

FREEDOM TO FARM:

**AGRICULTURAL LAND USE, CROP SELECTION, FALLOWING, AND
RECOMMENDED CHANGES TO THE MYANMAR FARMLAND LAW TO
STRENGTHEN LAND TENURE SECURITY**

CHRISTINE ANDERSON, JIAWEN HU, MARK WEST¹

Landesa

ChristineA@landesa.org

**Paper prepared for presentation at the
“2017 WORLD BANK CONFERENCE ON LAND AND POVERTY”
The World Bank - Washington DC, March 20-24, 2017**

Copyright 2017 by author(s). All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

¹ This research paper was prepared by Landesa for the United States Agency for International Development.

Abstract

The freedom to farm one's land as one chooses, as manifested in basic choices about what crops to grow and when to fallow fields, is an assumed freedom held by many agriculturalists. In the Myanmar context, government restrictions create a different environment for smallholders. In Myanmar, the Farmland Law of 2012 prohibits the growing of alternative (non-staple) crops and the fallowing of land without permission of the government, and the same law requires applications for permission to grow alternative crops or to change from one agricultural land use to another. This paper explores the basis for rights to agricultural land use freedom, crop selection, and fallowing practices by examining economic, cultural, ecological, climate change, and international rights factors. Concluding that the freedom to select one's land use and crops and to fallow one's land is advantageous for farmers and for the broader sustainability and productivity of Myanmar agriculture, the paper then describes recommended amendments to the Farmland Law. The paper's discussion of suggested amendments is grounded in the 2016 National Land Use Policy (NLUP), offering amendments to the utilization restrictions on crop selection and fallowing, as well as to elements of the Farmland Law that impact women's land rights and the rights of customary users.

Key Words: aquaculture, crop selection, fallowing, Burma, Myanmar

Contents

I. Summary	4
II. Basis for the Right of Agricultural Land Use Freedom	5
<u>Economic</u>	6
<u>International Rights</u>	11
<u>Climate Change</u>	13
III. Basis for the Right to Crop Selection	15
<u>Economic</u>	15
<u>Legal</u>	18
<u>Ecological</u>	19
<u>International Rights</u>	20
<u>Concerns</u>	20
IV. Basis for the Right to Fallow	20
<u>Economic</u>	21
<u>Cultural</u>	21
<u>Legal</u>	22
<u>Ecological</u>	22
<u>Concerns</u>	23
V. Freedom to Farm Amendments to the Farmland Law and Form 7 Based on the NLUP	23
<u>Utilization Restrictions</u>	24
<u>Customary Use</u>	24
<u>Women's Land Rights</u>	26
<u>Penalties & Decriminalization</u>	26

*“Mo Seet Ger Daw Khu A Klee, Pa Seet Ger Daw Nweh A Klee
Ger Daw May Bweh Tor Ther Hsee, Ta Kah Na Khay Per Der Thee”*

*“The mother advised us to save the seed of the taro,
The father advised us to save the seed of the yam.
If we save up to thirty kinds of seeds,
Our lives will be sustained in times of crisis.”*

- Karen Environmental and Social Action Network

I. Summary

The freedom to farm one’s land as one chooses, as manifested in basic choices about what crops to grow and when to fallow fields, is an assumed freedom held by many agriculturalists. In the Myanmar context, government restrictions on land use, crop choice, and the ability to fallow one’s land create inefficiencies and barriers to agricultural growth for smallholders. Myanmar, a southeast Asian country with a population of 53 million, is in the process of a major transition. As the new government sets priorities and implements reforms, land rights are a major concern. As much as 70% of the population in Myanmar is rural, with millions depending on agriculture for livelihoods. The new government aims to implement pro-poor laws that will help smallholder farmers develop strong land tenure security, empowering them to make informed decisions about their lands and the futures of their families.

Reforms to current laws, such as the Farmland Law of 2012, will be important to these goals. The Farmland Law (2012), in Chapter IV, prohibits the growing of alternative (non-staple) crops and the fallowing of land without permission of the government, and the same law, in Chapter X, requires applications for permission to grow alternative crops. To better understand what is at stake with these prohibitions in place, this paper explores the benefits and potential costs of lifting three major current restrictions by considering socioeconomic, legal, cultural, and ecological implications of expanding farmer freedoms.

Concluding that the freedom to select one's crops, choose one's agricultural land use, and fallow one's land is advantageous for farmers and for the broader sustainability and productivity of Myanmar agriculture, the paper then describes recommended amendments to the Farmland Law, and by effect to the Form 7 restrictions on smallholder utilization of land. The paper's discussion of suggested amendments is grounded in the related elements of the 2016 National Land Use Policy (NLUP), offering amendments to the utilization restrictions on crop selection and fallowing, as well as to other elements of the Farmland Law that impact women's land rights and the rights of customary users. These suggested amendments conclude with recommendations for the elimination of criminal penalties for breaches of the law's use restrictions, and the overall decriminalization of practices that may run counter to the Farmland Law.

II. Basis for the Right of Agricultural Land Use Freedom

As the Government of Myanmar transitions from a state-controlled agriculture sector to a new model, the relationship between the country's land classification system and the wishes of its farmers is central to questions of smallholder tenure reforms and agricultural productivity. Rather than supporting the freedom to use agricultural land as farming families deem most beneficial to their households, the state continues to impose use restrictions, most notably on paddy land, embedded in a land classification system with complex categories, and a heavy burden on applicants to navigate those classifications. The current system is convoluted, irregularly enforced, and runs counter to smallholders' needs to boost agricultural productivity. For instance, a farmer interested in switching from paddy farming to fish farming will have to go through complicated bureaucratic hurdles for over a year, with different levels of government approval requiring cash and time (Belton, 2016).

The past government's emphasis on rice production quotas led to years of pressure to grow rice, leading to a deficit in knowledge of other agricultural practices and causing depletion of soils that could lead to crops underperforming.² By restricting conversion of land use types and classifying agricultural land by specific crops, the current classification system continues to stymie the growth of smallholder farms in a market economy. Abiding by the rules while seeking increased productivity and profitability requires frequent applications for exemptions and conversion of land classification, taking time and resources from both the farmer and government officials. Current regulations create market inefficiencies by increasing production costs incurred by farmers and by preventing them from potentially responding to new market opportunities.

² Information from interviews with NLD Farmers Affairs Committee Members on March 2015 in Nay Pyi Taw.

A new classification system should replace the current, overly restrictive definition used in the Farmland Law (2012) with the agricultural land definition found in the NLUP, a much broader definition: Agricultural land (all land used primarily for agriculture production purposes, including growing annual or perennial crops, growing industrial crops, animal husbandry activities, land based aquaculture activities, and any agriculture production focused support facilities, and any agriculture production focused support facilities that are either currently cultivated or fallow) (2016, §13(a)).

This definition—agreed upon with the input of various stakeholders across the government, civil society, communities, and smallholders themselves—reflects the rich, complex, and varied nature of lands used for farming across the country, and a trust in farmers’ choices about use of those agricultural lands. The NLUP was developed as Myanmar was in the early stages of including non-government stakeholders in the agriculture conversation, so it differs from earlier policies that focused on subsistence rice production. The Farmland Law distinctions between Farmland, Low Land (Paddy Land), and Alluvial Land, and several sub-categories, create significant barriers to crop choice, and they also require only cultivation of crops, gardens, and horticulture, whereas the NLUP definition does not contain these strict classifications and does allow for animal husbandry on farm land. With only two other classifications (forest land, other land) the NLUP seeks to greatly simplify the formerly complex land classification system in Myanmar. As Myanmar’s agricultural sector evolves, the government can play a supporting role as smallholders determine the future of Myanmar farming, and that should start with farming families making more of their own decisions about their crops (National Economic and Social Advisory Council [NESAC], 2016).

Such a process of moving away from the antiquated system of classifications, and allowing greater freedom in decision-making for farmers, should involve community participation to ensure the new approach is appropriate for farmers’ needs, and is “accompanied by sufficient education of communities and government officials alike so rules are understood and officials are confident” to ensure the new definitions of agricultural land are matched by the corresponding freedom to farm on the ground (Namati & Landesa, 2015). Some of the most salient arguments for this new approach to defining farmland are outlined below. They fall roughly into the categories of economic arguments, international rights, and climate change adaptation.

Economic

Allowing farmers to adjust crops and livestock within agricultural land can result in higher overall productivity and economic growth, areas in which Myanmar has fallen behind its neighbors (Haggblade, 2014, p. 60). As a recent White Paper characterized it, “investing in rural infrastructure and establishing policies to encourage their farmers to produce products that meet market needs will unleash a virtuous circle of growth among farmers, food processors, and service providers who are linked to growing urban centers and export markets.” (NESAC, 2016, p. v). Current government policy emphasizes the planting of staple crops such as rice for subsistence purposes, while other crops, livestock, and fishing offer more rapidly growing market opportunities for smallholders, especially as increasingly urban consumers move away from a rice-focused diet (NESAC, 2016). Agricultural productivity has been linked to poverty reduction in a number of ways that will be discussed in this paper, including real income changes, employment generation, rural non-farm multiplier effects (Schneider & Gugerty, 2011, p. 56). Some of these factors likely contribute to Myanmar’s high poverty ranking regionally, as seen in Table 1.

Table 1

Indicators of Agricultural Productivity and Food Security

Country	Agricultural GDP per Ag. Population (\$ per year)	Poverty (% under \$1.25 per day)	Underweight Children (% under 5)
Malaysia	\$8,324	<1	13
Thailand	\$1,698	<1	7
Indonesia	\$1,431	18	20
Philippines	\$951	18	21
Vietnam	\$728	17	20
Cambodia	\$659	19	29
Bangladesh	\$276	43	41
Myanmar	\$207	26	32

Note. Reprinted from “Strategic Choices Shaping Agricultural Performance and Food Security in Myanmar,” by S. Haggblade, D. Boughton, et al., 2014, *Journal of International Affairs*, 67(2), p. 61. Copyright (2014) by The Trustees of Columbia University in the City of New York.

Without the ability to diversify crops to incorporate higher value crops in addition to staples, rural growth is stunted (Belton et al., 2015a). With some international agricultural markets more volatile than others, it can be important for a farm to cultivate different crops on the same land or even incorporate fish ponds or livestock pens. Through diversification, farms are better poised to withstand risk and price uncertainty, helping lead to greater financial stability. Lifting restrictions on land use within agriculture could allow farmers to make crop decisions based on changing markets and family needs – decisions that are currently overshadowed by government “encouragement” to plant certain crops and thwarted by

unpredictable policies around land use choices (Haggblade, 2014, p. 65). Allowing farmers to choose which agricultural products they grow in order to maximize their yields and profits is the first step to modernizing smallholder farms (NESAC, 2016). Promoting diversification of farmland use could greatly benefit the economy (Haggblade, 2014), but government's support of this diversification must start with lifting current restrictions around agricultural land use and continue with empowering diversification through access to credit, agricultural extension, and related knowledge (Oo, 2015, pp. 157-58; NESAC, 2016, p. vii).

International Experience

Other Asian societies, such as Bangladesh and Taiwan, have modernized their agricultural sectors, enabling smallholder farmers and moving away from rice-focused consumption and growth in systems focused on farmer choice (NESAC, 2016, p. 2). These governments invested in infrastructure that directly benefitted the agricultural sector and released pro-peasant farmer policies, like the policies expected in Myanmar (NESAC, 2016, pp. 5-6). Crop choice regulations in other Asian countries have dropped off so dramatically that none remain outside of Myanmar (NESAC, 2016, p. 5). This liberalization has been working for the rest of Asia. Taiwan has experienced more smallholder production growth in high value crops—fruit, vegetables, and livestock—than in the staple crops like those supported by the Myanmar government (Namati & Landesa, 2015). In Bangladesh, rice yields have grown significantly faster than they have in Myanmar (Belton et al., 2015a). While reported paddy yields are similar between the neighbors, alternative sources suggest that Myanmar's paddy yield average is lower than publicly stated (Belton et al., 2015a). Growth in Bangladesh has been smallholder-driven, with intercropping and private irrigation at the fore (Belton et al., 2015a).

Myanmar could gain useful insights from the reforms of its neighbors. Land use restrictions in Myanmar make intercropping illegal and private irrigation unaffordable. USAID recommended that Myanmar farmers diversify into higher value crops in the summer season when water availability is too sparse for rice cultivation, but even this requires an official exemption from the rice-only requirements of paddy land use (Wong & Wai, 2013, p. 43). The productivity of agricultural land in Myanmar trails most of its neighbors (Raitzer, Wong, and Samson, 2015, p. 3). One per capita agriculture income estimate puts Myanmar farmers at an average of \$200 per year, which is only 30-50% of what farmers in neighboring states yield (Raitzer et al., 2015, p. 3).

While the government is not responsible for providing farmers with agriculture loans, it can and should create an enabling environment for the private sector to do so (NESAC). Current terms on some loans limit access for non-paddy farmers or give paddy farmers better rates, stacking the deck against

smallholder farmers seeking to expand their output options. Little formal credit is available to non-paddy farmers, including fish farmers who need to buy feed to start their businesses. Since formal loans are reserved for paddy farmers, other farmers turn to loan sharks and other unappealing loan terms, like buying feed on credit and paying the loan shark back with the harvested fish. Smallholder fish farmers often borrow from informal lenders at 4-6% interest per month if they don't buy feed from large fish traders at 3% interest monthly (Belton et al., 2015b, 6-7). Allowing better access to formal credit for fish farmers and other non-paddy farmers can bring down the interest rates of informal lenders and give smallholder farmers real opportunity to increase the productivity and efficiency of their farms.

Aquaculture

Current regulations make it difficult to convert paddy land into fish farms in Myanmar, halting the progress of those who would otherwise enter the market (Belton, 2015b, p. 5).³ To convert titled paddy land to a fish farm requires obtaining a change of land use title, a process that requires time, money, and approval at village tract, township, regional, and union levels (Belton, 2016).⁴ As income levels rise in Myanmar, fish consumption is expected to rise significantly—on average, as household expenditure climbs by a fifth, the amount of fish consumed per capita also rises 16%, particularly from farmed fish sources (Belton, 2015b, p. 4). Myanmar is already seen as a “rice fish culture” (Belton, 2015b, p. 8). Increasing consumption will mean even more demand for farmed fish, as capture-fish will decline in relative market share in the wake of the increased demand (Belton, 2015b, p. 4). Farmed fish in Myanmar has massive potential for growth as the market becomes more smallholder-inclusive (Belton, 2015b, p. 7). Average returns are several times higher than for paddy, with a \$655/acre yield for fish compared to \$98-126/acre for paddy (Belton, 2016). Across Asia, small- and medium-scale fish farms make up the bulk of the market; in Myanmar, smallholders make up only 4% of pond area (Belton, 2016). If Myanmar trends follow the rest of Asia, the diversity of the Myanmar diet will greatly increase in the coming years, opening up domestic markets for not only fish, but a variety of other high-value crops and livestock (NESAC, 2016, p. 3). Agricultural policies should create an enabling environment to bolster these efforts.

³ The 1989 Aquaculture Law promoted the conversion of vacant/fallow/virgin land to fish ponds, but the relative lack of virgin land in the Delta led to fish farms incorporating paddy land.

⁴ “The process of applying for La Na 39 is complex, lengthy and costly, taking an average of 17 months, and costing an average of MMK 340,000/acre. Much of these costs are informal payments made to officials facilitate passage of the application. Operators of large farms are usually better politically connected and relatively well resourced, and are thus better able to manage this process than small farm households” (Belton, 2016, p. 2).

Most fish farms are located on land previously classified as paddy land, with flood control schemes in the 1990s helping to make paddy land more suitable for fish farming (Belton, 2015b, p. 5). Some economists have even characterized lands suited to cultivating rice as the ideal fish farms (Belton, 2015a). In neighboring Bangladesh, most fish ponds are situated on paddy land as well (Belton, 2015a). Unfortunately, government restrictions make it difficult to convert paddy land legally. These restrictions also decrease land tenure security for farmers who risk circumventing the system for the higher profit margin. In Mon State, enforcement of land use restrictions is so strict that smallholder fish farming has not developed; in other states, “informal” relaxation of regulations has allowed fish farms to thrive (Belton, 2015b, pp. 5, 7). Of fish farms Belton surveyed, only 16% of farms under 10 acres had the proper land permit (2016). These unpredictable and often strict restrictions are a major constraint to the widespread development of an aquaculture sector amongst smallholders (Edwards, 2005). While large corporations have been allowed to open fish farms under government sanctioned conversion of “wastelands,” smallholders have been left behind (Belton, 2015b, p. 8). Economists predict that lifting restrictions on paddy conversion could expand the currently growing fish farm market significantly (Belton, 2015b, p. 6).

Currently, aspiring fish farmers in Myanmar rarely rent land for fish farms due to land insecurity concerns, rendering smallholder fish farming relatively uncommon. While satellite photos revealed more than 200,000 backyard ponds in the southern Delta that are increasingly used as fish ponds, these ponds are largely used for home consumption purposes only (Belton, 2015b, p. 5). Economists predict that the potential loss of rice area to aquaculture resulting from liberalizing land use in Myanmar would likely only decrease rice area and production by 2.1% or less (Belton, 2015a).⁵ Unfortunately, this largely beneficial change is barred by current restrictions. Since rice production is mandated on paddy land, land use liberalization of this kind would require a change in land use titling for aquaculture, which is currently classified as a non-agricultural land use (Belton, 2015b, p. 93). The National Land Use Policy categorizes aquaculture land as agricultural land, streamlining classification and improving land tenure security for would-be fish farmers. Future land laws should reflect this liberalized agricultural classification scheme.

Lifting specific use restrictions can also help spur the economy through increased demand for farm labor. For example, aquaculture requires a much higher labor input (10 persons per day per acre) than paddy (4 persons per day per acre), which can create jobs (Belton, 2015b, p. 72). Belton’s research

⁵ A comparison with neighboring Bangladesh, which has few land use restrictions, suggests that liberalizing the land use market in Burma would only increase the current aquaculture land use from the current 1.1% share of rice area to 3.2%.

found that small fish farms create nine times more demand for labor per acre than the large fish farms that currently dominate in Myanmar (2016). There is also a multiplier effect throughout the market, with an expansion of the supply chain demand for jobs in transportation of fish, manufacture of ice and feed, and sales (Belton, 2015b, pp. 4, 6). To make this effective, restrictions on domestic trade and transportation of fish should be removed (Belton, 2015b, p. 101). Allowing the legal and seamless conversion of paddy lands with low productivity yields could generate employment opportunities for landless farmers.

In Myanmar, domestic food security is dependent on the production of fish, which functions as the leading animal protein source in the country (Belton, 2015b, p. 3; Belton, 2015a). Making fish available and affordable in Upper Myanmar, where there is a shortage due to lack of smallholder fish farming, is important to national nutrition and food security and is unlikely without relaxation of agricultural land use restrictions (Belton, 2015b, p. 97). For the good of food security and agricultural rights, land users should be allowed legal freedom of crop choice without onerous use conversion applications or prohibitions on converting paddy land (Belton, 2015b, p. 99).

Liberalizing land use conversion procedures can also help decrease the landless population in Myanmar. Some “landless” individuals and groups have been cultivating land for decades, but that land is classified as forest land or vacant/fallow/virgin land, not agricultural land (Namati & Landesa, 2015). Official conversion—a lengthy and complex process—is required before the land can be classified as farmland and registered to the farmer (Namati & Landesa, 2015, p. 27). Both farmers and officials can find these requirements to be too difficult; obstacles cited for failure to reclassify land include the confusing rules, onerous process, and government officials fearing lack of authority (Namati & Landesa, 2015). Payments of informal fees and bribes are not uncommon in this system ripe for corruption (Global Witness, 2016). Simplifying conversion of land from one use type to another will benefit those who are already adding to the nation’s agricultural production as well as streamline government processes and cut down on backroom deals. The improvement of land tenure security is proven to have positive effects on productivity stemming from farmer investment in land (Namati & Landesa, 2015, p. 7).

International Rights

There is growing international concern for food sovereignty, or allowing farmers to have greater autonomy and control over their crops and fields and make their own farming decisions (International Forum for Agro-Ecology, 2015). La Via Campesina, an organization representing more than 200 million smallholder farmers worldwide, advocates for food sovereignty and agro-ecology—allowing farmers to

pursue traditional farming methods to improve food security, production, and the carrying on of tradition (Bafana, 2016). Classifying land specific to one crop or use does not allow for practices such as intercropping, a common traditional farming practice that can improve farm resilience to crop failure through the viability of other crops grown in the same area or the benefits one crop can give another, helping prevent negative effects in bad conditions (Bafana, 2016). Food sovereignty, by definition, ensures “that the rights to use and manage lands, territories, water, seeds, livestock and biodiversity are in the hands of those who produce food” (La Via Campesina, 2011).

Food sovereignty focuses not only on the wellbeing of farmers, but also on sustainably feeding the world. Smallholders are proven to have outsized impacts on food production. In 2014, the world’s 500 million smallholders produced as much as 80% of the food consumed in Africa and Asia (Landesa, 2014, p. 1). In Brazil, smallholders hold less than 25% of the farmland, but they produce 40% of all agricultural value in the country (La Via Campesina, 2010, p. 4). The impacts of these small farms are not negligible. La Via Campesina points the finger at transnational food corporations and investment funds, blaming hoarding and misguided policies for global food insecurity. La Via Campesina suggests that peasant-based sustainable farming systems based on agro-ecology and a food sovereignty concept can fill the gaps left by big agricultural producers (2010, p. 1).

This model is dependent on responsible farming by smallholders, but it is responsible farming that could also be profitable—it is dependent on principles like crop diversity and diversification of the agroecosystem in time and space through rotational crop systems—principles we hope to see honored in Myanmar (La Via Campesina, 2010, p. 2). This concept of functional biodiversity with diversified production requires the healthy integration of crops, trees, and livestock—integration that is illegal under the current system of land classification and therefore not open to farmers in Myanmar to choose for their lands. Because of restrictions like these, La Via Campesina demands public policies to support sustainable peasant and family farm agriculture. La Via Campesina Youth in Southeast Asia and East Asia specifically oppose monoculture farming practices for the potential negative impacts of heavy indebtedness for poor peasant families and the loss of farming land (La Via Campesina, 2007).

Other international rights movements also point toward farmer freedoms. One can draw on the Voluntary Guidelines to support claims of farmers to use their lands for agricultural purposes (International Planning Committee for Food Sovereignty [IPCFS], 2016, p. 20). The guidelines, drafted by the Food and Agricultural Organization of the UN, encourage states to allow access to land, fisheries, and forests for indigenous peoples, peasants, and those who rely upon land for their livelihood, whether

formally recognized or not (IPCFS, 2016, pp. 18, 21). The Voluntary Guidelines draw on the Millennium Development Goals and other international instruments, also support agro-ecological approaches to farming (FAO, 2012, p. vi). The Voluntary Guidelines on Responsible Governance of Tenure stipulate:

Spatial planning should take duly into account the need to promote diversified sustainable management of land, fisheries and forests, including agro-ecological approaches and sustainable intensification, and to meet the challenges of climate change and food security (FAO, 2012, p. 32).

The Voluntary Guidelines also include a responsibility of the government to support smallholders through access to credit, crop insurance, and agricultural extension (FAO, 2012, p. 24).

Climate Change

Climate change is already having a profound effect on Southeast Asia, and the effects are expected to worsen in the coming years, particularly for farmers (ADB, 2016). Rice yield potential across the region is expected to decline by up to 50% compared to 1990 levels by 2100, so paddy farmers will be particularly exposed to risk (ADB, 2016, p. 5). Protection of agriculture through climate change mitigation, resilience, and adaptation will be essential to the long-term growth of Myanmar and the wellbeing of smallholders.

Southeast Asian neighbors are already taking steps to combat climate change. Cambodia is developing pilot projects aimed at enhancing climate resilient water infrastructure as well as restoring mangrove ecosystems for mitigation purposes (ADB, 2016, pp. 16-17). Indonesia is taking a more agriculture-focused approach, with emphasis on forestry and land use change toward improved food security, decreased emissions, and resilience (ADB, 2016, pp. 18-19). The Philippines have seen an increasing rate of conversion from forest to agricultural land as climate change displaces farmers (ADB, 2016, pp. 22-23). Without availability of quick and easy land use conversion processes, these farmers could become landless. As an alternative, in other nations, steps are being taken to improve forest tenure instead of converting forests to cultivated land.

The FAO recommends that Southeast Asian countries adopt adaptation measures like these to reduce the impacts of climate change and enhance food security. Suggestions include modification of farming practices, diversification and development of stress-resistant crops, improved soil conservation

and water management, and enabling policy environments, among others (World Bank & FAO, 2011, p. 6). In Myanmar, these steps are best taken by first clarifying the enabling policy (a new agricultural land classification system) and then encouraging farmers to adopt the measures listed above. As land tenure security increases, farmers are more likely to take steps to protect their land for years to come, which can both mitigate climate change effects and add resilience to individual farms (Runsten & Tapio-Bistrom, 2011).⁶

As severe floods and cyclones worsen alongside severe droughts, adaptability and resiliency of farms are increasingly important (Stevanovic et al., 2016). Not only will water and heat stresses plague farms, but pests are expected to multiply as well, with the capacity to devastate crops even in fine weather years (World Bank & FAO, 2011, p. 11). Liberalizing current land use regulations and expanding the definition of agricultural use will allow farmers to take the steps needed to make their farms more environmentally stable and prepared to weather the storms. Additionally, if one crop is negatively affected by climate change, another can compensate for its loss, saving the farmer from financial devastation. In other words, climate change mitigation and adaptation is more costly and difficult under the existing regulations.

Intercropping can have positive effects on climate change resilience, especially when one of the crops fixes nitrogen or sequesters carbon. Cowpeas, for example, are both very drought-tolerant and help fix nitrogen in the soil, making the peas climate resilient and also benefitting neighboring crops' resiliency (Bafana, 2016). Reintegrating livestock and agriculture production can also help decrease the use of chemical fertilizers and slow climate change (GRAIN, 2011). Planting trees alongside other crops can help with climate change mitigation through carbon sequestration and protect more fragile crops from the elements (Asian Development Bank [ADB], 2016). A case study by La Via Campesina found that complex systems – intercropped or rotational cropped systems – suffered about 50% loss in a hurricane, while monoculture neighboring systems suffered losses upwards of 80% (La Via Campesina, 2010). The multiple layer farms also recovered their yield potential more quickly than their neighbors. The existing regulations in Myanmar lead to farming inefficiencies as well as inefficiencies in farmland bureaucratic structures, as exemptions are required for most changes away from monoculture staple crops.

In order to adapt quickly to the changing environmental conditions of a climate change reality, farmers must be able to make the crop decisions that make sense for their businesses without onerous

⁶ Long-term soil carbon conservation requires adoption of land management practices that can yield long-term returns but require up-front costs that often do not make financial sense to land-insecure smallholders.

government bureaucracy slowing down the process. Notably, this freedom of choice can benefit more than individual farmers. Lack of tenure security and property rights is identified as a factor negatively affecting the adoption of sustainable land management practices in SE Asia (World Bank & FAO, 2011, pp. 11-12). Southeast Asia could help reduce the negative effects of climate change by half through liberalized food markets, according to a new study by the Potsdam Institute for Climate Impact Research (Stevanovic et al., 2016). Government support of legal crop choice freedom through agricultural land use liberalization will incentivize climate change resilience and adaptation.

III. Basis for the Right to Crop Selection

Permitting farmers to choose what they grow can have benefits that go far beyond the individual farmer's wellbeing. Crop selection freedom can potentially lead to important economic and environmental impacts, such as higher agricultural yields, improved climate change resilience, and increased market stability as farmers are better able to compensate for the loss of a single crop in a season. Many of the arguments for agricultural land use freedom mentioned above apply to crop selection as well.

Economic

A number of economic arguments can be made for crop selection freedom. The arguments below fall into two broad categories: benefits of land-secure farmers and benefits of crop diversity.

Before the proposed reforms can bear fruit, however, additional steps for economic growth must be taken. Agricultural production in Myanmar has fallen behind that of countries with better access to agriculture extension, credit, irrigation, enhanced seeds, and fertilizer, including nearby Cambodia and India (Mercy Corps, 2013). Supporting diversification and increased production will require investment by the government (Tun, Kennedy, & Nischan, 2015, p. 2). Crop choice freedom and other land reforms yield the most benefit if they are carried out alongside agricultural extension services and credit access.⁷

⁷ Currently, MADB borrowing is geared toward current land users and there are restrictions on maximum borrowing that are arguably insufficient for high-quality crops (Tun et al., 2015, pp. 9, 12-13). Irrigation schemes are also tailored toward rice production to the detriment of higher-value crops (International Water Management Institute [IWMI], 2015).

“The second crucial element in the five Asian successes was the support of these new land secure smallholder farmers with agricultural extension services. Agricultural extension services are essential to building confident and capable farming families, and they must be regularly accessible. In Japan in the 1940s, for example, these services were so pervasive that the government provided one extension worker, or trainer, per village. This technical advice on planting, cultivation, seeds, irrigation, soil, animal husbandry and many other subjects were a critical piece of

Currently loans from the MADB favor rice farmers, offering loans of up to 100,000 kyat per acre to the 20,000 kyat per acre for non-rice farmers, which greatly disincentivizes diversification on an individual level and distorts efficient market allocations (Tun et al., 2015, p. 12).⁸ Policies must be drawn into line with the proposed reforms in order to result in growth for individual productivity and the economy as a whole.

Land Tenure Security Benefits

Restrictions on crop choice can have significant negative impacts on a farmer's land tenure security. Current restrictions make it illegal for farmers to deviate from growing certain crops, even when the allowed crops are unprofitable. Land and labor productivity profits for pulses and oilseeds are in general higher than profits for paddy. A 2013-14 agricultural survey in Myanmar showed that the net margin of \$/hectare and labor productivity in \$/day was greater for crops such as sunflower seeds and groundnuts than for paddy (World Bank, 2016). Giving farmers crop choice freedom gives them increased opportunity to have successful growing seasons and removes the potential disaster of choosing between state-sanctioned unprofitable crops and unsanctioned profitable crops. Additionally, removing crop type restrictions could encourage non-paddy farmers to apply for land use certificates now that their chosen crops are no longer illegal, greatly improving their land tenure security.

Providing increased land tenure security for smallholders is also critical to incentivizing farmers to invest in their land. Farmer investments in productivity improvements come only when the farmer is not worried that improved land could be confiscated. Government support for smallholder land rights is important for strengthen this perceived and legal security of tenure (Deininger et al., 2013). Further, research shows that small farms are often more efficient and productive than larger farms, with government support for landholder rights further improving their productivity in a wide range of settings (Landesa, 2014; Hazell et al., 2007; Wiggins, Kirsten, & Llambi, 2010).

High costs of production and low prices for product can disincentivize farmers from producing crops at all (Tun et al., 2015, p. 17; World Bank, 2016, p. 57). In such a climate, jeopardizing land tenure for farmers whose lands do not profitably produce rice does not benefit rice production but rather pushes farmers into land tenure insecurity. Allowing diversification of crops toward those requiring less water is

these nations' growth" (Namati & Landesa, 2015, p. 13). Similarly, BASIX in India is an example of extension services adapted to the agro-climatic zones and tied to inputs and credit (Mahajan & Vasumathi, 2010).

⁸ If the MADB allowed farmers in Kayah State to access credit to plant rubber trees, for instance, these farmers could profitably sell latex to China, where rubber cannot be grown (Mercy Corps, 2013).

more resilient and pro-production. Paddy is often less profitable and more costly to produce than other crops during the cool and dry seasons (Nguyen, 2013; World Bank, 2016). In 1997-98, summer paddy production fell markedly, which could be explained by low rice prices not justifying costly pump irrigation, and farmers choosing to produce less instead of spending more to eventually yield a lower price (Fujita & Okamoto, 2006).

With more farmers secure in their land tenure, crop choice freedom could help develop value chains offering employment opportunities to landless populations. As agricultural productivity is increased and higher-value export crops are developed, incomes rise and the markets for higher-value consumer products typically expand, producing even more jobs (Byerlee, Kyaw, Thein, & Kham, 2014).

Crop Diversity Benefits

Aside from direct farmer benefits from higher agricultural incomes, crop diversification has been proven to lead to higher productivity and stability of crops (FAO, 2011). Multicropping, intercropping, alley farming, rotation and cover crops have been shown to have positive effects on productivity and yield stability (FAO, 2011). On a micro-plot level, households that can diversify into market gardening have been found to have higher value added per hectare than that of rice-only households (Mercy Corps, 2013). Vietnam, Laos, Cambodia, and Thailand all have successful rice-corn cropping systems (Nguyen, 2013); China and India have found crop diversification to be suitable to geographically diverse farmland (Menxiao, 2001; Dawe, 2015). In Kenya, participation in a polyculture system using plants as trap crops on the borders of maize fields to repel pests has led to an increase in maize yield from 37% to 129% without the use of pesticides (La Via Campesina, 2010).

In Kayin state, some farmers already use a mixed cropping system to maintain diversity and high yields. Bulbs and vines are planted with rice. In upland rice distribution, farmers attach seeds of herbs and flowers to rice-planting spades to distribute these along with the rice. Other crops grown include chilies, eggplant, tomato, millet, cassava, fruit, pumpkin, and peas, and sugarcane is increasingly used as a cash crop (Karen Environmental and Social Action Network [KESAN], 2005, p. 26). These farms are not legal currently.

Diversifying crops additionally helps mitigate market risks, which is beneficial for both individual farmers and the overall economy. Currently, agricultural exports in Myanmar are concentrated on pulses, rice, and rubber, which amount to 65%, 16%, and 13% of exports respectively. With nearly

70% of pulses exported to India, exports rely heavily on India's productivity gap—its inability to grow enough food for itself, which could decrease dramatically as farming techniques and technologies improve productivity the world over, leading to lower demand for Myanmar staples (OECD, 2015, p. 53). Shared borders with more developed economies and ASEAN trade agreements could facilitate growth in exports of high-value commodities and processed products (Tun et al., 2015, p. 2). The Agricultural Development Bank (MADB), similarly, can insulate itself from risk of default in years with low rice profitability if it lends to farmers producing diverse crops (Tun et al., 2015, p. 12).

World rice consumption is expected to fall as incomes rise in many countries. Vegetable oils, livestock products, and fruit are higher-income food choices. Although rice consumption is stable in Asia currently (80% of the market), the overall budget share spent on rice is dropping. Increase in African consumption of rice has led to increased demand for Asian rice, but rice production in Africa is improving and the fate of Asian surplus rice on the African continent depends on the productivity of African rice farmers (Nguyen, 2013). The long-term result could very likely be a decrease in demand for Asian rice going forward.

Freedom of crop selection will allow states with high rice productivity to continue to produce rice while other states diversify. A 2010 study by the Ministry of Agriculture found that Sagaing, Shan State, and Bago had the highest rice yields. Kayin and Chin were on the opposite end, with low rice yields (OECD, 2015). These results show that dry season paddy can compete with other crops, but only in some ecoregions of Myanmar (World Bank, 2016, p. xxi). Similarly, Vietnam's economic liberalization in the 1980s coincided with a rise in rice yields along the Mekong Delta after the removal of rice quotas (Le Coq & Trebuil, 2005).

Legal

The recently enacted National Land Use Policy (NLUP) offers several rights-based arguments for crop choice freedom. In section 8(1), crop selection freedom is listed as one of the basic principles. It reads, "To permit freedom of crop selection and adoption of cultivation technologies in a way that will not negatively affect the environment." Though environmental wellbeing is prioritized over crop selection freedom, the status of this freedom as a basic principle of the policy is unambiguous. In China, for example, non-residual rights of farmers include freedom of crop selection. For Chinese farmers, freedom of crop selection is ensured, along with security of tenure, rental or transfer rights, conversion to alternative agricultural uses, and the right to inherit (Ho, 2005, p. 111).

Also under the NLUP, farmers have a right to land tenure security. 6(b) states that an objective of the policy is “[t]o strengthen land tenure security for the livelihoods improvement and food security of all people in both urban and rural areas of the country. Land tenure security is threatened when farms can be taken away for crop choice reasons.”

Ecological

There are a variety of beneficial ecological impacts resulting from crop diversification and crop choice. Crop selection freedom allows farmers to farm sustainably, not over-taxing land when trying to grow crops that are not necessarily well-suited to the environment. Crop rotations, intercropping, and growing different varieties of a single crop can have beneficial effects on crop performance, nutrient availability, pest and disease control, and water management (FAO, 2012, pp. 25-26). Species-rich communities are also found to have greater resource use efficiency (Loreau, Naeem, et al., 2002). Home gardens are a good example of how multi-species compositions can lead to efficient nutrient cycling and resource use while providing relatively secure livelihood support (Kumar & Nair, 2004).

Crop choice restrictions can lead to environmental degradation, as fertilizers and pesticides are often overused in an attempt to produce greater results even in areas not suitable to the crop mandated. The use of diversified crop rotations can help improve soil biodiversity, reducing the need for harmful soil additives (FAO, 2012). Additionally, intraspecific genetic diversity, mixed cropping systems, and landscape heterogeneity can all contribute to natural pest control (FAO, 2012, pp. 29-30). Diversified crops can also provide greater water retention in the upper soil, resulting in greater resilience to climate change effects (FAO, 2012, pp. 32-34). Climate change, if unimpeded, could lead to agricultural losses in staple crops. One estimate found that South Asian losses of rice, millet, and maize could exceed 10% by 2030 (Lobell, Burke, et al., 2008).

Alternative farming methods, some already practiced in Myanmar, can have greatly beneficial effects on the environment if allowed under a crop choice freedom regime. Agroforestry systems enhance efficiency of land, reduce need for fallowing, and sequester greater quantities of carbon than other agricultural systems. Alley cropping and Taungya cultivation (more common in Myanmar) cultivate trees and agricultural crops together. Intercropping of trees and crops is similarly practiced on 3 million hectares in China to positive effect (FAO, 2012, pp. 32-34; Sen, 1991).

International Rights

In line with this connection between crop diversity and sustainability, secure land rights and agricultural productivity are essential to the Sustainable Development Goals. Secure land rights for smallholder farmers are mentioned in the sustainable development goals relating to ending poverty, achieving gender equality, increasing food security, and promoting sustainable agriculture. Specifically, the food security target calls for “double the agricultural productivity and incomes of small-scale food producers” and recommends nations “implement resilient agricultural practices” in its provisions (United Nations [UN], 2015).

Concerns

While the economic, legal and ecological benefits of crop choice and crop diversity are numerous, in the Myanmar context the underlying concerns that led to the policy structure restricting crop choice by farmers remain. There are a variety of concerns, two significant ones are concern for the food supply and impediments to financing. In the past, government emphasis on rice production quotas led to years of pressure to grow rice, leading to a deficit in knowledge of other agricultural practices and causing depletion of soils that may lead to some crops underperforming.⁹ This gap can be addressed in part through improved and significantly increased agricultural extension services, and agricultural inputs, provided both by the public and private sector. A second concern is the inability to receive rural credit should farmers shift away from paddy, as government agricultural credit is weighed against non-paddy crops. This shortcoming can also be addressed, through amendments to policies of the Ministry of Agriculture, Livestock and Irrigation, and to related legislation, freeing up rural credit for farmers who choose to grow diverse crops.

IV. Basis for the Right to Fallow

Fallowing is “a resting period for agricultural land between two cropping cycles during which soil fertility is restored” (Styger & Fernandes, 2006). The practice of fallowing has a long history as part of general agricultural activities around the world. Fallowing has played an important role in sustainable agriculture for thousands of years with economic, cultural, and ecological significance. Shifting cultivation practices can increase biodiversity, decrease pest populations, decrease demand for expensive fertilizers, and increase natural soil fertility. While not all farmers in Myanmar use fallowing techniques

⁹ Information from interviews with NLD Farmers Affairs Committee Members in March 2015 in Nay Pyi Taw.

now or would do so if given the option, legal avenues for making that choice should be available to the farmers themselves and they are not under current regulations.

Economic

As a result of recent shifts to unsustainable farming practices, there are reduced crop yields due to declining soil fertility, weeds, and increased risk of crop loss. As observed by researchers, transforming traditional farming with fallow periods to permanent cropping, especially with the monocultural approach, may decrease biodiversity and local farmers' self-sufficiency of nutrition, income, and health (Styger & Fernandes, 2006). Declining agricultural productivity and sustainability may lead to diminished food and livelihood security, increased poverty, and social conflicts over forest and land resources. In general, system resilience and productivity decline may lead to a downward degradation spiral (Yumpu, 2013).

Considering these deficits that come with unsustainable agricultural practices, farmers should be able to choose the farming technique that works the best for their specific conditions, including soil conditions, climate, economic constraints, and cultural traditions. In Kayin state, for example, where fallowing is no longer in common practice, agriculture has become unsustainable, resulting in the decline of soil fertility, an increase of pests and weeds, and decreasing forest areas (KESAN, 2005). Some of these changes can be attributed to fallowing restrictions.

Cultural

Fallowing as part of traditional farming practices preserves a wealth of indigenous knowledge and culture (Styger & Fernandes, 2006). Traditional farming practices including fallowing are a reservoir of indigenous knowledge “accumulated through centuries of trial and error,” and “play a custodial role in preserving cultural diversity” (Cairns & Garrity, 1999). Conservation policies must address ethnic cultural conservation to really succeed (Cairns & Garrity, 1999).

Abandoning traditional farming may lead to disruption of cultural traditions, collective memories, and community governance. In the past several decades, due to pressure from development, a shortage of land, and deforestation, fallow periods have dramatically decreased or disappeared in many areas of Southeast Asia. This disruption has coincided with a related cultural disruption of ethnic groups who have relied on traditional farming methods. For example, in Mu Traw District of the Kayin state, due to land

scarcity and military prohibition, fallow periods have substantially decreased. As a result, seed varieties that Karen people historically preserved are being lost (KESAN, 2005).

Legal

Under current law in Myanmar, leaving land fallow can result in fines, loss of land use rights, and forcible removal of structures on fallowed land (USAID, 2012). The Vacant, Fallow, and Virgin Lands Management Law (2012) introduced a mechanism that allows public and private sector investors to claim land that is considered fallow, putting many farmers, especially those belonging to ethnic nationalities, in a vulnerable position (TNI, 2016). While the government classifies fallowed land as unused, ethnic nationalities attest that vacant land “does not exist in ethnic territories” (TNI, 2016; Franco, 2016). As such, land advocacy groups call for recognition of fallow rotational farming systems as legitimate practice (TNI, 2015; LIFT, 2016). In other parts of Southeast Asia, farmers started to adopt managed fallows to cope with decreased land areas and shorter fallow periods and have achieved positive results (Cairns & Garrity, 1999). Cambodia’s land laws, for instance, specifically include fallow land as part of a shifting agriculture system, and even cover some forest land (Tetra Tech, 2016).

The National Land Use Policy, unlike older laws, recognizes the importance of customary land tenure practices, including fallowing. Section 70 states:

Reclassification, formal recognition and registration of customary land use rights relating to rotating and shifting cultivation that exists in farmland, forestland, vacant land, fallow land, or virgin land shall be recognized in the new National Land Law.

For Myanmar to achieve these goals, restrictions on fallowing in the VFV Law and Farmland Law must be lifted.

Ecological

During a fallowing cycle, a series of chemical, physical, and biological improvements take place in the soil and restore soil organic matter (SOM), which is critical for soil fertility. In addition, erosion and leaching are minimized with the increasing of ground cover and rooting mass (Styger & Fernandes, 2006).

Traditional fallowing periods may last for as long as 10 to 20 years with short cropping periods, usually 1 to 2 years. Rotational cropping leaves land fallow for closer to 4 years. However, with growing population and land constraints, fallow periods have been reduced. As a result, researchers have observed soil fertility degradation and crop yields declines (Styger & Fernandes, 2006).

The functions of fallow periods include weed control, breaking pest and disease cycles, and producing timber, fibers, and medicinal plants (Styger & Fernandes, 2006). Fallow periods also contribute to the local ecosystem and biodiversity (Styger & Fernandes, 2006). Research in Karen and Lua villages in Mae Chaem district of northern Thailand shows that the longer the fallow period is, the richer the tree species become. At the same time, bird species diversity increases as the fallow period increases (Styger & Fernandes, 2006). Farmers should be able to take these and other factors into account when deciding what is right for their farms and their families without overregulation by the government.

Concerns

Although there are significant economic, cultural, legal and ecological benefits from supporting farmers' rights to fallow their land, some concerns remain. These include hesitations to support fallowing because of perceived ecological impacts from slash and burn methods in some traditional fallowing practices, and the sense that land is being underutilized when allowed to fallow for several years. These concerns can be addressed, respectively, first through greater support for traditional farmers who use fallowing practices by advising on more ecological methods of land clearing; and second through better education of government officials about the economic value that comes with the greater productivity and sustainability when farmers follow traditional fallowing practices.

V. Freedom to Farm Amendments to the Farmland Law and Form 7 Based on the NLUP

Recommended amendments to the Farmland Law (2012) fall under several major categories: minimizing farmland utilization restrictions, removing customary use restrictions, modernizing land classifications, clarifying women's land rights, and decriminalizing land tenure issues. The following recommendations and language have been largely borrowed from the National Land Use Policy (with the exception of decriminalization) to ensure continuity across the legal framework in this subject area.

Amendments are addressed by category below:

Utilization Restrictions

Strengthening land tenure security is a major goal of the National Land Use Policy under Chapter 1 (Objectives) and Chapter III (Basic Principles) (6(b), 8(a)). To this aim, amendments should incorporate language from the National Land Use Policy in 10(b), enumerating the right to freedom of crop selection and to allow for fallowing of farmland, drawing from 8(l) and 70 of the NLUP. To bring the rest of the document in conformity with this principle, sections 12(h) and 12(i) should be stricken from Chapter IV that prohibits growing of alternative crops and the fallowing of land without permission, and from Chapter X that addresses applications for permission to grow alternative crops. As a result of these amendments, the Conditions on the Land Use Certificate restricting crop types and fallowing would be void. The removal of the restriction on fallowing is also described the section on Customary Use.

To further protect land tenure security, particularly of smallholder farmers, all references to use of land “within the stipulated manner” should be changed to “for agricultural purposes,” ensuring that the law is read to allow all agricultural use of any farmland in question. Additionally, “shall apply” for a Land Use Certificate or registration should be changed to “may apply” to allow farmers to work their land securely before obtaining a Land Use Certificate. These changes would reflect the National Land Use Policy, which lists protection of legitimate land tenure rights, with particular attention to smallholder farmers, as a basic principle (8(a)).

Similar changes should be made to Form 7 to bring the Land Use Certificates into conformity with the above.

Customary Use

Another vulnerable group emphasized in the National Land Use Policy is ethnic nationalities (8(a)). The NLUP calls for recognition and protection of customary land tenure rights (6(c)) and of communal property rights (7(d)). With these principles in mind, the law should be amended to expand the “organization” section of Land Use Certificate holders to include “community,” defining community as an ethnic group utilizing a customary land tenure system. This language should be drawn from Part VIII of the National Land Use Policy, the Land Use Rights of the Ethnic Nationalities.

Specific rights to use rotating and shifting cultivation, customary cultivation practices, and fallowing also fall under customary use rights. Section 10(b) of the law should be amended to incorporate

these rights into Chapter III. The language used should be borrowed from the National Land Use Policy section 70. To bring the rest of the document in conformity with this principle, section 12(i) should be stricken from Chapter IV, removing that restriction on the right to fallow land. The NLUP further stipulates that customary lands of ethnic groups should be registered and protected as “customary land” (68). To this end, 17(j) of the law should be modified to give guidance duties to the Central Farmland Management Body for registration of customary land use rights, such as Taungya cultivation (which is specifically enumerated under the Farmland Law).

Similarly to the above, to encourage the participation of ethnic nationalities in farmland management bodies, the amended law should include a section under Chapter V (Formation of Farm Management Bodies) to emphasize that these bodies should make efforts to encourage the participation of ethnic nationalities to represent the community more as the farmland management bodies evolve. This concept is drawn from the National Land Use Policy section 75(e-f).

Land Classification

Under the Farmland Law, land is classified under ten different categories enumerated in 3(a-c) of Chapter 1 (Name, Enforcement, and Definitions). This classification system should be replaced with the simpler classifications found in the National Land Use Policy. Chapter II of the NLUP defines agricultural land:

All land used primarily for agriculture production purposes, including growing annual or perennial crops, growing industrial crops, animal husbandry activities, land based aquaculture activities, and any agriculture production focused support facilities that are either currently cultivated or fallow (13(a)).

Forest land and “other” land (including vacant/fallow/virgin land) are the other two classifications. The NLUP further empowers “relevant government departments and organizations” to “review and amend” land types “transparently,” a major improvement from the current system (14). Amending the Farmland Law to reflect this agricultural land definition and ability to convert land for different uses would help improve customary land tenure security and further improve land tenure for farmers practicing fallowing or farming diverse or shifting crops. The current classification system leaves smallholders open to land seizure for failure to use as stipulated under the current classification or re-classified under different designations that could have consequences for use rights and regulations and increase costs of production.

Using the broader agricultural land designation will allow the government to continue to monitor agricultural land while embracing farmer freedoms.

Women's Land Rights

Protecting land tenure rights for women is named as a guiding principle in the National Land Use Policy (7(c), 8(a), 8(k)). To clarify that women and men can be joint landholders and apply for joint rights to their land, amendments should incorporate the term “joint landholders” in every reference to Land Use Certificates. Similarly, the often-gendered term “head of household” should be stricken from the document to ensure that women are not seen as lesser landholders in a joint land tenure relationship. The National Land Use Policy allows for individual or joint landholding by both women and men in 75(a).

Seeking to further clarify that women enjoy the same rights to farmland tenure as men, amendments should incorporate the language “man or woman” when references are made to “farmer.” An additional section (9) should be added to Chapter II (Right for Farming) to emphasize these equal tenure rights, borrowing language directly from the National Land Use Policy’s Part IX, Equal Rights of Men and Women.

Lastly, to encourage the participation of women in farmland management bodies, the law should be amended to include a section under Chapter V (Formation of Farm Management Bodies) to emphasize that these bodies should make efforts to encourage the participation of women to represent the community more often as the farmland management bodies evolve. This concept is drawn from the National Land Use Policy 75(e-f).

Penalties & Decriminalization

Though not grounded in the National Land Use Policy specifically, the Farmland Law should be amended to reflect decriminalization of the acts formerly punishable under the penal code. Maximizing land tenure security of small farmers is a major goal in the NLUP, and jailing farmers for failure to comply with requirements seems a disproportional response given other consequences stipulated in the law. The amendments process should remove the chapter on Offences and Penalties as well as a provision under Chapter XII (General Provisions) related to criminal prosecution. To clarify the ability to refer abuses of the Farmland Law to a court system, section 20 should be modified to allow for referral to a related court for application of civil penalties in the event of failure to obey a Farmland Management Body order.

The existence of criminal penalties lends itself to abuses that have occurred in the past in the country, especially when there are significant minimum penalties. The safest approach, given the wide variation of capabilities, concerns, and interests in local areas, is to ground penalties specifically in the breaching activity (i.e., erection of unauthorized structures can result in civil penalties under 19(d) and eviction is possible for failure to use the land for agricultural purposes 19(c)). The civil penalty approach allows the ability to enforce specific areas of concern, such as trespass or resistance in case of eviction. Should further penalties be required for egregious actions, the penal code remains an option while still decriminalizing the Farmland Law.

References

- Asian Development Bank. (2016). *Climate Change in Southeast Asia: Focused Actions on the Frontlines of Climate Change*. Retrieved from http://innovation.brac.net/fif2016/images/library/climate-change-sea_ADB.pdf
- Bafana, B. (2016, October). The Beating Pulse of Food Security in Africa. *Inter Press Service*. Retrieved from <http://www.ipsnews.net/2016/10/the-beating-pulse-of-food-security-in-africa/>
- Belton, B. (2016, December). Briefing Note: Improving Land Governance for More Equitable Fish Farm Development in Myanmar. *Michigan State University*.
- Belton, B. et al. (2015a). You Can Have Your Rice and Eat Fish Too: Rice, Fish, Land Use Trade-Offs and Food Security in Myanmar and Bangladesh. *Michigan State University, Myanmar Development Resource Institute, & International Food Policy Research Institute*. Retrieved from http://fsg.afre.msu.edu/fsp/burma/GFS_Poster_06_10_15.pdf
- Belton, B. et al. (2015b). Aquaculture in Transition: Value Chain Transformation, Fish and Food Security in Myanmar. *International Development Working Paper 139*.
- Byerlee, D., Kyaw, D., Thein, U. S., & Kham, L. S. (2014). Agribusiness Models for Inclusive Growth in Myanmar: Diagnosis and Ways Forward. *MSU International Development Working Paper 133*.
- Cairns, M. and Garrity, D. P. (1999). Improving Shifting Cultivation in Southeast Asia by Building on Indigenous Fallow Management Strategies. *Agroforestry Systems* 47, 37–48.
- Dawe, D. (2015). Agricultural Transformation of Middle-Income Asian Economies: Diversification, Farm Size and Mechanization. *World Bank, Farmgate to Market Study on Managing the Agri-Food Transition in East Asia*.
- Deininger, K. et al. (2013). Tenure Security and Land-Related Investment: Evidence from Ethiopia. *World Bank*.
- Edwards, P. (2005). Rural Aquaculture in Myanmar, *Aquaculture Asia Magazine*, 10(2): 5-16.
- Food and Agriculture Organization (FAO). (2011). *Biodiversity for Food and Agriculture: Contributing to Food Security and Sustainability in a Changing World*. Retrieved from http://www.fao.org/fileadmin/templates/biodiversity_paia/PAR-FAO-book_lr.pdf
- FAO. (2012). *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security*. Retrieved from <http://www.fao.org/docrep/016/i2801e/i2801e.pdf>
- Franco, J. (2016). *The Right to Land at Crossroads in Myanmar*. Retrieved from <https://www.tni.org/en/article/the-right-to-land-at-crossroads-in-Myanmar>
- Fujita, K. & Okamoto, I. (2006). Agricultural Policies and Development of Burma's

Agricultural Sector: An Overview. IDE Discussion Paper 63, Chiba, Japan: *Institute for Developing Economies*.

Global Witness. (2016, March). *Guns, Cronies, and Crops*.

GRAIN. (2011, September). *Food and climate change: the forgotten link*. Retrieved from <https://www.grain.org/article/entries/4357-food-and-climate-change-the-forgotten-link>

Haggblade, S. et al. (2014). Strategic Choices Shaping Agricultural Performance and Food Security in Myanmar. *Journal of International Affairs*. Retrieved from http://www.isis.org.my/attachments/commentaries/2014/SH_et_al_LW_Jnl_Intern_Affairs_2014.pdf

Hazell et al. (2007). The Future of Small Farms for Poverty Reduction and Growth. *International Food Policy Research Institute*.

Ho, P. (2005). *Developmental Dilemmas: Land Reform and Institutional Change in China*. New York: Routledge.

International Forum for Agro-Ecology. (2015, Feb.). Retrieved from <http://www.foodsovereignty.org/wp-content/uploads/2015/10/NYELENI-2015-ENGLISH-FINAL-WEB.pdf>

International Planning Committee for Food Sovereignty (IPCFS). (2016). *People's Manual on the Guidelines on Governance of Land, Fisheries, and Forests: A Guide for Promotion, Implementation, Monitoring, and Evaluation*. Retrieved from <http://www.foodsovereignty.org/wp-content/uploads/2016/06/peoplesmanual.pdf>

International Water Management Institute (IWMI). (2015). *Improving water management in Myanmar's dry zone for food security, livelihoods and health*.

Kumar, B.M. & Nair, P.K.R. (2004). The enigma of tropical homegardens. In Nair, P.K., Rao, M.R., Buck, L.E. (Eds.), *New Vistas in Agroforestry* (pp. 135-152). Dordrecht: Kluwer Academic Publishers.

Landesa. (2014, July). *Smallholder Farming and Achieving Our Development Goals*. Retrieved from <https://www.landesa.org/wp-content/uploads/Issue-Brief-Smallholder-Farming-and-Achieving-Our-Development-Goals.pdf>

La Via Campesina. (2007, November). *South East Asia: La Via Campesina Youth, The Seed of Hope*. Retrieved from <https://viacampesina.org/en/index.php/news-from-the-regions-mainmenu-29/439-south-east-asia-la-via-campesina-youth-the-seed-of-hope>

La Via Campesina. (2010, September). *Sustainable Peasant and Family Farm Agriculture Can Feed the World*. Retrieved from <https://viacampesina.org/downloads/pdf/en/paper6-EN-FINAL.pdf>

La Via Campesina. (2011, February). *What is La Via Campesina?* Retrieved from <https://viacampesina.org/en/index.php/organisation-mainmenu-44/what-is-la-via-campesina-mainmenu-45>

- Le Coq, J.-F. & Trébuil, G. (2005). Impact of Economic Liberalization on Rice Intensification, Agricultural Diversification and Rural Livelihoods in the Mekong Delta. *Southeast Asian Studies*, 42(4), 519-547.
- LIFT. (2016). *Land Core Group Study on How to Register Customary Lands Under Shifting Cultivation*. Retrieved from <http://www.lift-fund.org/news/knowledge-sharing-news-event/land-core-group-study-how-register-customary-lands-under-shifting>
- Lobell, D.B., Burke, M.B., et al. (2008, February). Prioritizing climate change adaptation needs for food security in 2030. *Science*, 319 (5863), 607-610.
- Loreau, M., Naeem, S., et al. (2002). Biodiversity and ecosystem functioning: current knowledge and future challenges. *Science's Compass Review*, 804-808.
- Mahajan, V. & Vasumathi, K. (2010). Combining Extension Services with Agricultural Credit: The Experience of BASIX India. *International Food Policy Research Institute*. 2020 Focus 18, Brief 13.
- Menxiao, Z. (2001, March). *Crop Diversification in the Asia-Pacific Region*. Retrieved from <ftp://ftp.fao.org/docrep/fao/003/x6906e/x6906e00.pdf>
- Mercy Corps. (2013, November). *Agrarian Transitions in Two Agroecosystems of Kayah State, Myanmar*. Retrieved from http://www.burmalibrary.org/docs22/Report_Agrarian_Transitions_Diagnosis_in_Kayah_State_Mercy_Corps_Nov2013.pdf
- Namati & Landesa. (2015). *Recommendations for Implementation of Pro-Poor Land Policy and Land Law in Myanmar: National Data and Regional Practices*.
- National Land Use Policy (2016), Burma, Sec. 13(a).
- National Economic and Social Advisory Council (NESAC). (2016). *From Rice Bowl to Food Basket: Three Pillars for Modernizing Myanmar's Agricultural and Food Sector*. White Paper.
- Nguyen, N. L. (2013, May). Report on the Workshop on the South East Asian agri benchmark Rice Network. Working Paper. *Agri Benchmark*. Retrieved from <http://www.agribenchmark.org/fileadmin/Dateiablage/B-Cash-Crop/Working-Paper/cc-1305-RiceWS-Luan.pdf>
- OECD. (2015). *Multi-Dimension Review of Myanmar: Volume 2. In-depth Analysis and Recommendations*. Retrieved from http://www.keepeek.com/Digital-Asset-Management/oecd/development/multi-dimensional-review-of-Myanmar_9789264220577-en#page55
- Oo, T. H. (2012). Devising a New Agricultural Strategy to Enhance Myanmar's Rural Economy. In N. Cheesman, M. Skidmore, & T. Wilson, (Eds.), *Myanmar's Transition: Openings, Obstacles, and Opportunities*. Singapore: Institute of Southeast Asian Studies.

- Raitzer, D. A., Wong, L. C. Y., & Samson, J. N. G. (2015, December). *Myanmar's Agriculture Sector: Unlocking the Potential for Inclusive Growth*. Asian Development Bank Economics Working Paper Series.
- Runsten, L. & Tapio-Bistrom, M.-L. (2011, June). *Land Tenure, Climate Change Mitigation and Agriculture*. Retrieved from <http://www.fao.org/climatechange/30353-0c11859e8b0cac7aabe39520498b2df22.pdf>
- Schneider, K. & Gugerty, M. K. (2011). Agricultural Productivity and Poverty Reduction: Linkages and Pathways. *The Evans School Review*, 1(1), 56-74.
- Sen, W. (1991). Agroforestry in China. *Ministry of Foreign Affairs*, Beijing, China.
- Stevanović, M. et al. (2016, Aug.) The impact of high-end climate change on agricultural welfare. *Science Advances*. Retrieved from <http://advances.sciencemag.org/content/2/8/e1501452.full>
- Styger, E. & Fernandes, E. C. M. (2006). Contributions of Managed Fallows to Soil Fertility Recovery. In Uphoff, N. et.al. (Eds.), *Biological Approaches to Sustainable Soil Systems* (pp. 425-437). Boca Raton: CRC/Taylor & Francis.
- Tetra Tech. (2016, February). Community Land and Resource Tenure Recognition: Review of Country Experiences - Burma, *USAID TGCC Report*. Retrieved from https://www.land-links.org/wp-content/uploads/2016/09/USAID_Land_Tenure_Community_Tenure_Report_Burma.pdf
- The Farmland Law. (2012). Burma. Sec. 3(a-d).
- The Karen Environmental and Social Action Network. (2005). *Diversity Degraded: Vulnerability of Cultural and Natural Diversity in Northern Karen State, Burma*. Retrieved from http://www.burmalibrary.org/docs13/KESAN-diversity_degraded-en-op7550.pdf
- TNI. (2015). *Customary Land Tenure and Rotation Fallow Farming System must be Recognized and Protected Legally*. Retrieved from <https://www.tni.org/en/pressrelease/customary-land-tenure-and-rotation-fallow-farming-system-must-be-recognized-and>
- TNI. (2016). *The Meaning of Land in Myanmar*. Retrieved from <https://www.tni.org/en/publication/the-meaning-of-land-in-Myanmar>
- Tun, T., Kennedy, A., & Nischan, U. (2015, November). Promoting Agricultural Growth in Burma: A Review of Policies and an Assessment of Knowledge Gaps. *Feed the Future: U.S. Government Global Hunger and Food Security Initiative*. Research Report #5. Retrieved from http://fsg.afre.msu.edu/fsp/burma/Research_Paper_5_Promoting_Agricultural_Growth.pdf
- United Nations. (2015). *Sustainable Development Goals*. Retrieved from <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>

- USAID. (2012). *Community Land and Resource Tenure Recognition: Review of Country Experiences*.
- Vacant, Fallow and Virgin Lands Management Law. (2012). Burma. Art. 12.
- Wiggins, S., Kirsten, J., & Llambi, L. (2010). The Future of Small Farms. *World Development*, 38 (10), 1341-1348.
- Wong, L. C. Y. & Wai, E. M. A. (2013, March). *Rapid Value Chain Assessment: Structure and Dynamics of the Rice Value Chain in Myanmar*, Background Paper No. 6. Retrieved from http://www.burmalibrary.org/docs22/Ref_Doc_Background_Paper_6_Rapid_Value_Chain_Assessment_Mar2013.pdf
- World Bank & Food and Agriculture Organization (FAO). (2011, May). *Climate Change Adaptation in Agricultural Investment in East Asia and the Pacific: Issues and Options*. Workshop Highlights.
- World Bank. (2016, February). *Myanmar: Analysis of Farm Production Economics*. Retrieved from <http://documents.worldbank.org/curated/en/509581468181132091/pdf/100066-ESW-P144951-Box394886B-PUBLIC-MM-Farm-Production-Economics-online-version.pdf>
- Yumpu. (2013). *Swidden Agriculture: Ancient Systems in Transition, Sustaining Food Security & Historic Disturbance Regimes*. Retrieved from <http://www.cfc.umt.edu/rattan/files/Swidden%20agriculture.pdf>