial crisis in 1997, CP Group was the largest single foreign investor in China.¹⁵ CP Group's regional expansion, particularly into China, made it Thailand's largest business conglomerate across a range of sectors, and indeed the largest independent producer of animal feed globally, as well as the world's fourth largest poultry producer.¹⁶

Throughout the 2000s, the CP Group gained in prominence across many sectors, but predominately in the agro-food industry (including in food retail, such as with KFC, 7-11, Tesco Lotus, etc.), recovering well from the Asian financial crisis. The next global economic crisis in 2007/08 made global private equity firms take notice of the agro-food/feed industry in Asia, and specifically the CP Group's regional stronghold. In 2010, the Carlyle Group, the world's third-largest private equity company, purchased an 11 per cent stake in CP Pokphand.¹⁷ This follows the trend since the latest global financial crash, with global financial firms buying huge stakes in agro- and aqua-feed corporations in China.¹⁸ China's animal feed industry is now the largest in the world, recently overtaking the USA as the world's number one producer.¹⁹

But as CP Group's operations in Thailand continued to grow in order to meet domestic and export

¹¹ This vertically integrated model means that not only do they have full control over quality and quantity, but that they are also able to establish the terms of trade between the different nodes along the supply chain, in a way that companies operating only within a particular part of the supply chain cannot achieve.

¹² Burch, D. 2010

¹³ Burch, D. 2010

¹⁴ Burch, D. 2010. By the mid-2000's, CP Group accounted for 600 million of the 2.2 billion chickens marketed in China each year.

¹⁵ Burch, D. 2010

¹⁶ Burch, D. and Gross, J. 2005

¹⁷ Carlyle Group 2010

¹⁸ For example, Blackstone Group, the world's eighth largest private equity company, invested hundreds of millions of US dollars in China Shouguang Agricultural Product Logistics Park, one of the nation's biggest agricultural market operators, as well as in China Starch Holdings listed in Hong Kong. See Asian Agribusiness Group, 2010

¹⁹ Burch, D. 2010

demand (first Japan, then other regional countries) for livestock feed, input constraints in Thailand began to limit their market growth — in particular, land for animal feed production, as well as the rising costs of Thai labour and inputs for animal feed (seeds, fertiliser, etc.).²⁰ As a result of rising domestic costs of land, labour and agricultural inputs, CP Group began to outsource animal feed production schemes to its regional neighbours. While China became the “mother ship” for CP Group’s livestock feed industry, the Mekong region held promising cross-border contract farming possibilities that did not go unnoticed by CP Group. The Ayeyawaddy-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS), established in 2003 by the then Thai Prime Minister Thaksin Shinawatra, provided just the liberal economic leverage needed to assist CP Group to achieve these aims. The ACMECS has included specific provisions (as promoted by the Thai government, and CP Group in particular) for expansion of maize contract farming schemes in regional countries (with their considerably cheaper land and labour), which hold a more promising “comparative advantage.”²¹ In fact, behind much of this push for regional expansion of operations and cross-border trading under ACMECS, has been the CP Group. The expansion of Thai corporate influence through the ACMECS is reportedly modelled on the CP Group’s business model, which former PM Thaksin adapted to his “CEO State.”²² Dr. Ajva Taulananda, the vice-Chairman of CP Group, significantly contributed to the preparation of the ACMECS legislation, in addition to acting as the chairperson of the ACMECS Business Council, which is the main body advancing “cross-border contract farming of the expansion of supporting infrastructure, such as roads and distribution networks.”²³ Not surprisingly, regional CP maize exports are specifically covered under a tariff-free arrangement backed by the ACMECS.²⁴ CP Group now sources their maize grain through smallholder production schemes, and to a lesser extent from large-scale concessions, in Cambodia, Laos, and Myanmar.

CP Group struck a deal with the then-Myanmar military in the mid-1990s for high-yielding CP maize smallholder production in Shan State. It was marketed at that time as an opium substitution, alternative development programme, since Shan State has long been the source for Asia’s opium and heroin.²⁵ Shan State was ideal for CP Group’s vertically-integrated market: suitable agro-ecological conditions, large population of smallholder farmers and available household agricultural land, agreements with top-level military-state officials, and a close and convenient trade route through China’s backdoor. For these reasons, Shan State was targeted at an early stage for CP Group’s “going out” strategy. CP maize production was given an initial boost in North Shan State in the mid-1990s through the promotion by a legacy of WWII, American 101.²⁶ American 101 promoted CP maize smallholder cultivation with Kachin villagers as an opium substitution programme, subsidised by the US Government for inputs and outreach.²⁷ It is unclear what kind of relationship, if any, exists between American 101 agricultural outreach and that of CP Group, although US-Thai relations are significant in this regard. Then in the mid-2000s, under the ACMECS banner, Thailand signed a Memorandum of Understanding (MoU) with the then Myanmar military-government to set aside 1.73 million acres of “vacant and fallow land” for CP maize contract farming,²⁸ although implementation

²⁰ Burch, D. 2010

²¹ ACMECS 2010

²² Greenfield 2006

²³ ACMECS 2010; Burch, D. 1994

²⁴ Burch, D. 2010

²⁵ Interview with an agriculture officer, Taunggyi, Shan State.

²⁶ The American 101 Forces fought alongside the Kachins (or perhaps the other way around), who inhabit north Shan and Kachin States, against the advancing Japanese.

²⁷ Interview with the head of American 101 CP maize programme, Kutkai, North Shan State, March 2014.

²⁸ *Myanmar Times* 2005. These so-called ‘vacant’ or ‘waste’ lands were no doubt inhabited and/or utilised by local populations along the Thai border, specifically in Karen (Kayin) State, much of which is under the authority of one of the country’s largest ethnic armed groups, the Karen National Union (KNU).

was largely stalled due to political impasse with the Karen armed groups in the area. The CP Group is now trying to again expand its production in Myanmar along the Thai border – specifically in Karen State since the ceasefire agreement with the Karen armed group – to supply the Thai domestic chicken feed market.²⁹

CP maize in Myanmar: An agrarian upland transformation

During the current decade, neoliberal reforms set in motion in Myanmar under President Thein Sein’s new government have made it the world’s newest — and one of the last — land and resource frontiers. Domestic economic liberalisation measures coupled with the restructuring of the economy by International Finance Institutions (IFIs) are working to formally re-integrate Myanmar into regional and global economies. Meanwhile, new land laws have turned land into capital through the legal transfer of “wastelands” and “vacant lands” to the private agribusiness sector and relatedly issuing households and investors land use certificates that can be legally bought, sold and transferred on the market.³⁰ Consequently, regional and global investors have turned their attention towards Myanmar, looking for potentially highly lucrative natural resource extraction ventures, agribusiness production opportunities, and Asia’s newest cheap wage labour force. Large-scale agribusiness concessions have mostly been allocated to domestic, along with a few notable foreign, corporations for the production of industrial agricultural commodities, primarily paddy, rubber, oil palm, cassava, and sugarcane, and predominately for regional and global food, biofuel and animal feed markets. These concession production schemes have largely failed, however, for a variety of reasons — both technical (poor planning and management, etc.) and political (land speculation by cronies, etc.).³¹ As a result, major transnational and some domestic agribusiness corporations, in part supported by the development aid industry and multilateral agencies, are beginning to devise investment ventures to integrate smallholders into global agro-food and feed supply chains.

Elements of contract farming, such as a pre-agreed supply contract between farmers and buyers, have the potential to help alleviate household poverty and provide new sources of rural economic growth, while respecting customary and / or statutory land rights. To ensure contract farming indeed delivers better access to markets, improved market information, affordable credit, inputs and technologies, reduced market risk, and increased household capital assets, certain conditions generally need to be present. Prerequisites include good governance, consensual agreements between producers and buyers, and well-organised, state-protected farming communities, including regulations over land transactions.³² In the context of rural Myanmar, and especially in ethnic minority upland areas, these prerequisites are almost entirely absent. Contract farming arrangements occurring within a poorly governed agrarian context, which in Shan State is further marred by a litany of non-state armed groups, generally instead brings about more negative impacts, particularly where market concentration, unequal bargaining positions and lack of information allow powerful firms and middlemen to off-load risks to smallholders. This forces down farm gate prices, and brings about negative impacts — whether differentially or laterally — such as loss of access to village and household land, water, resources and other assets. Smallholders risk becoming locked into debt, which can lead to loss of productive assets including livestock and land. Whether contract farming has negative or positive impacts largely depends on the particularities of the place and contractual deals, which includes the responsibility of the company involved, the negotiating power of smallholders, the regulatory

²⁹ Jackson, S. et al. 2013.

³⁰ For more information on the new land laws and the privatisation of land and agriculture during the reform period, see Transnational Institute (TNI), 2013; Woods, K., Forthcoming.

³¹ O’Toole, B. 2013; Woods, K. 2013a; MSU and MDRI/CSRD 2013

³² Kay, S. 2012

framework, and on the implementation and enforcement of good laws and policies.

CP maize contract farming in Shan State was selected as an in-depth field case study to showcase the linkages between changes in multi-scalar political economies, agro-food systems and the differential outcomes for smallholder producers under industrial agricultural production schemes. CP maize smallholder production offers an ideal case study because it (1) is a globally important ‘flex’ crop; (2) has become the main animal feed crop in the region due to CP Group’s success in promoting the crop; (3) is the only upland smallholder production scheme operating in Myanmar under a foreign company; (4) has been in operation for a long enough period to study its effects; and (5) CP maize has become a primary industrial crop in Shan State, the upland agricultural heartland of the country. The CP maize contract farming arrangements are admittedly unconventional, currently with no formal contracts directly between smallholders and the CP Group for maize production — although this is a more recent configuration that allowed CP Group to scale-up operations and further off-load risks onto smallholders after CP maize become more widespread in Shan State.

Before CP maize production outsized its original contract farming configuration from its initial growing popularity, CP Group first started its contract farming operations by providing subsidised inputs in strategically targeted “higher potential villages,” which were located along paved roads linked to China’s border. CP Group agents would work through the (at that time) military-appointed headman who administered distribution of inputs to the farmers for a small fee. New villages were targeted by CP Group by bringing in young, fashionably dressed teams who played loud modern music and danced while advertising the promised yields and riches of CP maize. In one study village, the headman working on behalf of CP Group promised a lottery for those who cultivate CP maize, with a new tractor as the grand prize; however, no such lottery ever took place. Subsidised inputs and the desire to no longer appear as ‘backward’ subsistence farmers were attractive to villagers, who eagerly signed up to this promising new cash-crop cultivation system.³³ One maize farmer recounted what his broker had explained to persuade him to switch to CP maize: “If you are poor, then you can grow CP maize and become rich. Even if you don’t want to be rich, you will become rich anyway.”³⁴

In the few years in which inputs were subsidised and soil fertility not yet overused, it was possible for farmers of a wider socio-economic standing to make decent profits from growing CP maize. This led to a rise in its popularity, with an increasing number of villages adopting CP maize over the years. The numbers of farmers cultivating CP maize grew too fast and too high, so CP Group could no longer administer contractual agreements with all smallholders.³⁵ Overtime though, CP Group stopped subsidising inputs, as the areas planted and production volumes skyrocketed, much to the dismay of more capital-poor households who could not easily afford the inputs on their own. Some villagers felt tricked by CP Group, as they were led to believe the subsidies would continue. This situation led CP Group to decide to switch from directly engaging with smallholder cultivators, to ‘outsourcing’ to local brokers and traders in order to provide credit to cultivators and procure maize harvest on behalf of CP Group. CP Group highly encouraged key moneylenders in towns to promote CP maize to their clients instead of other crops (in this case, often sugarcane).³⁶ This was enticing to brokers because they could mark-up input costs,³⁷ significantly increasing cultivation costs and shifting risk to smallholders. According to one CP Group representative in Shan State, “after the farmer accepts [the CP maize production system], we find them a broker.”³⁸ At first CP Group locates

³³ In two study villages, farmers had already been growing sugarcane as a cash crop, with many reported problems and so still had a desire to switch to CP maize.

³⁴ Interview by field research team, South Shan State, February 2014.

³⁵ Interviews, CP Group representatives in Shan State, 2014.

³⁶ Interviews with CP Group agents and community development workers, 2014.

³⁷ By one account mark-up was by about 10 per cent.

³⁸ Interview by lead researcher, Taunggyi, January 2014.

appropriate local brokers, after which it was explained by a farmer the “broker follows CP.”³⁹

Instead of a direct contract with producers, CP Group has informal (and perhaps in some cases more formal) relationships with local brokers, who in turn connect producers with CP Group by acting as middlemen to provide credit (cash) and inputs (seeds and fertiliser) to smallholders.⁴⁰ With this arrangement, CP Group completely relies upon the brokers to provide the inputs to farmers, as well as purchase the CP maize harvest from their clients and put it on the market. Smallholders who must take out loans and buy inputs from the brokers then must sell their CP maize harvest to the brokers under a range of formal and informal agreements, mostly at below-market price. The brokers then sell the maize on to agents further up the commodity chain, acting on behalf of CP Group, as well as other buyers, who then transport the maize across China’s border into Yunnan, for use in China’s domestic chicken feed market.⁴¹

This switch to relying on brokers has reduced the negotiation power of cultivators for fairer farm-gate grain prices and more affordable inputs. Under this arrangement, CP Group has reduced its own liability and responsibility from cultivation and procurement of maize, shifting risks to smallholders, and less so to brokers who were included as agents of capital accumulation under this new devised system. Cultivation risks fall disproportionately on poor and marginalised households, less so on more wealthy households who can afford to side-step brokers, as they generally do not need loans to purchase the required inputs. As a high-level government agricultural officer in Shan State believes, “the broker became more developed from CP maize cultivation, while the actual growers get less developed.”⁴² The brokers in each area seem to self-organise to form a cartel to collectively fix interest rates for loans and maize farm gate purchase prices so that farmers do not gravitate to the lower interest-rate broker — although there is no evidence that this practice is supported by CP Group or the Myanmar Government. Broker’s organising increases their collective bargaining power in the value chain; unfortunately farmers do not have the same levels of organisation (an absence explained by the political context), and therefore must accept broker terms and conditions. This system of organisation for smallholder CP maize production, then, came to mirror, not incidentally, the agrarian political economy operating in Myanmar whereby a small privileged few with ties to military-state officials and sources of capital, manipulate and capitalise on opportunities such that they monopolise rent seeking at the expense of the vast majority. This pattern of capital accumulation to a large extent describes Burma’s self-styled “road to capitalism”.⁴³

The different linkages among the different actors embedded within the Myanmar CP maize commodity chain are pictured in the flow diagram in **Figure 1** (below). In total, three different ways exist in which rural households are involved in the CP maize production system in Shan State, the first two of which represent modes of production:

1. *Owner-cultivator*: Household members labour on their own household land plot; higher-capital households with more land hire extra labour, whereas low-capital households often rely on a village collective labour pool.
2. *Broker-‘owned’*: Broker obtains temporary use rights or “ownership” of land from indebted households; broker hires labourers, including hiring members of an indebted family.
3. *Land-/low-capital and/or landless households*: On-farm wage labour for high-capital

³⁹ Interview by lead researcher, Taunggyi, January 2014.

⁴⁰ An exception to these norms was found just outside Taunggyi in South Shan State where a conventional contract system between CP Group and smallholders for the production of CP maize seeds is in operation.

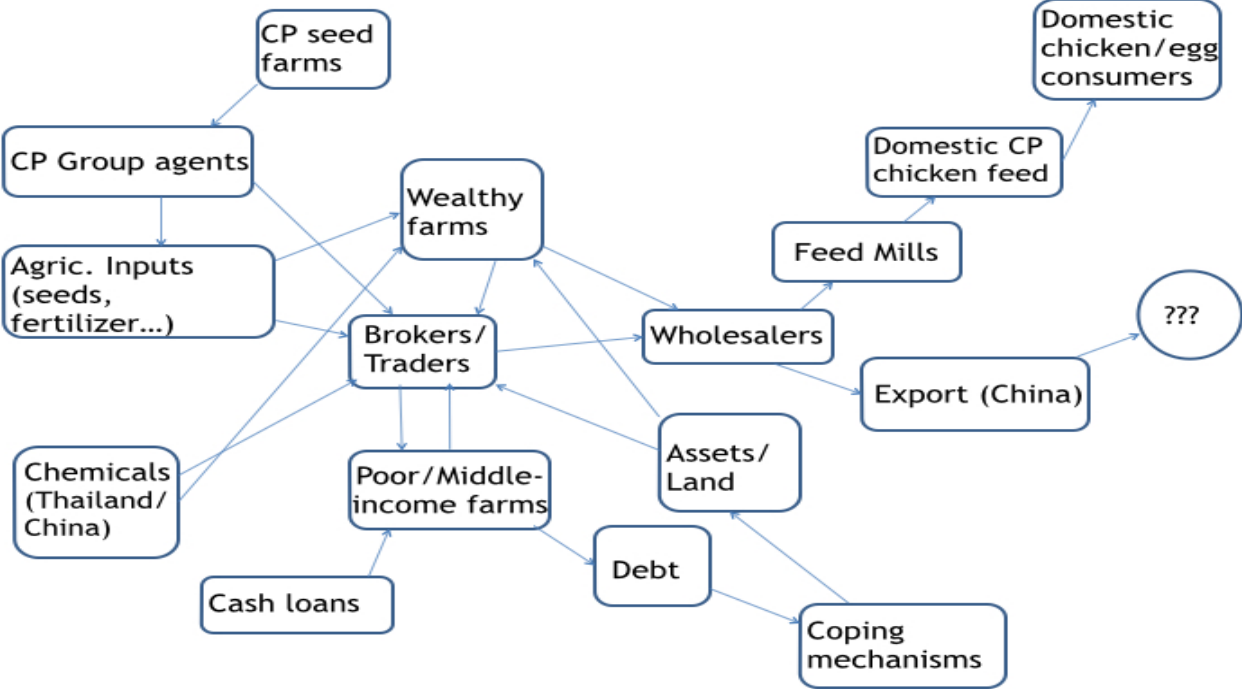
⁴¹ Due to time and financial constraints, no research was conducted across the border in China to better understand the China-side commodity chain, apart from a few key informant interviews in Kunming, Yunnan, China.

⁴² Interview by lead researcher, Lashio, January 2014

⁴³ Mya Maung 1998

households' CP maize farms, mostly in the same village and for households of the same ethnicity.

Figure 1. Flow Diagram of Maize Commodity Chain Analysis for Shan State



Note: Data solely based on lead researcher's field research.

A decade-and-half of establishing CP maize product familiarity and promotion of benefits from potential high yields, as well as growing demand in China, has resulted in a rapid expansion in CP maize cultivation area in Shan State and growing volumes exported across the Chinese border. Of all high-yielding maize varieties on the market in Myanmar, 80-90 per cent is under CP Group, with the CP 888 variety being the most popular in most geographical areas, according to CP Shan State regional office and village field data. Industrial maize production is now the second highest crop by acre planted and volumes produced in Shan State, just after paddy — no small feat for the upland agricultural heartland of the country. Myanmar government figures claim over 500,000 acres of maize planted (not just CP varieties, however) in 2013 in Shan State (184,000 acres in South Shan State and 285,000 acres in North Shan State). Representatives for CP Group in Shan State estimate the total acres of CP maize planted based on bags sold is actually closer to 750,000 acres. Volumes are expected to be even higher if the planting of second-generation seeds is taken into consideration. See **Tables 1 and 2** and **Figures 2 and 3** (below) for government data on maize cultivation, although CP Group representatives in Shan State refute the much lower government reported acreage.

Table 1. Planted Industrial Maize (acres) in South Shan State, 2013/14

District	Township	Planted (acres)	Township	Planted (acres)
Taunggyi	total	147,023		
	Taung Gyi	52960	Pin Daya	7857
	Ho Pong	7004	Ywa Ngan	4830
	Nyaung Shwe	4499	Yat Sauk	40512
	Hse Hseng	9989	Pin Laung	6552
	Ka Law	3130	Pe Kon	9690
Loilen	total	30,606		
	Loi Len	1290	Kye Thi	5974
	Lai Hka	1141	Mong Kaing	3895
	Nan Sang	14602	Mong Hsu	1554
	Kun Hing	2150		
Langkho	total	6,303		
	Lang Kho	1337	Mauk Mai	1170
	Mong Nai	2436	Mong Pan	1360
TOTAL PLANTED ACRES		183,932		
<i>Source: Regional State Office, MoAI, Taunggyi, Shan State.</i>				

Figure 2. Map of South Shan State, Industrial Maize Planted (Acres) by Township, 2013/14

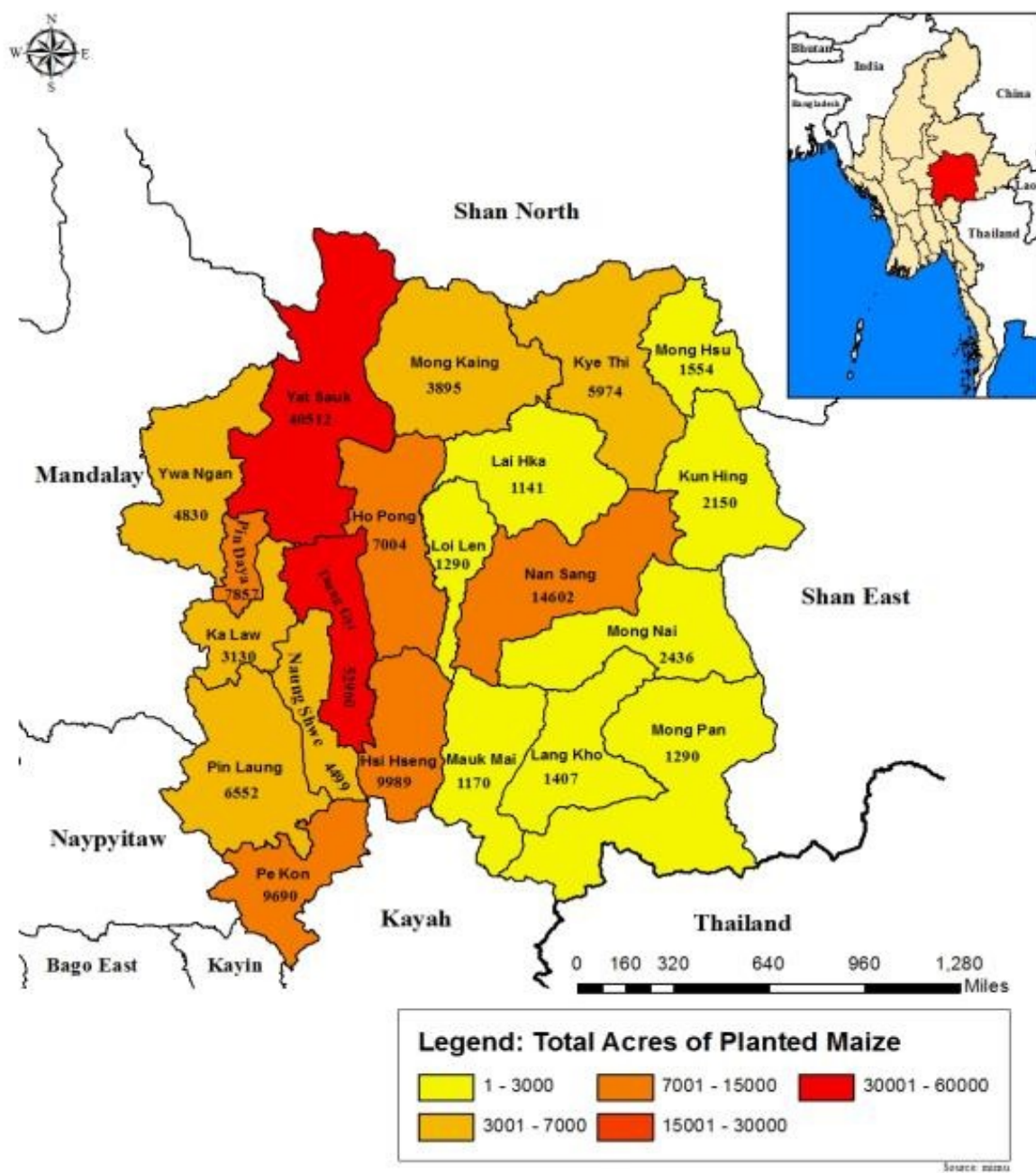
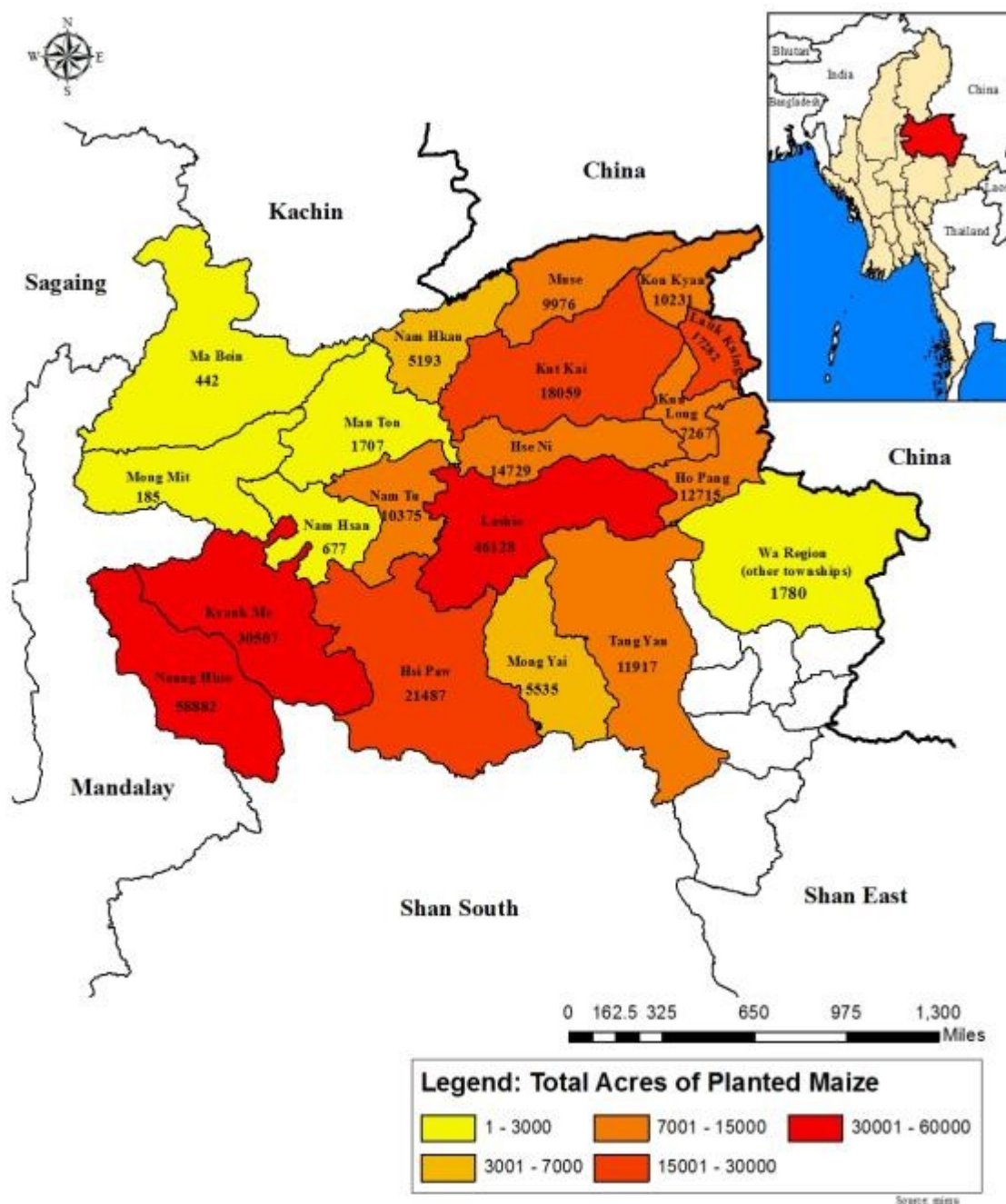


Table 2. Planted Industrial Maize (acres) in North Shan State, 2013/14

District	Township	Planted (acres)	Township	Planted (acres)
Lashio	<i>total</i>	78,309		
	Lashio	46,128	Tang Yan	11,917
	Hse Ni	14,729	Mong Yai	5,535
Muse	<i>total</i>	33,228		
	Muse	9,976	Kut Kai	18,059
	Nam Hkam	5,193		
Kyauk Me	<i>total</i>	124,262		
	Kyauk Me	30,507	Nam San	677
	Hsi Paw	21,487	Moe Mate	185
	Naung Cho	58,882	Ma Bein	442
	Nam Tu	10,375	Man Tone	1,707
Kun Lone	<i>total</i>	7,267		
	Kun Lone	7,267		
Lauk Kai	<i>total</i>	27,513		
	Lauk Kai	7,282	Kone Gyann	10,231
Wa Region	<i>total</i>	14,495		
	Ho Pan	12,715	other townships	1,780
TOTAL PLANTED ACRES		285,074		
<i>Source: Regional State Office, MoAI, Taunggyi, Shan State</i>				

Figure 3. Map of North Shan State, Industrial Maize Planted (Acres) by Township, 2013/14.



Note: The boundaries for Wa Region remain contested. The reported maize figure for Hopong Township is depicted as being outside Wa Region, despite the township being both in and outside of Wa Region.

Approximately 1.5 million tonnes of industrial maize was harvested in 2012/13, reflecting both area expansion and intensification.⁴⁴ Agricultural government officials and CP Group agents in Shan State claimed in interviews that over 75 per cent of the market for CP maize cultivated in Myanmar is destined for China, with the remaining for the Burmese domestic market.⁴⁵ It is clear from **Figures 2 and 3** that infrastructure connecting to Yunnan (e.g. the check point crossing at Muse on Myanmar

⁴⁴ MSU and MDRI/CSRD 2013

⁴⁵ Interview by lead author, Taunggyi, January 2014

side, Ruili on Yunnan, China side) significantly influences maize production, with the highest concentrations of acres planted along the Mandalay-Muse trade route as the main route from Myanmar to China.⁴⁶ Even in South Shan State near the Thailand border, it appears, according to interviews, that harvested maize is still mostly exported overland to China, despite the long and relatively expensive journey compared to export to Thailand. According to other data, just over half of maize harvested nation-wide is exported, with overland export to China from Shan State accounting for three-fourths of that volume. If unofficial maize trade along China and Thailand (particularly along Karen State) borders were included, that figure would be considerably higher.⁴⁷ Officially over USD 200 million was earned from maize exports in 2011/12, not including unofficial exports.⁴⁸ These statistics are reflected in the response from a local NGO worker in Shan State: “If maize is there, a road will come; maize is the new gold here.”⁴⁹

The success in achieving such high production volumes in Shan State has vaulted CP Group as now the largest animal feed manufacturer in Myanmar, including with two CP-operated feed mills.⁵⁰ In 2012, soon after reforms started in Myanmar with land and labour being touted as up for sale to regional agribusiness firms, CP Group announced plans to further invest USD 550 million in Myanmar agriculture, on top of USD 150 million invested since the mid-1990s, for maize seed farms, rice farms and mills, aquatic animal and cattle farms, and livestock processing plants.⁵¹ CP Group was the foreign pioneer in high-input industrial smallholder agriculture in Myanmar, and is now being followed by global giants. For example, Cargill, one of the world’s largest agribusiness and food processing corporations based in the US, opened an office in Yangon to explore opportunities for the import/export of food and livestock feed, with particular interest in maize production to meet growing meat consumption demand with an expected growth of the middle class.⁵² DuPont, another major global food supply and agribusiness corporation, has also opened a prominent office in Yangon to explore maize production for livestock feed.⁵³

CP maize production in Shan State has helped facilitate an historically significant agrarian transformation from low-input subsistence economies based on traditional seed varieties (especially upland rice), to cash cropping of high-yielding, high-input, company-owned seeds for a foreign export market. While this has allowed new market-led opportunities for wealthier farming households and town-based informal moneylenders, brokers and traders, this “maize craze” is also causing unprecedented levels of household loans, debt and loss of assets among formerly-middle and lower-capital households. While a robust Chinese market provides new cash crop opportunities for farmers in Shan State, the way in which the particular modality of production operates is borne out of the political economy of the places, which creates extremely differential costs and benefits within and across villages.

⁴⁶ In fact this is precisely the “Old Burma Road” of World War Two fame.

⁴⁷ By 2013 there were 17 Thai investors officially registered to import maize from Myanmar into Tak province through Mae Sot (Thailand) / Myawaddy (Myanmar), which is the major national Thai-Myanmar government trading zone. Imported maize at this official border crossing reached 90,000 metric tons per year at a value of between USD 160,000 to USD 180,000 per year, although local government officials claim about 10,000 tons less (Jackson, S. et. al. 2013).

⁴⁸ MSU and MDRI/CSRD 2013

⁴⁹ Interview by lead researcher, Lashio, March 2013.

⁵⁰ Jackson, S. et. al. 2013

⁵¹ Beek, V. T. 2012.

⁵² Grant, J. 2013

⁵³ Certo, B.D. 2014

Brokers and informal rural finance as agents of differentiation

Although interest in contract farming schemes in Myanmar is growing among foreign and domestic investors, the agrarian context is such that it is very poorly suited for low and some middle-capital smallholders to actually benefit, as this paper will demonstrate. Certain smallholder production schemes, rather than mitigating these problems, could very well aggravate them if pro-poor governance and rural finance is not first greatly improved upon — but with no such signs of improvement yet. Significant barriers to achieving pro-poor contract farming include: lack of physical and market infrastructure, a nearly non-existent governmental rural finance sector in the uplands, a lack of independent farmer-led cooperatives and unions, and unequal power relations between poor villagers and local elites (some as armed groups), including within the village itself. The absence of formal state rural finance to assist smallholders is striking, as is the role of local informal moneylenders who fill that gap.⁵⁴

Despite the national economic importance of the agricultural sector, only a small per cent of formal bank loans are extended to agricultural production. Indeed, only about 10 per cent of the whole population have access to formal financial services, which mostly excludes rural areas.⁵⁵ The lack of equitable and affordable finance for smallholder farmers forces rural farming communities, especially in the uplands, to borrow cash and inputs from informal private lending sources.⁵⁶ The top constraint among one study's respondents (half of all answers), living in different agro-ecological regions and ethnic states, was the lack of money to buy farming inputs. Informal lending practices, with corresponding high interest rates, dominates rural finance — the primary political economic structure that has been identified as the most influential in determining socio-economic outcomes from market-led smallholder farming schemes, CP maize is no exception. A World Food Programme (WFP) survey conducted in late-2009 in the Dry Zone (Bamar villages, beans and pulses agricultural economy) calculated that 84 per cent of households reported being in debt, where the median debt was 300,000 Myanmar Kyat (or about USD 300), equivalent from half to a full year of wages for a male worker if engaged in continual wage work.⁵⁷ A Myanmar rural finance report summarises the serious situation: "Farmer indebtedness is a serious problem in Myanmar and the number of landless farm households is increasing. Working capital finance for farmers is exceedingly expensive, except for the rather small amounts provided by the MADB, and bad harvests can mean that farmers need to sell their land to satisfy loan repayments, becoming casual labourers instead."⁵⁸

A highly indebted farmer will borrow from a lower cost source of credit to pay off a higher cost source, but then not use all of the new loaned credit for directly productive purposes, thus furthering the cycle of indebtedness.⁵⁹ For example, a WFP survey found two-thirds of all households were borrowing money to purchase food or healthcare. As households increasingly rely on the cash crop economy, they have correspondingly become much less engaged in cultivating food crops for household consumption, and thus must rely on purchasing food instead — an agrarian transition that has only recently taken place for some (but perhaps not yet the majority) rural upland households in Myanmar. One-third of these households, according to one study, will require loans to pay for food during shortage months, especially as cash crop yields often fall below expected levels.⁶⁰ The average rural household has adequate food supplies for only about ten months out of the year – landless

⁵⁴ Turnell, S. 2009

⁵⁵ Kloppinger-Todd, R. and Tun Min Sandar, 2013

⁵⁶ IDE 2009

⁵⁷ IDE 2009. A majority (55 per cent) of households reported debt levels over 100,000 Kyat (about USD 100), an additional 25 per cent of households reported debt levels of between 50,000 and 100,000 Kyat (USD 50-100).

⁵⁸ Kloppinger-Todd, R. and Tun Min Sandar, 2013, pg. v

⁵⁹ IDE 2009

⁶⁰ LIFT 2012

households less so.⁶¹ According to the literature and village field data for this study, households without adequate food supplies must then take out very high interest rate loans (the highest noted in this study, but very variable) to purchase low-quality rice, only to exacerbate their indebted and food insecure (and malnutrition) situation.⁶²

The desires of farmers to increase their household incomes, in part to enhance food security and education opportunities, but also to purchase televisions, mobile phones and motorbikes and live in brick houses — in short to be ‘modern’ — must be acknowledged as partly driving the switch to cultivating high-yielding, high-input industrial cash crops. Indeed, CP Group agents have capitalised on these desires with their mobile public relations outfit. And with increasing access to these goods, especially as the country’s private telecommunications industry begins to penetrate rural communities, the “will to be modern” will only grow from media messages and becoming accustomed to more modern conveniences. These monumental societal changes are currently underway in the villages studied, with high-capital households leading the way in enjoying the pleasures of more modern living, which has certainly not gone unnoticed by low- and middle-capital households who now covet those conveniences and status. But this transition to high-input agriculture in order to obtain higher yields for crops that fetch considerably higher market prices, has subsequently created a growing need for capital among farm households. For many, this is the first time they have required loans to purchase inputs for agriculture (though some have done so before for poppy and sugarcane). Local brokers who provide agricultural credit to low- and middle-capital farming households — and very significantly, *not* high-capital households who can use their own capital to purchase inputs, thus bypassing moneylenders and high interest rates altogether — for industrial cash cropping has set the context for a major agrarian transition in the uplands.

Immediately after maize harvest, indebted farmers must try to pay off their loan, as best they can, most often in kind (in this case, either maize or cash, depending on the loan). The farmers then sell their maize product to their broker at below market price — which is also the case for when paying off the loan. This also comes at the time of year when market price for maize is at its lowest, due to the recent harvest oversupplying the market; but low- (and some middle-) capital households are forced to sell immediately after harvest because of their depleted finances since their last crop harvest – with many low-capital households often living on very high interest loans for food purchases up until the maize harvest. Farmers sell their maize harvest to their broker, even though they offer below-market prices, to maintain a “good relationship” with them as, they require loans each season – which is part of the informal agreement. Nearly all villagers complained that this was an unfair arrangement and they felt cheated, but there was nothing they could do, as they were reliant upon the brokers’ credit. Most villages are also heavily constrained by remote locations, lack of decent infrastructure, and lack of affordable transportation to get their harvest to the nearest market town by themselves, and so can realistically not sell to anyone else.

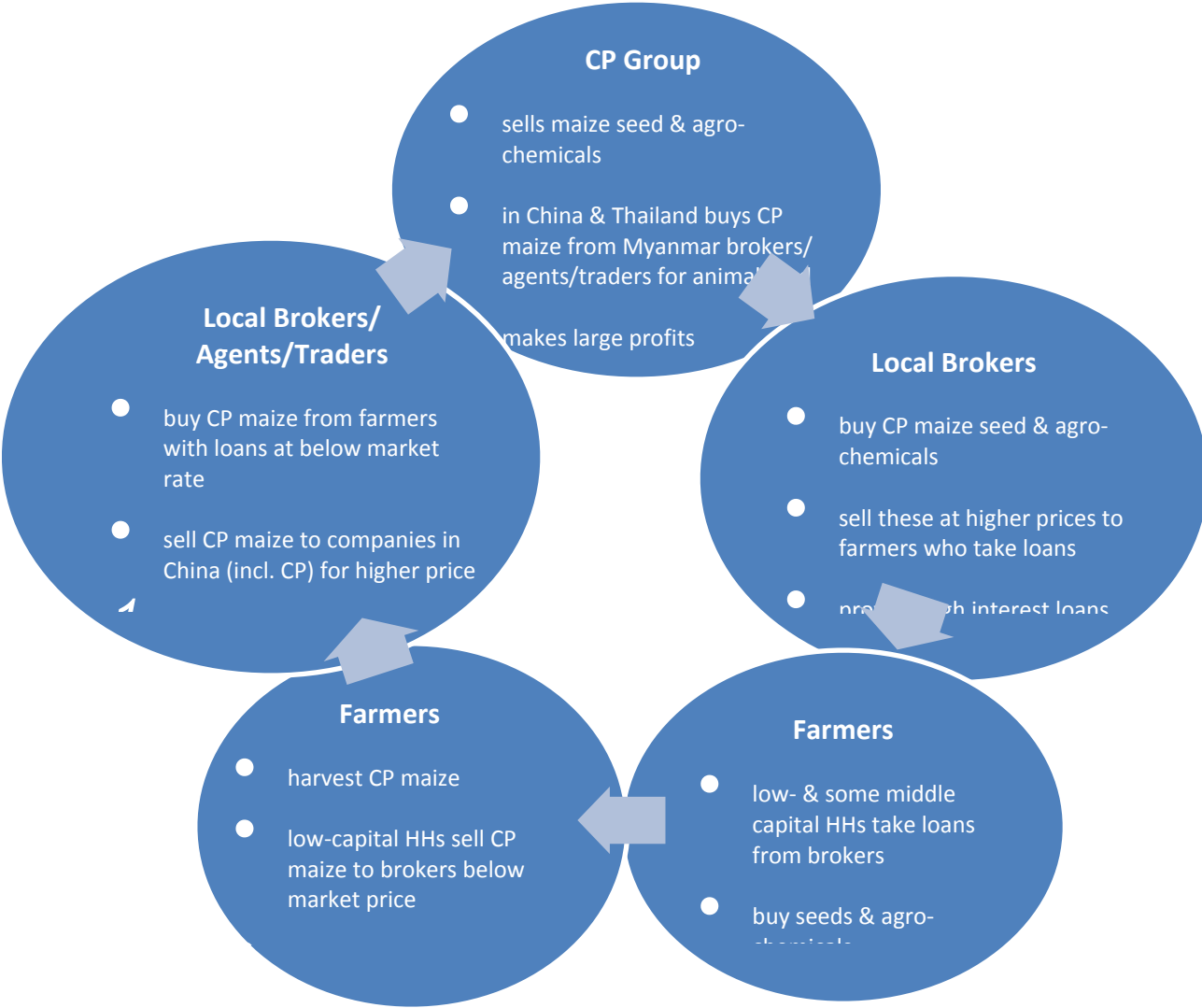
Farmers taking cash and input loans from brokers thus ‘lose’ several times over: interest on loans (maize inputs plus cash for various purchases, including food during planting season for some), purchasing inputs at above market price from brokers, and selling the maize harvest at below-market price to brokers, which is done at the time of lowest annual price. One villager described their stressful debt situation as such: “We villagers may be sleeping at night, but the interest rate is still awake.” Brokers, on the other hand, in effect ‘win’ thrice: once through interest repaid on cash and input loans, selling CP maize inputs at a mark-up price, and again by re-selling maize harvest at market price (and often later in the year as price raises) although having purchased from farmers at below market price. For these reasons, brokers in Shan State have been eager to act as CP Group agents and lend capital to

⁶¹ LIFT 2012

⁶² IDE 2009; LIFT 2012; village field data for this study

smallholder CP maize producers. The relationships among actors embedded within the CP maize contract farming system in Shan State are illustrated in **Figure 4**.

Figure 4. Flow Chart of the Specific Roles of the Different Actors Embedded in the Supply Chain within Myanmar



Note: based on field research

The socio-economic situation for a household largely determines whether credit from a broker is needed and the contractual relationship between cultivator and broker (refer back to **Table 1** above). High-capital households rarely need credit from brokers (only in two village sites did a few high-capital households need to take out any loans).⁶³ In order to purchase the inputs required to grow CP maize (e.g. seeds and chemicals), more than half of middle-capital households and nearly all low-

⁶³ Although in a few of the poorer villages relatively higher-capital households needed to take out small loans for CP maize cultivation due to their relatively lower capital base compared to wealthy households in less poor villages overall — thus functioning more as “middle-capital” households in other villages.

capital households in the study villages (apart from two poppy-producing villages, see more information below) needed credit from brokers. Moreover, low-capital households usually either cannot obtain or cannot take the risks of large loans to purchase the recommended volumes of inputs because of their lack of substantial collateral (even if land is included) or expected income. Households with “capital deficiency” (measured in monetary and non-monetary terms) therefore often produce lower-than-expected yields and therefore, incomes from the lower applications of inputs, including occasionally using second-generation seeds, and to some degree labour time spent. This scenario is predominately structured by social and political-economic factors, much less so from “technical problems”, as is often cited by agronomists working for NGOs, CP Group agents and government officials interviewed. These lower profits create difficulties in paying off loans, which were calculated based on CP Group’s advertised expected yields.

The relationship between the cultivator and their broker also differentially affects outcomes for low- versus high-capital households, which itself is informed by the politics and history of place. Literature on ethnic politics in northern Myanmar predicts a particular geography of farmer-broker relationships as they arise out of the specific political histories of war, drugs and migration in different parts of Shan State.⁶⁴ North Shan State, for example, was at the centre of Cold War-linked conflict in Burma (Burmese Communist Party, Kuomintang, etc.), which in large part led to greater incidences of poverty, increased opium cultivation, and the formation of a litany of non-state armed groups working on behalf of, and against, the Union Government — of which the legacy continues today. The recognised close relationship between some top former Burmese military rulers and the national Chinese government, coupled with an illicit drugs and resource extraction economy and cross-border trade opportunities, have acted as contributing factors encouraging in-migration of ethnic Chinese into North Shan State over time. Kokang Chinese in Kokang Special Autonomous Region have also been continuing to migrate further into North Shan State during particular periods of hardship in their region as well. Further migrations of ethnic Chinese into towns in North Shan State has given rise to a new group of merchants and brokers and generally rely on familial ties in Mainland China, at least initially, as their primary source of capital. In general, ethnic Chinese moneylenders tend to operate under different cultural terms than what is accustomed by their loan recipients who are not ethnic Chinese.

Using land (with or without official land use certificates) as loan collateral is an increasingly common condition attached to loans from ethnic Chinese brokers in North Shan State, a trend that is expected to increase with state-sponsored land titling and an emerging legal land market. Loss of land from debt seems much more common in North Shan State based on village-level data collection and key informant interviews for this study (although no specific quantitative figures are available), perhaps linked to the particular relationship between ethnic Chinese brokers and their village clients. Ethnic Chinese brokers in the study sites were also interested in obtaining land along transportation and trade routes according to farmers — and this seems to correlate to the geography of their lending for CP maize cultivation to farmers, which in some cases resulted in the transfer of land holdings to the brokers upon farmers defaulting on loans. In some of the villages studied, village headmen have enacted new village rules restricting land sales to people from outside the village to prevent ‘outsiders’ from obtaining village land, although household interviews revealed there was an ulterior motive by elite local villagers to squash outside competition to acquire land under duress.⁶⁵ Ethnic Chinese brokers operating in North Shan State appear to have twin motivations: firstly, to profit from CP maize

⁶⁴ Smith, M. 1999; Lintner, B. 1999

⁶⁵ While this may be seen as a favourable law to protect against land loss and keeping land within the village, in actuality this rule is in effect a way for the high-capital households in the village to be able to accrue more land at below-market price since they no longer have to compete with more wealthy townsmen who are often quite happy to buy land from debt-ridden households.

production; and secondly, a desire to obtain land from loan defaults, especially high-value land along infrastructure routes.

This is in contrast to South Shan State where brokers are usually the same ethnicity (although this is not always the case) as those they are lending to, come from a nearby village, and in general have what could be described as a more established familial relationship to lending households, existing for over a generation. Land was not reported as being used as loan collateral in the study villages or key informant interviews for the south, and there were very few reported cases of transfers of land to the broker due to loan defaults (only one study village in the south, compared to all four study villages in the north). Instead, alternative arrangements for a longer pay-back grace period seem to be arranged, or in some cases even loan forgiveness, to give households more coping mechanism options, although this is certainly not without its own serious repercussions as well.⁶⁶

Unequal redistribution of village wealth and the making of poverty

CP maize smallholder production is causing significant and rapid redistribution of wealth (broadly defined) at the village and state levels. In general, lower-capital households growing CP maize disproportionately suffer from debt and dispossession. In villages where most of the households commit to CP maize cultivation, such as all eight villages studied, wealth has been redistributed away from middle- and low-capital households to higher-capital households within the village (and to some degree to outsiders, in this case moneylenders) within an exceedingly short period of time (3-5 years). One poor farmer explained it in simple terms: “We cannot survive growing CP maize; we become farm labourers for other [wealthy] farmers.”⁶⁷ Other non-technical factors have been identified that have contributed to differential outcomes, both within and among villages committed to cultivating CP maize (according to study village data): village demographics, village wealth distribution over time, geography, agro-ecology, land tenure regimes, broker system, coping mechanisms, food security, poppy economy, overall impacts and miscellaneous issues. Before CP maize cultivation started, a typical village’s wealth distribution resembled a typical inverted u-shaped bell curve, where the majority of households had 4-7 acres of land and owned livestock. After just about five years of CP maize production in the village by most of the households, distribution of a village’s wealth (predominantly measured in livestock and land) shifted from the majority middle-capital households to being more greatly consolidated in the few existing, now relatively wealthy households. Despite all field evidence to the contrary, a high-level government agricultural officer repeatedly claimed there were no problems for maize farmers. He confidently stated, “If there is low maize production [by households], then farmers could have debt. But next year they can get higher yield so they can pay back [the loan], so there is no problem. There is no problem with land loss from debt from [CP] maize, it is not happening.”⁶⁸

Differential outcomes, with resulting wealth redistribution, is driven by the logics of capital: more high-capital households have the necessary available capital and land (by definition of their socio-economic categorisation), thus do not need loans from brokers, are able purchase optimum levels of agro-chemicals, plant more acres, and purchase more labour time, and thus obtain optimum yields and maximise profits from growing CP maize. Low- and some middle-capital households, on the contrary, do not have capital or larger land areas, must take loans from brokers with high interest

⁶⁶ The study design did not allow the separation of other possible variable factors possibly affecting land dispossession (or lack thereof) from indebtedness, however. It is also noted that three of the four study villages in the south are also either cultivating or labouring on poppy farms, and therefore are better positioned to pay off loan payments from their supplemental poppy income.

⁶⁷ Interview by field research team, South Shan State, February 2014.

⁶⁸ Interview by lead researcher, Lashio, January 2014

rates, have more limited labour pools. Thus, they cannot purchase optimum levels of agro-chemicals, do not obtain optimum yields, and so receive much lower incomes per acre of CP maize grown. Moreover, high-capital households are able to maximise profits by delaying the sale of maize harvest until market prices increase, such as later in the dry season, further maximising profits. This higher-capital strategy is not available, however, to low- and some middle-capital households as they need the quick infusion of cash as their finances are depleted by maize harvest season, sometimes living on very high-interest loans until then in order to purchase food stuffs.

In 2013, production costs per acre in study villages in North Shan State averaged 223,000 MMK (USD 225) for lower-capital households, compared to 352,000 MMK (USD 356) for higher-capital households, a difference of nearly 60 per cent.⁶⁹ This cost difference is explained by higher-capital households being able to purchase and apply more agro-chemicals, and also to maximise yields by hiring more labour more often. Average maize yield per acre across study villages in North Shan State was 813 viss (a Myanmar measurement) for low-capital households, compared to 1,775 viss for higher-capital households, a difference of about 120 per cent. The market price for CP maize in the 2013 harvest was the highest ever, at approximately 450 MMK (USD 0.50) per viss, which was nearly 30 per cent higher than 2012 — although the farm gate price for farmers is nearly always below market price. Final income before repayment of loans for lower- and some middle-capital households was 107,000 MMK (USD 108) per acre, and for high-capital households was 369,000 MMK (USD 373) per acre, a difference of nearly 250 per cent. Low- and some middle-capital households must then repay loans, leaving them to break even or lose money, whereas high-capital families do not have to pay high-interest loans and can fetch a higher harvest price, resulting in significantly higher take-home profits. Moreover, as these figures are per acre, total profits for high-capital households are even greater as they cultivate 10 acres or more per household, whereas lower- and some middle-capital households only have a few acres of land to grow maize. These differential opportunities and risks for different socio-economic households are summarised for North Shan State village field sites in **Table 3** and **Figures 5 and 6** (below). Contradictory to all the evidence presented in this report, another high-level government agricultural official in Shan State asserted that there are only positives for CP maize-growing farmers, and everyone is getting higher yields and therefore higher profits. In short, government agricultural officials often stated: “the farmers are all happy.”⁷⁰

⁶⁹ For the 2013 maize-planting season in Shan State, CP maize seeds doubled in price compared to the year before (up to 35,000 MMK/bag suitable for one planted acre) due to high demand and shortage of supply.

⁷⁰ Interview by lead researcher, Taunggyi, August 2013.

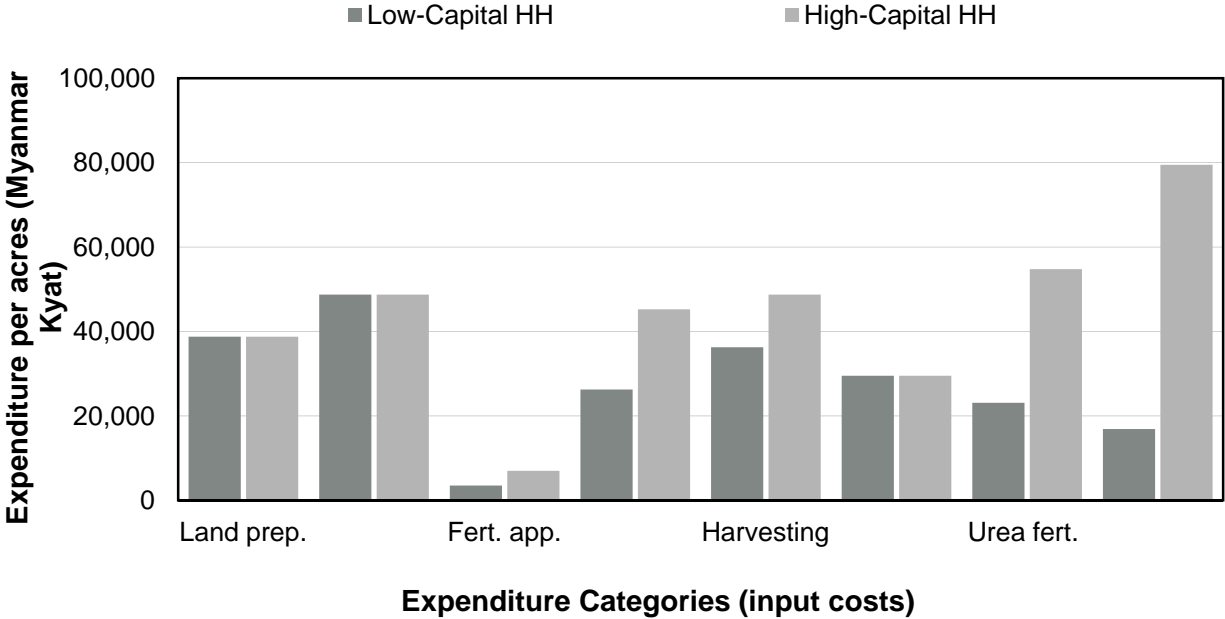
Table 3. Cost-Benefit Analysis by Socio-Economic Stratification for CP Maize Production (per acre), 4 villages in northern Shan State, 2013

	Village 1, Kutkai tsp.		Village 2, Lashio tsp.		Village 3, Lashio tsp.		Village 4, Kyaukme tsp.		Average		% Diff
	Low	High	Low	High	Low	High	Low	High	Low	High	
Expenditure per acre / HH type											
Land preparation	40,000	40,000	35,000	35,000	35,000	35,000	45,000	45,000	38,750	38,750	0
Labour for planting	60,000	60,000	45,000	45,000	45,000	45,000	45,000	45,000	48,750	48,750	0
Weeding	30,000	48,000	25,000	45,000	25,000	48,000	25,000	40,000	26,250	45,250	72
CP 888 seeds (5 kg)	29,000	29,000	27,000	27,000	32,000	32,000	30,000	30,000	29,500	29,500	0
Urea fertilizer (50 kg)	23,000	60,000	23,500	60,000	23,000	57,000	23,000	42,000	23,125	54,750	137
Compound Fertilizer (50 kg)	16,000	105,000	19,000	84,000	17,500	45,000	15,000	84,000	16,875	79,500	371
Labour for fertilizer app.	3,500	7,000	3,000	7,000	4,000	7,000	3,500	7,000	3,500	7,000	100
Harvesting & threshing	40,000	50,000	35,000	55,000	35,000	50,000	35,000	40,000	36,250	48,750	34
<i>Cost of production</i>	<i>241,500</i>	<i>399,000</i>	<i>212,500</i>	<i>358,000</i>	<i>216,500</i>	<i>319,000</i>	<i>221,500</i>	<i>333,000</i>	<i>223,000</i>	<i>352,250</i>	<i>58</i>
<i>Income</i>	<i>373,500</i>	<i>788,500</i>	<i>273,000</i>	<i>721,500</i>	<i>315,000</i>	<i>714,000</i>	<i>360,000</i>	<i>660,000</i>	<i>330,375</i>	<i>721,000</i>	<i>118</i>
<i>Yield/acre (viss)</i>	<i>900</i>	<i>1,900</i>	<i>700</i>	<i>1,850</i>	<i>750</i>	<i>1,700</i>	<i>900</i>	<i>1,650</i>	<i>813</i>	<i>1,775</i>	<i>118</i>
Net Income (before loan payback)	132,000	389,500	60,500	363,500	98,500	395,000	138,500	327,000	107,375	368,750	243

*Gross income is total income from sale of maize harvest before deduction of production costs

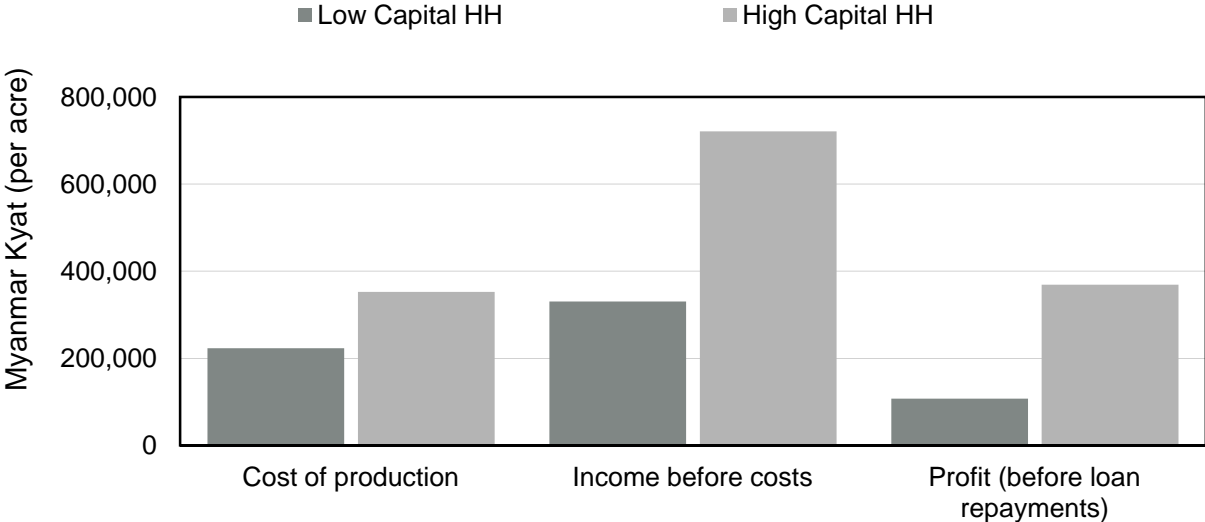
*Net income is income after deduction of production costs but before loan repayments

Figure 5. Low- versus High-Capital Household CP Maize Average Cost Analysis (per acre), across Four North Shan State villages, 2013



- * Gross income is total income from sale of maize harvest before deduction of production costs
- * Net income is income after deduction of production costs but before loan repayments
- * Loan repayments only apply to low-capital HHs
- * High-capital HHs generally plant many acres (>10) of maize (unlike low-capital HHs), so their benefits are multiplied by acres planted

Figure 6. Low-versus High-Capital Household CP Maize Average Benefit Analysis (per acre), across Four North Shan State villages, 2013



These generalised differential outcomes based on village study sites are influenced by several identified non-technical variables.⁷¹ Physical geography is of particular importance, particularly

⁷¹ See also Mallec, M. 2013 for highlighting non-technical reasons for differentiation in the Delta region versus the Central Dry Zone: geography, agro-ecology, culture, and migration histories.

whether a village is located in the north or south of Shan State (due to different political histories, migration patterns and broker relationships), distance from roads (paved or dirt) and towns, whether cultivation plots are located in valleys or in more remote uplands, and distance to national borders (in this case, China). The closer a village is located to transportation routes, towns, productive valleys and the Chinese border, the more at risk farmers seem to be in losing their household assets, particularly land, from defaulted loans to brokers (in addition to outright land grabs).

Agro-ecology and agricultural production management strategies also influence wider socio-economic outcomes, including farmer cash crop choice, overall food security and mechanisms for coping with debt. According to village study sites, lower elevation villages with both cultivated uplands and lowlands generally appear more food secure due to availability of paddy land and more favourable edaphic and climatic conditions for diverse food crops cultivation. Therefore, more favourable agro-ecological zones and diversified agricultural practices (i.e. CP maize is not the only cultivated crop) decrease economic risk and food insecurity for villagers. For higher elevation villages, nearby forests provide wild foods and other non-timber forest products (NTFPs), which can offset food insecurity and generate supplemental income to pay debt. But perhaps one of the most influential variables in determining the degree to which vulnerable households are exposed to risk from CP maize production, is whether or not the household participates in the illicit economy, in this case poppy production and labour on poppy farms.⁷² If decent poppy yields are obtained (or wage labour payments received, then income generated can offset the need for moneylenders to finance their CP maize cultivation (in effect acting as middle-income households).

Concluding Remarks

Southeast Asia and China have undergone dramatic political and economic transformations since the end of the Cold War and the gradual embracement of variant forms (and constraints) of capitalism and market-led governance. Thailand's rise as a "Middle-Income Country" (MIC) and China as a global economic superpower, have revolutionised the region's political economy, consumption trends, and national/regional corporate business models. New drivers of production and consumption have led to new modes of production and supply chains, showcased by large-scale private land acquisitions and smallholder production schemes. The insertion of smallholders into regional and global agro-food/feed supply chains does not follow a cookie-cutter model, however; rather, the particular contours of the place of production order the structures of capital accumulation and dispossession.

Multiple layers of land conflict, dispossession and differentiation are overlapping and interacting with each other, reflected in the staggeringly high (and growing) numbers of landless, food and insecure land rights, impoverished rural households. This study has attempted to connect the dots between CP Group's regionalising (and indeed globalising) maize production and supply chains feeding China's rising middle class, which is moreover increasingly financed by global capital, with

⁷² Smallholder poppy production was, and still is to varying extents, a livelihood mainstay for poppy-production households and even whole villages in areas where poppy is prevalent for its potential to provide relatively high returns with minimal inputs in very marginal agro-ecological environments (pending variable factors such as weather, detection by eradication authorities, etc.). The village study sites demonstrate that the cultivation of poppy, or labouring on poppy farms, significantly influenced the differential socio-economic impacts from CP maize cultivation in those villages. Six village field sites (out of eight), all four villages in South Shan State, and one in the north, are partaking in, to varying degrees, poppy production (as producers or labourers). The potentially high incomes earned (when poppy harvests produce satisfactory yields) offset those households' need to rely on brokers for loans for CP maize inputs and other household necessities. Villages involved in poppy production and labour have lower inequality and less redistribution of wealth from low- and middle-capital households to higher-capital households. This seems to be largely due to the role of the poppy economy acting as a sort of buffer against the debt trap from CP maize cultivation.

Shan State's particular agrarian political economy and resulting differential dispossessory effects. The "power of place" has been brought to life through the study of smallholders in different village contexts in the north and south of Shan State who are engaged in CP maize production. Each village is located in particular specificities guided by political histories, migration, agro-ecologies and geographies, and illicit economies, among others, that interact with capital accumulation strategies in such a way as to be unique. While wanting to give agency to people and places, this is not to say that outcomes escape definitive generalizable trends, as village-level processes are certainly guided by macro-level corporate drivers. Outcomes from smallholders engaging in CP maize cultivation across villages were significantly robust, despite the variation from place to place. Some factors have been identified as softening the blow to contract farming's dispossessory effects on poor households, in particular a diversified household agro-economy, a nearby natural resource repository to absorb wage labour in extractive industries, and engaging in the illicit poppy economy. Apart from these variables that help poor households buffer against debt shocks, the trends among all the diversity is clear: economically-marginalized households enter into debt traps from CP maize cultivation because of the particular structures of Myanmar's agrarian political economy. This structure of politics and power has then been further strengthened by CP Group by how they have engineered their production and supply chain for Shan State. The absence of the Myanmar Government in leveraging out the built-in inequities of capital accumulation, a very poor governance context, and the country's peculiar rural informal finance context have all exasperated inequitable access to capital accumulation opportunities for rural households in Myanmar. In short, moneylenders and the market in Myanmar are *creating* poverty for impoverished smallholders, not offering a helping hand as is advertised by companies, the government and the development industry.

No alternative development crops or pro-poor market initiatives can sufficiently drive smallholders out of their impoverishment given these agrarian conditions. An overhaul in the agrarian political economy and village-level governance, rather than any technical 'fix' or access to new markets, will be needed to achieve any such touted successes of lifting poor households out of poverty through facilitating their access to global food and feed supply chains. Wealthier rural village households, who take economic advantage of their positions of influence, could gain impressive financial gains from such production engagements. But, as this study has shown, this will largely be at the expense of poor households, whose members are turned into dispensable wage labour, having lost their most valued assets through debt from engaging in a production scheme engineered against them. Instead, a different type of agrarian 'revolution' that dramatically changes agrarian structures of politics and power is needed to actually tackle poverty and deliver pro-poor economic promises.

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