

Land grabbing, isn't it?

An exploratory field case-study in Myanmar to analyze another pattern of access and control of land

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Introduction

Land has historically been subjected to power and politics. To this day, land ownership is a controversial topic that leads to enormous pressure being put on land. Most evidently is the rise on land demand led by the past global economic crisis in 2007/2008. Covered under the guise of industrial agricultural investment, large-scale land acquisitions, also known by its political nomenclature as “land grabbing”, is a manifestation of this increasing demand for land that today represents about 36 million hectares of concluded leased land deals globally¹ (Kay 2012; Land Matrix 2015).

In the light of volatile food and energy prices, multinational companies and foreign governments have been motivated to search for land where to produce food, feedstock and fuel crops under an economy of scale approach to supply internal demands, as global population increases (Borras Jr and Franco 2012). Generating in this way a competition for cultivated land by small-holder farmers, in places where there are weak governance institutions (Birner and Resnick 2010; Borras et al. 2011). On this note, advocates claim that investment on land can boost agricultural sector and stimulate rural economies (Deininger and Byerlee 2011; Braun and Meinzen-Dick 2009). This, through job creation and access to capital and markets (Haralambous et al. 2009). Despite this potential, the reality is different. A collection of cases, mostly from the global south, exemplifies how local livelihoods have been disrupted by, in the worst of cases, dispossessing or displacing the rural poor from their land (Borras et al. 2011; Cotula 2011; Braun und Meinzen-Dick 2009; GRAIN 2008; Schutter 2011).

Likewise, the narrative on land grabbing has focused largely on impacts from large-scale land deals, but has been silent on the implications of land acquired at small scale and by short-term agreements, in size and capital (Hall 2013). Furthermore, as brilliantly pointed out by Peluso and Lund (2011), large-scale land acquisitions are nowadays persuade on different contexts within new frames of land control conditions and away from conventional settings, such as “territorialization, primitive accumulation or violence”. Digging in and taking this debate further, this paper brings a field case-study from Myanmar, the last Asian frontier and a little-known country once called Burma, to showcase evidence of different mechanisms to control and access land by institutionalizing *de facto* rules and by providing incentives to farmers to get engaged into seasonal land agreements. It also proves how land-based relations shape access and control to resources, while gives a pause to understand social dynamics and its non-monetary value known as social capital (Borras Jr and Franco 2012; Du Toit 2009). In this way, it aims to make a modest contribution to the debate of land grabbing.

To investigate this case, a convergent methodology was employed. As pronounced by Birner and Resnick (2010) the way to understand policies favoring small-holder farming is the combination of qualitative studies and quantitative modelling. Therefore, household surveys were used to elicit information on farmers’ socio-economic characteristics which were then used to estimate casual effects from renting land on food consumption and income. A total of 192 farmers were interviewed selected purposively. Then, since this study involves understanding farmer’s perceptions, participatory rural appraisal (PRA) methods were also conducted. This field work was carried out during the period of June – August 2014. In this paper, a brief description of the methods used is given², while results coming out from the analysis are discussed.

¹ Figures on large-scale land acquisitions vary from source to source, while the World Bank estimated 45 million ha by 2010, IFPRI observed modestly a figure of 20 million ha between 2005-2009, while OXFAM provides the largest amount of 227million ha (Borras et al. 2011). However, there is a consensus that the most reliable data is found in the data base of Land Matrix (Edelman et al. 2013)

² I limit myself to provide and discuss merely results from my field work, however, estimations, statistic outputs and detailed information on the methodology is provided upon request.

Following this introductory section, a background on the land grabbing discourse is given, to bring then a brief review on the recent rising land investment in Myanmar. It follows the field-case study and sub-sections that provide the results with a discussion. This paper finalizes with concluding remarks that points out alternative paths to balance these deals of renting land.

Land grabbing, an economic problem?

Grabbing, a term that intonates unequal power relations, has been used in combination with land to create a concept that captures the unrightfully acquisition of large areas of land. But, how much do we know about land grabbing? is a question that has inspired scholars to analyze the different patterns of grabbing land in the past years (Borras et al. 2011; Cotula 2009; Hall 2013; Edelman et al. 2013). While there is a widely accepted characterization (Borras Jr and Franco 2012) so far, there is not a definition of land grabbing (Edelman et al. 2013). Largely because it is presented in different forms and involves complex social relations.

What is certain is that the discourse of land grabbing is grounded on economic arguments as land is now considered an investment with high returns (Deininger and Byerlee 2011). To start with, the FAO estimated in 2009, that US\$9.2 trillion should be invested in developing countries' agriculture to meet food demand by 2050 (Schmidhuber et al. 2009), while the World Bank encourages foreign investments on "idle" or "underutilized" land, that globally accounts 445 million ha minimum and 1.7 billion ha maximum (Borras Jr et al. 2012:8). However, these lands have their own purpose and are essential for the household income of rural people. For example, farmers might use it for grazing, collecting firewood, medicinal plants, or in some cases land is in fallow periods since shifting cultivation is practiced (Braun und Meinzen-Dick 2009; McMahan 2013). Thus, according to Davis et al. (2014) about 12.1 million rural people's income are affected by land acquisitions.

Despite the economic benefits argued by advocates (access to markets and capital; and technology transfer) experience has showed that large-scale land investments do not make economic sense (McMahon 2013). Li (2011) observed in their critical paper to the World Bank report³, that rural development, through employment generation and payments for land under large scale land acquisitions, is not viable. This is because most of the leased land is used for mechanized industrial crops (e.g. maize, oil palm, soy or rubber), and labor required is about 1 worker per 4 to 10ha. (Borras Jr and Franco 2012; Li 2011). More to this, in Africa rent for land ranges from 2USD (case of Ethiopia) to 13.80USD (case in Cameroon) per ha and year, or even free (Cotula 2011). Furthermore, large scale land acquisitions occur where local conditions are not adequate for an efficient operation, e.g. lack of infrastructure or additional cost not considered are incurred such as land preparation (Soil Atlas 2015). There is therefore, a need to assess the positive and negative sides of investment on land (Liversage 2010).

Furthermore, the debate of land grabbing should explore the extent of "scale" (Hall 2013), in terms of land size, periods of land deals agreements and capital. Edelman et al. (2013) emphasizes that in some cases the social and economic impacts that large-scale land acquisitions might have are not comparable to its size, while small-scale land transfers may produce severe social conflicts of land ownership. This "scale" difference leads to issues of governance, democracy and environmental sustainability (Edelman et al. 2013:1528).

So, in an effort to regulate large-scale land acquisitions, financial institutions, notably the World Bank or the FAO, have set principles and voluntary guidelines for sustainable land investment, but despite these are designed within a human rights framework, remained voluntary and framed

³ Byerlee, D.; Deininger, K. (2011) "Rising Global Interest in Farmland: Can it Yield Sustainable and Equitable Benefits?" World Bank

without addressing the aspects of “who wins or who loses and why “ (Borras et al. 2011:210). However, as argued by Borras Jr and Franco (2010b) it is not sufficient to have a code of conduct or enforcing land tenure system, as this, would not prevent that land will be dispossessed or farmers be displaced. In-depth analysis on the scale of access and control of land could guide more sound land policies, that also take into account other resources are also being grabbed, in greatly way: water (Borras Jr and Franco 2010b; Hall 2013; Franco et al. 2014).

Land investment context in Myanmar

Being the largest country of South East Asia, Myanmar lays in the middle of the two most populous countries: China and India, while it also shares borders with Thailand, Laos and Bangladesh. Depending greatly on the monsoon rains, the agricultural systems are determined by the different agro-ecological patterns across the seven divisions and seven states (Thein 2004). For more than 50 years Myanmar was subjected to rules of an extremist socialist system imposed by a military junta. Throughout this time, this country lived different economic and political transitions, with weak economic institutions that were reflected on internal instability and great wealth inequality. This transformation from “axis of evil to western darling” as voiced by Woods (2013:1) has changed the direction of how politics work and how land can be manipulated. Being neglected for long time, agriculture is the main economic sector, sharing 30% of GDP, generating employment to 50% of total population and representing 20% of total exports. The role of agriculture is undoubtedly crucial for the country to be developed (ADB 2014).

To comprehend this paper, four aspects are considered here: First, since 2011, under the governmental period of U Thein Sein, the political situation of the country gave a dramatic change. From being an isolated country with one of the worst oppressive social policies in the world, it has been transformed to a neoliberal capitalism system that seeks to industrialize the country and presents land as a commercial commodity. Second, this openness has been particularly carried out by the amendments to three laws, the Vacant, Fallow and Virgin Management law, the Farmland law and the foreign direct investment law. These changes have promoted large scale land investments under the argument that Myanmar has plenty of wasteland that could be used for agricultural development. Third, China is the largest investor in Myanmar; they have a long trade partnership dated from the last century. This has established certain social linkages on the ground. Fourth, although there has been a widespread emotion and a relative hope of change, farmers have not experienced a real difference, but the land market is booming (Bissinger 2012, Buchanan et al. 2013, Oberndorf 2012, Woods, 2013).

Provisions in the Farmland Law and Vacant, Fallow, Virgin Land Management Law (VFV) facilitate land transactions to foreign investors without preventing farmers being negatively impacted. On the one hand, the VFV law grants land from 5,000 acres up to 50,000 acres (2,000ha to 20,000ha) for an initial period of 30 years and government loans (Oberndorf 2012). This is not even comparable to what farmers could imagine during the socialist period, where the maximum holding area was limited to 50 acres (20ha) and loans were barely seen in their fields (Thein 2004). On the other hand, the farmland law, attempts to promote tenure security through the issuing of a land use right or “right to work” (also known as Form-7) while letting the government be the ultimate owner of land. Although this cultivation right can be now transferrable, uncertainty remains on how these are distributed and if would contribute to a tenure security, as yet 40 million rural households await land use title (Woods 2013:29). However, in the premises that this land use right is given to a foreigner, government permission is required (Farmland Law, Chapter IV, section14). This is not practiced at all at ground levels, mostly because there is no recognition to customary rights and no detailed information on how farmers should require such permission (Buchanan et al. 2013; Woods 2013). Adding to these amendments, the Thein Sein’s government issued a new Foreign Investment

Law (FIL) that allows 100 percent foreign capital and lease periods up to 70 years⁴, with restrictions in particular to agriculture sector. Through this law, the government promotes joint-ventures with local entrepreneurs; however, foreigners use local companies as local proxies for investments, adversely in agriculture (Woods 2013). Then since, land concessions to foreigner investors have multiplied, just to mention in one year (January, 2011 – March, 2012) up to 3.42 million acres were awarded⁵ and by July 2011, US\$36 billion was approved for 445 projects (Bissinger 2012).

More to this, waste and fallow land, representing about 10 million acres, are occupied by minority ethnic groups (more than 135), while forest, cover half of all land area (Buchanan et al. 2013). Myanmar is one of the poorest countries of the world, positioned in the 150th place from the ranking of 182 countries (UNDP 2014) with three-quarters of total population living in rural areas and with the lowest agricultural income per capita of the South East Asia (194USD/year) (ADB 2014; Baroang 2013). Inevitably, Burmese farmers are socially and economically vulnerable to foreign investments.

Most notable investments comes from Myanmar's largest neighbor: China (Buchanan et al. 2013; Bissinger 2012). As explained by GRAIN (2008) China has land scarcity and water concerns, so they are looking for ways to ensure their food and energy security hidden by their wish to have regional access and control. The 30 agricultural cooperation deals signed between China and other countries give access to Chinese investors to explore and complete business overseas, or to what Bissinger (2012) calls: "go out" strategy. Furthermore, the opium replacement special fund has promoted large-scale rubber plantations, in particular Laos and Myanmar (Shi 2008). However, this paper focus on another subtle way of land deals, covered under short-term agreements, between Chinese agribusiness men and local farmers.

What is happening in the uplands of Myanmar?

The first known case stems from 1998, when Chinese agribusiness investors started to rent paddy fields for producing seedless watermelon (*L. Citrullus lanatus*) (hereafter melons) in Central Myanmar. At first sight, this may seem to be a positive way to include small-holder farmers into modern agriculture (Glover 1984); but results show an opposite inclusion.

The case of rent of land for fruit production has not yet attracted attention, since, as previously stated, land issues in Myanmar are more related to large-scale projects. Addressed only by the media and a marketing study by Myint et al. (2013), Chinese agribusiness investors (henceforth melon investors) have been leasing land in Mandalay Division through a third party, usually traders or brokers from Muse. According to Myint et al. 2013 land is leased with a compensation of 100,000-250,000MMK (100USD - 250USD) per acre per cultivation period that goes from August to February. The melons are harvested prior the festival of Chinese New Year's and are shipped to Shweli (Ruili) in China. In their study, although they describe that technology and market access is given, there are no specifications whether farmers have benefited or under which specific terms these land deals are taking place. However, media has reported the increasing number of acres being rented for this purpose, provoking reactions among farmers. There are farmers who are willing to rent their land because they receive a fixed income, while others prefer to have control over their land and production (Myanmar Times 2011).

Noticing the growing melon business, farmers with higher purchasing power and wealth have been able to invest and grow melon and muskmelon to sell in Muse. These farmers are from Sagain region, specifically from Monywa Township. According to farmers, access to the road that connects Lashio-Muse has facilitated undoubtedly this trade. This, is what has been observed by Reardon

⁴ An initial period of 50 years with the possibility to extend 10 years twice (Oberndorf 2012).

⁵ Source: <<http://www.mmtimes.com/index.php/national-news/6959-fears-over-growth-in-land-concessions.html>> view on 21.11.13

(2014) who argues that daily trucks with a value of USD\$8,000 each and packed with melons arrive at Muse border. For which, the Ministry of Agriculture and Irrigation is keen on exploring the fruits and horticulture value chain. However, melon market is volatile and depends largely on Chinese demand, just in the year 2013/2014, the price for melons reached a value of 6CNY (0.96USD) per kilo while this year (2015) it ranged between 1 and 3.4CNY (0.16 and 0.54USD) (Myanmar Times 2015). Then, accordingly to the Ministry of Commerce, melons are exclusively exported to China and border figures have only been recorded since 2011. Nonetheless, these figures (Table 1) show a more subtle melon trade. At the time of the study one ton of melon was worth 2,200CNY (334USD) making a trade value for the year 2013/2014 of 948,200CNY (152,758USD).

Table 1 Border trade figures of melon from Muse to China (Ruili)

Year	Tons (mt)
2010-2011	178
2011-2012	248
2012-2013	309
2013-2014	431

Source: Ministry of Commerce, export section

The study area was in Tada Oo Township, Mandalay Region. Located near the newly constructed road that connects with the Yangon-Mandalay express-way and Mandalay-Muse highway, also not far from the International Mandalay airport. It is considered one of the driest and perhaps poorest regions in all South East Asia (Woods, 2013:8). The landscape is picture by flat plains with clay and sandy loam soils, with temperatures up to 43°C and variations of rainfall between 500mm to 1000mm (Baroang 2013). Traditionally, livelihoods depend on farming, which production maintains the national demand of grains, pulses and oilseeds (Thein, 2004).

Here, the rent of land to melon investors has been increasing. Based on official documentation⁶ on the registered number of acres rented to melon investors, an estimation of melon production, based on a normal yield of 15 ton per acre, shows a different picture to what border figures presented. Just in 2013/2014 about 49,275 tons were produced and shipped to Muse. If revenue is estimated for this trade, considering a price per ton of 2,200CNY, the value of Tada Oo's melon production (from acres rented to melon investors) raises to 17.3 billion kyats (17.3 million USD). Table shows melon production estimations per year. These estimations however, are author's assumptions and may differ from the reality.

Table 2 Number of planted melon (acres) acres in Tada-Oo

Year	Number of Acres	Tonnes (mt)
2010-2011	n.a.	n.a.
2011-2012	1,562	23,430

⁶ Provide it upon request

2012-2013	2,155	32,325
2013-2014	3,285	49,275

Source: Tada-U Township Management, own data

Furthermore, it was found that melon investors rent land for a seasonal period of 4-6 months (Aug-Jan) for 250,000 to 300,000MMK (200-300USD) per acre, which is equivalent to farmers' profit of 350,000MMK(350USD) per acre of paddy or sesame or 250,000MMK(250USD) per acre of groundnuts. Yet, as it will see further, this rent compensation come at a cost of environmental externalities and a dispossession of farmers' rights. But, before touching economic and ecological trade-offs, a description on how melon investors access farmers' land, who is involved and what level of influence each of these actors carry on to make these land deals possible, is provided.

Disentangling social relations at ground levels

In the outset of the dry season, usually by March, villagers in Chuang Kwa, Tada Oo Township, have noticed the frequent visits of melon investors, being accompanied by a Chinese agricultural expert. These visits have the purpose to search fields with fertile soil and easy access to water. Soil fertility is measured by pH test performed by the expert, who then, would advise which fields to rent. Once this is done, a translator is hired from Shan State, a Kokang Chinese ethnicity, to establish the contact with a local broker from the village. This ethnic group (Kokang Chinese) lives in the North of Shan State and represents the access to markets and capital for farmers and traders in borders between Myanmar and China given their cultural ties and ability to speak both languages Burmese and Chinese (Buchanan et al. 2013).

When the local broker from the village is contacted, the first negotiation takes place. He is informed about the selection of fields that melon investors want to rent, based on the agricultural expert assessment. The rental compensation is also agreed at this point of time, and advance money is also given. On the second stage, the local broker will contact those farmers, owners of the fields selected to notify them about the interest of melon investors. Governed by a customary law and traditions, there is only a verbal communication, with no legal value, between brokers and farmers, then two alternatives: to rent or not. The broker, who is known in the village and has a good relation with farmers, will then read aloud a statement indicating the rental period, the field number, number of acres to rent per farmer, the compensation and purpose. Then, each farmer will sign where their name is, collectively. Farmers are not used to bureaucracy or legal agreements, so they do not question, and even if farmers might forget or not understand what the statement is about, will sign it, as there is trust on the broker. An illustration of this social network can be seen below:

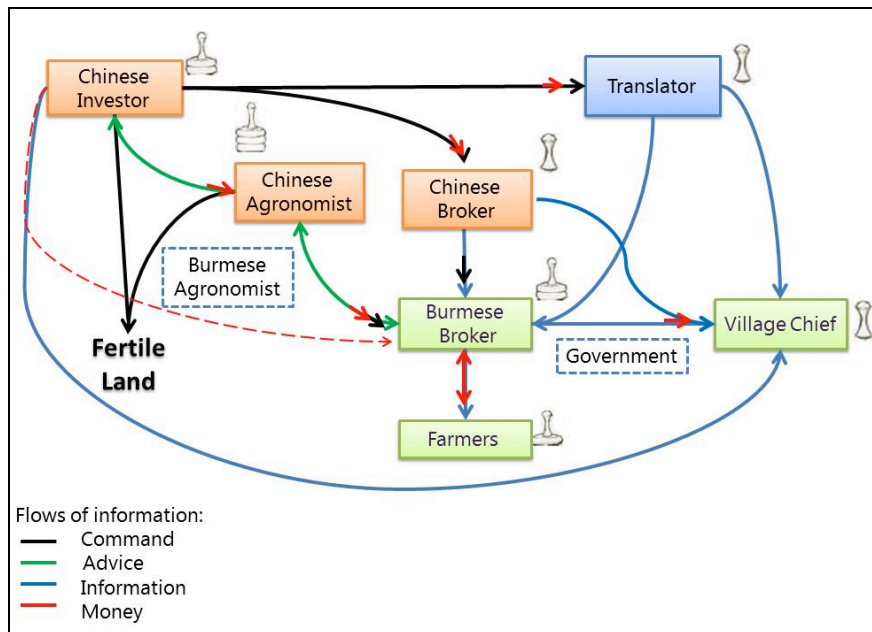


Figure 1 Consultation process and influence levels

Source: Author

This network map (Figure 1) pictures flows of interaction between farmers, brokers and melon investors. Drawn by following the net-map tool methodology⁷, it provides the main actors and their level of influences represented by towers, that, the higher the tower the larger the influence. Rationally, one would think that melon investors are the most influential actors for land deals, while from farmers' perspective the agricultural expert holds the most influential power, since he is the one selecting the fields. In their words: *"the agricultural technician searches for fields with easy access to water and far from the road, with good soil fertility"*. However, from an outsider and after analyzing this network map, it can be argue that local brokers are crucial actors to make these land deals happen. They are a first-hand source of information for Chinese brokers and their good relation with farmers facilitates the land deals.

What's more is that not all farmers are "eligible" to rent their land. Some farmers that wish to rent their land will not have the chance given either their fields are not in a strategic location or the soil is not fertile enough. This disadvantaged group, which happens to be the poorest, is excluded from the opportunity to rent their land, and to earn a "fixed income". Others are aware on the implications of transferring their land to a melon investor, so they do not rent. Finally, there are farmers, that motivated by a faith they will be better off, rent their land.

Control mechanisms by Chinese business investors

Usually the main crops cultivated in the village are groundnuts and sesame, with exceptions of tobacco, while paddy and fruits is mostly for own consumption. Before the production of melons by investors, villagers did not know about this seasonal crop and its technology. This is because farmers have been living in isolation for many years and no extension services of any type have been provided. One farmer remarked: *"we have never seen a government official"*, while they also reported to be curious and keen on learning new agricultural techniques. However, farmers whose land is rented are mandated to not grow melons in the season prior to the rental period. No reasons are given, except *"this crop is grown only by Chinese investors"*. There is a concern among villagers and farmers about the consequences if these unwritten "rules" are broken, so farmers follow them.

⁷ The methodology was designed by Eva Schiffer. Results are provided upon request.

This might be a reason why farmers and villagers are also prohibited to visit their fields during the rental period, making farmers trespassers of their own fields. Farmers quickly learned that if they visit their fields, they will be questioned by a supervisor who is controlling the fields, and will receive a warning. Remarks on the secretive way that investors cultivate melons were heard, in special the use of fertilizer, a farmer observes: “*Chinese even burned the labels so we do not know what they inject to our lands*”.

This comes in hand to what some farmers find in their fields after their land is returned: a pump well has been built in their land without their consent. This pump well serves to supply groundwater to melon fields. On top of this, farmers would need to pay a minimum compensation for the pump well, half its cost up to 200,000 - 250,000MMK (200 - 250USD) for its usage. If a farmer refuses, the pump well is blocked and unusable.



Figure 2 Pump well built in a rented field

Source: Author

During the rental period, a supervisor is assigned to the rented fields and pump wells. It is in August when this supervisor, from Shan State, arrives at the village together with other Kokang Chinese workers with prior permission of the village chief. Melon investors hired them since “...*is better, they are more reliable people, and they know each other, besides they have the nature of work, so no explanations are necessary to be given...*” as explained by a supervisor. It was found that there is no interaction between Kokang Chinese workers and villagers or other workers, particularly because they live in the fields during the rental period (Figure 3).



Figure 3 Hut were Kokang workers live during the rental period

Source: Author

Given above unwritten “rules” (not growing melons, not trespassing fields and not usage of pump wells) farmers have been affected. In particular farmers owing fields located in the middle or next to fields rented to Chinese men. Below the story of a farmer:

Box 1: Leasing land or not alternative

A 57 years old man, owns a field of 7 acres (2.8ha) since 35 years, 4 acres were heritage from his parents. He has been a farmer all his life and has never thought on renting or selling his land before. However, the location of his field is surrounded by lands which are currently rented by melon investors. During this rented period, he was not allowed to enter his field by bullock cart, or even by foot, so he found difficulties on cultivating his own crops, in this way, he felt that the best option was also to lease his land. He said that the 300,000MMK (300USD) paid is not enough; if weather is good, he could earn much more by growing sesame and groundnuts. He has reduced the land where he used to produce food for own consumption, as he is now leasing 5 acres (2ha). Although his contract is for 4 months, he noticed some drastic changes after leasing his land, soil was rigid and hard to plough, there was plastic all over his land and more weed and insects than usual. He also found out a new well in his field, which he is not able to use unless he pays a fee of 250,000MMK (250USD). *“When we sign a contract, we only agree on renting the land, but it seems that Chinese also rent the water without income... I do not have a copy, we just sign a piece of paper without official stamp”*. During the year his land is not rented, he grows his usual crops, albeit he was instructed to fallow their fields. The last harvest, he experienced a 50% yield decrease. *“I do not have an option, if I don't rent my land, I can't work on it either. But now, the soil is so damaged that my production has been reduced to half”*.

Now, farmers feel more open to rent their land since their land use right can be transferred, although there is any notification to the government, remarked by the Township Manager: *“these land deals are done in the village, they do not request permission”*. Thus, it is then seen in this particularly case, land tenure is necessary governmental intervention but not sufficient. Land control, just right defined by Peluso and Lund (2011) means “practices that fix or consolidate forms of access, claiming and exclusion for some time”. The fact that melon investors imposed restrictions over farmers’ decision on their own use of land beyond the rental period and decided over the use of water, are ways to control resources. To understand this situation further, it should then being look at it from the perspective of access as “the ability to derive benefits from things”; rather than from property as “the right to benefit from things” (Ribot and Peluso 2003:1). Put simply, melon investors are using *de facto* “rules” as a way to appropriate farmers’ rights over their land, and better illustrated by Franco and Borrás (2012:52): “not all displacement or dispossession today is a result of land grabbing, and not all land grabbing results in displacement and dispossession”.

The so called-benefit: Job creation

For about three months every year, landless villagers struggle to find work on farming, and their situation worsens because there are limited off-farm alternatives. In the village, practicing blacksmithing is typical work for men, while basket making is for women. This may give an income of 2,000-3,000MMK (2-3USD) per day. On the high season, when work is needed in the fields, there is continuous work; however, workers are paid only after harvest. Given these conditions, local farmers provide incentives such as huts to rest from the hard sun and pots where drinking water can be taken. So, living under these circumstances, working for a foreigner seems appealing.

Since fields have been rented to melon investors, 50 local workers are being hired every season. Daily wage is almost equivalent to what local farmers offer, however, the payment is given every 10 days. For men, daily wage ranges: 2,000-2,500MMK (2–2.5USD), while for women 1,800–2,000MMK (1.8-2USD). If workers stay in the plantation through the season, they get a bonus of 5,000MMK (5USD). Contract terms are similar to lease land agreements. Melon investors hire workers through a group leader. A group leader is a trusted person from the village who is contacted by melon investors to look for workers, and might even give an up-front payment. He or she will not work in the field, but would just gather workers. In-depth interviews revealed that workers' field conditions are different to what they expected. Workers are required to work continuously through the day without the possibility to take a rest, if a worker is found resting, the supervisor, a Kokang worker, intimidates with the warning to fire him. Although, workers are not forced to work in these rented fields, and feel benefited by a constant payment, the lack of communication and freedom at the fields create a hostile and unpleasant atmosphere for workers.

Box 2: Just for the regular income

A 23 years old man, from Chuang Kwa village, has been married for 5 years. He has two different jobs to meet household expenses. He usually works as a construction worker, but during the melon season, he works on fields rented by melon investors. In the first year, he was expecting to gain experience and a higher wage since “*they were foreigners*”, but he only received a short training on how to cultivate melons, and nothing else. Soon he realized that there were not many benefits he could draw from working in the plantations. He mentioned that Chinese are rude to the workers, orally and physically occasionally; “*If Chinese feel uncomfortable or not satisfied, they will fire a worker*”. Workers feel disrespect by the manner in which the Chinese treat them. He said that the 2,000kyats/day (2USD) is not worth the amount of work they do. Further, working with a local farmer is different. A hut and water is provided to take a rest in the shade and away from the strong sun. In the melon plantations they even need to bring their own water. He continues working because there are no other jobs in the village and he needs to feed his family “*At least I get a regular income to buy food*”.

Source: *Author*

Highlighted in Du Toit's (2009) work, is not precisely the creation of opportunities, in this case jobs, but the conditions on which people are included or excluded. Yes, workers are being given the opportunity to have a job, but at a price of harsh conditions. This is what Du Toit(2009) calls “*adverse incorporation*”. Thus, to generate employment, so greatly argued by advocates on land investment (Li 2011), is necessary but it is also important to set provisions where workers can be positioned in a more advantageous place.

Ways of cultivation

As previously stated, when land is transferred to Chinese for their melon production, no supervision or pre-requisites from farmers on how to use the land is established. Therefore, the way that land and water is used is neither monitored nor regulated. This leaves room for a free rider behavior by melon investors.

According to farmers' statements, to increase the yield of melons, an estimation of 400kilos per acre of compound fertilizer (15% nitrogen, 15% potash, 15% phosphate) is injected into the field by melon investors. This comparing to normal fertilizer usage of 50 – 100 kilos per acre for rice or less than 50 kilos per acre for groundnuts, has led to soil changes. If in fact, fertilizer use increases production, there is diminishing of returns when it is not applied continuously. After the land is returned, farmers would then cultivate their usual crops and have noticed an increase in their yields, but not for long. After 2 or 3 years that their land is rented, the harvest of the following cultivation season has been reduced on the worst of the cases up to 50% as well as reduced capacity for water retention in a short period. This is because farmers do use cow dung as fertilizer, while melon investors use chemical. While in one hand, cow dung would do much good to the soil, the damage caused by chemicals decelerated production. Furthermore, a local fertilizer trader explained that in order for the soil to recover its fertility, the land would need 3 fallow years, a recommendation that farmers do not follow due to the needs of their household's food production.



Figure 5 Land changes in a sesame field (This field was previously rented; the light yellowish area is where fertilizer has been applied).

Source: *Author*

Another remarkable change pronounced by farmers, has been the increase of soil salinity levels. While the main source of irrigation for farmers is rainfall, the extraction of groundwater does not only drained farmers' water sources but it leads to soil salinity. This is because as per their agro-ecological system, on dry areas, there are high levels of evapotranspiration that left behind salt on the soil, reflected, according to a farmer, on a "white layer on the soil surface". This is aggravating their actual conditions in which the soil moisture is low in the dry zone and run-off of topsoil is caused by water and wind. Put simply soil erosion is already a severe problem in the village, thus this cultivation practices make land vulnerable to degradation (Baroang 2013). Further, melon producers are bringing their tractors to maneuver the land which is leading to topsoil compaction. These tractors, to plough the land, turn the soil over to a depth of more than 6 inches (15.2 cm) leading to a rapid nutrient and top soil loss.



Figure 6 Start of melon plantation

Source: *Author*

A technique, unknown to farmers, but valuable to melon producers for retaining water and creating heat, is the use of long plastic sheets. This plastic used from the start to the end of the cultivation, is not removed from the rented fields. Farmers explained that during the first years they rented their land, the plastic was not removed, and it used to be mixed with soil during the land preparation, but now farmers harrow their fields when these are returned and apply cow dung.

Why farmers are willing to rent their land?

Rational behavior suggests that our decisions are based on benefits or returns we get for the best alternative or utility (Duflo 2006). Certainly, the attractiveness of these land deals lies basically on receiving a fixed income. “*Easy money*” is among the most mentioned reason why farmers are renting their land. Farmers are inclined to get a fixed income because: first, the production of their usual crops may be affected by the variations of weather. Farmers expressed that low rainfalls in past years causes vulnerability to droughts which may result in bad harvest. Second, farmers’ total income is not sufficient to cover agriculture investment. Large part of the income is spent on food and health. Thus, farmers rely on loans which are a hazard to obtain. Today, an official agricultural loan for paddy production is just 100,000MMK (100USD) while for other crops is 20,000MMK (20USD) for the season. Moreover, farmers are obliged to repay it after harvest. This can only be possible if the harvest was good. No doubt, farmers will go for informal loan lenders even if they charge up to 5% interest rate monthly. Third, lack of infrastructure prevents farmers been connected to large markets, where they could benefit from information, particularly on agricultural techniques and market prices. Fourth, farmers look for leisure time. So, when they are presented with an option to rent their land in exchange of a fixed income, the willingness to accept it is high. This is what economics calls: time inconsistency (Banerjee and Duflo 2011). Time inconsistent preferences emerge accordingly to the conditions and context in which individuals interact; in this case, there are strong preferences for today’s benefits (fixed income) than environmental implications farmers will have in their future. (Duflo 2006). Worth noting, this preference is adversely influenced as farmers do not have complete information, neither on cultivation practices, or market demand.

To investigate further what are the effects of the decision of renting land on farmers’ income and food consumption, the propensity score matching (PSM) is performed following Caliendo and Kopeining (2008) guidelines. This method is widely used to reduce selection bias by comparing a control and a treatment group with similar socio-economic characteristics, thus, this study compared land-renting households (n=82) to non-renting households (n=110). Through this comparison, the counterfactual outcome is estimating for those who do not rent their land (control group). Meaning

that both groups are comparable and any difference after matching is attributed to the rent of land or treatment (Caliendo and Kopeining 2008).

The food diversity and food quality are explored through the Food Consumption Score (FCS) from the World Food Program. This proxy indicator reflects a household's frequency consumption of different food items in a 7-day recall period before the survey. It is calculated by the sum of a weighted frequency of intake of 8 food groups (WFP, 2008). This score is then compared with a threshold of cut-offs to determine the level of food security. Total income is calculated by summing up farm and off-farm income, including the compensation from renting land.

Table 3 Average Treatment Effects

Variables		Treated	Control	Difference	S.E. [#]	T-stat	R-bounds (γ critical)
Food Consumption Score	Unmatched	74.42	64.38	10.03	2.18	4.59	1.85-1.9
	ATT	72.8	65.77	7.02	2.68	2.18	
Total Income_pp (MMK)	Unmatched	917382.1	486740.0	430642.0	81179.3	5.30	1.25-1.3
	ATT	815666.3	600716.3	214950.1	109322.5	1.91	

[#] ATT standard errors after bootstrapped (250 replications)

Nr. of treated: 65; Nr of untreated: 110

(17 cases lost to common support (8.8%))

Source: *Own data*, calculation using *psmatch2* and *rbounds*.

Results indicate that consumption patterns have changed for those farmers renting land. A typical meal in the village is a big portion of rice with chickpeas and fish paste, at times with vegetables. This meal is consumed at least twice per day, while meat is usually consumed 1 – 3 days a week and in small portions. Renting land therefore, has contributed to better food consumption, with some restrains on dairy products. Yet, farmers face problems to access food during the rainy season. It was also found that households no renting land are greatly concerned on not having enough food and have reduced their meal portions in the past season prior the household survey.

As hypothesized, there is significantly higher average income for households renting land. After matching, it is found that the casual effect of renting land on per capita income is 214, 950kyats (215USD). This difference is attributed to the compensation for renting land that was captured as off-farm income. Additional earnings allowed land-renting households to purchase physical assets that they were unable to afford before, principally motorbikes, livestock (cows and pigs), mobile phones, and even gold as a way of savings. Only two farmers mentioned purchasing few acres of land, and only three farmers have bought a small tractor, commonly called trawlagyi. So, from a statistical point view, it is assumed then that the additional earnings from renting land have brought benefits to the household as a whole.

Concluding remarks

Above field-case study, characterized by manifold social relations and unequal power relations, showcases a different pattern of land access and control that do not necessary is translated into displacement or dispossession. It evidences how land deals are enforced and driven as well by

actors “from below” (Hall et al. 2015) and with “relative” consent of owners, partially for the spread faith that renting land will bring economic benefits. Further, if in fact, this case study does not represent the scale of large-scale land acquisitions commonly occurring in Myanmar, these seasonal land-rental deals have long-term environmental impacts, such as soil impoverishment and groundwater depletion, caused by investors’ cultivation practices. These externalities may remain overlooked for a long time, given that farmers are willing to rent their land for the rental compensation that equals their average earning, and that has improved their income and food consumption, although in the short term. Thus, what matters at the end, is not the rent of land per se, but the conditions, motivations and incentives by which farmers are renting their land. To what, time inconsistency and information asymmetries are economic aspects that should be inserted into the debate of land grabbing.

Demand for land will continue, likewise these small-scale land acquisitions. So, what alternative do farmers have on this situation yet, attractive deal? To answer this question, some suggestions are drawn, aiming to find a path that could genuinely lead to an improvement of conditions, in which farmers are set to agree these land deals.

First, as a counter measure of sorts, much emphasis has been given to the contribution of land tenure security to farmers’ rights protection. However, as showed in here, this is not contributing to farmers’ bargaining power for the use and management of their own lands, which has been *altered* or transformed by the investors (Borras Jr und Franco 2010a; Galik und Jagger 2015). The fact that farmers are given a land use right which weight is considered as a land title, has not function on these land transactions, as these are negotiated by informal ways and without governmental supervision. Therefore, in the light of the land reform process taking place in Myanmar, there is an opportunity to revise and enforce statutory provisions on the farmland law and foreign investment law to reduce farmers’ vulnerability to this inequality of powers. In specific, the Farmland law Chapter IV, section 14 and Chapter VI, section 55, that mandates farmers to not exchange their land use right to foreigners without government authorization, must detail the way these formalities proceed and decentralize responsibilities (e.g. Township Managers could supervise and give consent to these land transactions). In addition, the Foreign Investment Law Chapter XV, section 108 that restrict investment in agriculture yet, allows joint ventures or contract farming between foreigners and farmers, must establish prohibited and permitted terms and conditions, with a strong emphasizes on land use management (e.g. use of fertilizer and water use). Furthermore, and equally important is the incorporation of labor terms into these legal agreements. The Land Core Group, which is an advocacy coalition of national and international organizations in Myanmar, could be the vehicle to bring these issues into the national agenda. On the other side, farmers should be provided with information on legal aspects of a consultation process. For this, civil society organizations (CSO), if properly guided by international development agencies, are determinant on bringing this information to farmers in form of capacity building.

Second, there was no informal talk or interview in which the negative impact on land and water was emphasized. This comes as a result of resource mismanagement by investors and little control from farmers’. Here, their experiences and day to day struggles were showed, but to make accountable the extent of the damage, an environmental assessment should be carried out. However, this alone is not enough. Environmental and extension agencies could not only address this problem, but also provide information through campaigns or trainings, to farmers on sustainable land use management, and techniques to cope with soil compaction, increasing of pests and exploitation of water. This call on environmental information is vital for farmers to be equipped in the light to future land rental agreements. In specific, because farming remains the main economic activity and since farmers do not search for income diversification, renting land is causing a dependence on this rental payment. Thus, the damage already caused to the soil in combination with the climatic variation in

the dry zone, may negatively affect future agricultural production in the village, as result compromising their livelihoods in the long term.

Finally, through collective action, farmers could be organized to increase their bargaining power to retake control over their land. As proposed by Franco and Borras (2010:35) as an alternative of land tenure formalities or adherence to a code of conduct, is land sovereignty, which places farmers back in the center of land governance. Land sovereignty defined as “the right of the working class people to have effective access to, control over and use of land and live on it as a resource and territory ... is the rural poor people’s right to land”. This direction is what land policies should head to, which I see as essential in my quest to protect our most vital resource: Land.

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