

PERSPECTIVE

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Agriculture in a State of Woe Following Myanmar's 2021 Military Coup

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Farmers riding tractors in convoy to take part in a demonstration against the military coup in Thongwa, on the outskirts of Yangon, on 12 February 2021. Picture: STR / AFP.

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EXECUTIVE SUMMARY

- Myanmar's agriculture sector has faced serious impacts from the February 2021 coup. Input costs have skyrocketed; border trade has been disrupted by fighting and COVID-19; and shipping is no longer reliable, whether for the import of inputs or the export of the country's commodities.
- The main government subsidy to the sector, in the form of farm credit, has largely been suspended amidst a cash shortage resulting from the banking crisis. Most farmers have not been able to pay back their previous seasonal loans, while the subsidy's financial model offers no incentive for farmer compliance.
- A critical reform launched under the National League for Democracy government, the National Land Law process, has also been stopped. This has further hurt agricultural productivity and weakened Myanmar's regional competitiveness. Its suspension could also lead to further land confiscations through force and rampant corruption.
- The ongoing fighting across many parts of Myanmar has had an impact on agriculture; the combat areas themselves are important to the sector. Farmers are unable to do their farming, while internally displaced people in Rakhine State are not able to go back home to work on their farms out of fear of land mines.
- Only crops such as beans, pulses and sesame have fared better, since they do not depend on inputs as heavy as those for paddy; they also still enjoy access to markets, especially the Indian market. This access is due to Indian government policy, now a crucial determinant of the health of Myanmar's farm sector.
- The SAC's policy on agriculture, focusing on tissue-banana and palm oil, and targeting rice production of 100 baskets per acre, is both unrealistic and controversial.

INTRODUCTION

Agriculture is Myanmar's economic backbone. It contributes 32 per cent of GDP, employs 56 per cent of Myanmar's workforce, and accounts for 21 per cent of the country's exports.¹ It is thus clear that Myanmar's economic growth and the improvement of social welfare in the country are impossible without robust advances in agriculture. All successive governments have pronounced that agriculture is key to the success of Myanmar. However, the reality is different. Myanmar's agriculture sector has fallen far behind regional or global competitors such as Thailand and Vietnam, even if it is still able to support domestic food sufficiency.

Comparison on cost vs. profit in paddy, and other crops based on per acre in a season in general (by cropping season)

Cost Side			
Cost Items in MMK	Paddy	Beans/Pulses	sesame
Seed	1 basket x 10000 = 10,000	40,000 (10 Pyi)	4 small baskets x 7000 = 28000
Irrigation	50,000	Nil	Nil
Ploughing and Planting including fuel	25,000	30,000	19,500
Fertilizers	13,6000 (2 bags)	Nil	86,000
Pesticides	Nil	30,000	60,000
Hiring Labor in general:	36,000	60,000	6,000
Harvesting	50,000	58,000	13,500
Storage Cost	Nil	Nil	Nil
Interest for debt	18,000	Nil	4,000
Other Cost	30,000	15,000	Nil
Total	350,000	233,000	217,000
Market Side			
Products (baskets)	70	18 - 20	9
Farm gate price per basket	6,000	43,000	70,000
Export (earning)	Nil	Nil	Nil
Total	420,000	860,000	630,000

This information was collected through talking to farmers in Lower and Upper Myanmar about their experiences. Estimates are averages. Note that if paddy production is lower, it brings no profit or few returns; there is a real tradeoff between production and fertilizer/input use in paddy cultivation, while other crops do not face this issue to the same degree.

Myanmar has been in chaos in many ways since the coup on 1 Feb 2021. There have been adverse effects on many sectors – garment production, industry, the retail and wholesale

trades, exporting and importing, construction, banking, and others. The impact has been unprecedented at all levels.

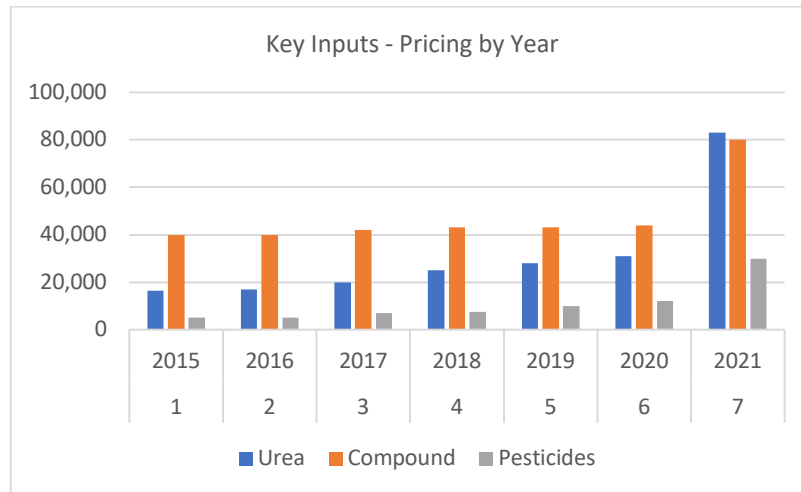
Some would argue that agriculture is unaffected by the coup, and that it will carry on as normal – just as it did under the military regimes of 1988-2010. In fact, agriculture is sensitive to outside events in many ways. Delays in the supply of subsidized farm credit and inputs, for instance, certainly have a serious impact on production. There is no doubt that the compounded crises of COVID-19 and the military takeover have affected the sector deeply.²

Agriculture is vital to the nation's survival, and this has sadly been ignored by the parties responsible for the current political crisis. The price for this is huge, edging the nation toward greater risks.

THE MOST IMMEDIATE IMPACT ON AGRICULTURE

Following the coup, Myanmar's currency, the Kyat, has depreciated to an unprecedented level, by 50-60 per cent on average.³ The cost of major inputs for agriculture has meanwhile gone up tremendously, for example, a 150 per cent increase for fertilizer and a 98-100 per cent increase for fuel, on average.⁴ A general explanation for such high increases is that the country is not able to manage its exchange rate. Another explanation concerns logistics and transport in a very fragile political situation. The Civil Disobedience Movement (CDM) in opposition to the coup was also a driver of this fragility in that many government workers joined the movement.⁵ A third explanation is that traders are no longer interested in imports since the exchange rate crisis has made these very risky. The effect is clear: current stocks of, for instance, fertilizers and pesticides are restricted to domestic supply, with very few if any imports. A fourth explanation is that traders, in realizing that farmers are unable to earn good returns on inputs, have concluded that suspending import flows makes sense. Low productivity has been the immediate impact. As long as the SAC is not able to manage the exchange-rate crisis, agricultural productivity will be affected.⁶

Trade has been disrupted in many other ways, also with effects on agricultural markets. For instance, China is a main buyer of Myanmar's rice and broken rice, and also a main source of inputs. Rice exports to China through border trade dropped significantly in July when China closed checkpoints in Kachin and Shan States due to COVID-19.⁷ According to the SAC, the volume of rice and broken rice exported during a period of eight months (1 October – 28 May) of fiscal year 2020-2021 was estimated at 1.14 million metric tons, generating \$546.6 million in revenue.⁸ The export volume in the past eight months showed a decrease of over 500,000 tones against the export volume in the same period of the previous fiscal year.⁹



Source: author's discussions with importers

Farm subsidies in the form government-sponsored farm credit have been suspended, for three main reasons. The first concerns cash shortage faced by the state-owned Myanmar Agriculture Development Bank (MADB). The banking crisis is a major driver behind this shortage. Another reason is the credit system itself. Those who can pay back their loans can borrow again. But in this system, there is no financial incentive to comply. For instance, should a farmer repay a loan of 1,500,000 kyat plus 8.5 per cent annual interest for his 10 acres of paddy fields at the season's end, his new loan is for the same amount as the old one. If a farmer really wants to pay back his loan and then to take out a new one under this system, he needs to borrow from an informal lender at a higher interest rate than the MADB's. In addition, when other crop loans under the NLD government's COVID-19 relief have been repaid,¹⁰ there is no possibility of borrowing again because of a lack of such a relief programme under the SAC. Amidst a boycott call by the NUG and its affiliates, many farmers have not been interested in repaying their loans in any case.¹¹ The last reason is that farmers no longer have any capacity to pay back what they have borrowed. They may do so only to retrieve a collateral document known as Form-7¹² at the MADB, without which a farmer cannot sell her or his land or transfer title.

The breakdown in farm credit holds huge implications for agriculture in Myanmar. The entire programme of subsidized credit could be collapsing. Of greatest concern is that there is no longer any major policy action on the agriculture sector on the part of the government or the state. Farmers in Myanmar have to be more self-sufficient than ever. This implies that agricultural productivity becomes uncertain, making food security and food sufficiency a matter beyond control. Therefore, the next step for the SAC is to force farmers to pay back their loans so that the MADB can operate again. Compliance will vary across locations. For instance, farmers in less active conflict areas like the Irrawaddy Delta and Bago Region would be likely to comply while those in zones of active conflict like Sagaing and Magwe Regions and across all ethnic areas are least likely to do so. Success in revitalizing much-needed subsidized credit also depends on political circumstances.

LAND REFORM SUSPENDED

Myanmar does not have any specific overarching law that governs land tenure or addresses land confiscations. In fact, at least 72 of its laws concern land tenure.¹³ In general, land ownership in Myanmar has been invested in the state since 1953. Farmers have the right to use land but without right of ownership.¹⁴ In March 2012, two new land laws were passed by parliament, namely the Farmland Law and the Vacant, Fallow, and Virgin Land Management Law (VFVLM law). According to farmland law, the state continues to be the allodial title holder, but certified farmland can be mortgaged, sold and transferred. In practice, farmers had transferred their lands already, so this law has had no significant impact on agriculture. The VFVLM law is also controversial. It is aimed at allocating temporary land use rights over land classified as “Vacant, Fallow, or Virgin.” In practice, this is in conflict with the existing customary land rights that most rural communities recognize.¹⁵ The implementation of VFVLM therefore sparked protests across many parts of Myanmar under the NLD government.¹⁶

The complex legal structure has led to corruption in many instances. To clean up the legal mess, in 2016 the NLD government endorsed the National Land Use Policy (NLUP)¹⁷ after wide-ranging consultation with stakeholders including civil society groups. This is a living document, and it was also tied to the ongoing peace process known as the Nationwide Ceasefire Agreement (NCA). The reason is clear: ethnic minorities have been displaced over a long period and they sought to get their lands back.¹⁸ The coup caused suspension of the entire process. Many land activists have now become highly involved in the people’s resistance movement, and their continued engagement under the SAC is thus impossible. There are also legitimate concerns that farmers will have their lands confiscated by the de facto authorities.¹⁹

WHAT IS MOST NEEDED?

The SAC has introduced several policies and actions on agriculture. First of all, it returned the country’s fiscal year from 1 September–30 October to 1 April–31 March. This was done to better accommodate agriculture business in Myanmar and be better aligned to seasonal cropping and be “more convenient... for business, government, and farmers.”²⁰ The NLD had changed the country’s fiscal year in 2018 in order to optimize national budgetary management.²¹ Whether the reversion to the old fiscal year can help farmers remains to be seen.

The SAC is also focusing on tissue-culture banana plantations.²² This policy is believed to refer to the benefits earned by farmers in Kachin State. Research indicates that the monetary return as net profit per acre is over 2,300,000 kyat (US\$1,280).²³ However, in practice, Chinese businesses have made such profits, but local farmers have received only land rental fees of 600,000 kyat per acre on average.²⁴ Chinese investors in these plantations have built business networks involving the state government, military and militias in their drive to access land. It is estimated that 170,000 hectares across Kachin State were devoted to banana plantations in 2019.²⁵ It is estimated that 486,000 hectares are needed to meet demand in China.²⁶ The SAC would hope to meet and exceed this target. There have been

serious issues around the plantations, however, mainly over social and environmental problems²⁷ and land rights in highly contested areas. Internally displaced persons are, for instance, worried about land confiscations for banana plantations.²⁸

Another agricultural focus of the SAC is oil palm. The SAC assumes that the expansion of oil palm plantations will allow Myanmar to limit imports of edible oil. It considers Tahnintharyi Region as the potential oil pot for the country.²⁹ This policy reincarnates palm oil projects promoted by military regimes in the 1990s, which gave land concessions to companies for planting oil palm. However, these companies were more interested in logging than planting oil palm, and their exploitation of intact forest caused serious environmental damage.³⁰ Oil palm plantations themselves are controversial.³¹

Who is responsible for land confiscation?		
	Responsible entity	% of total
1.	Military	47.7%
2.	Government Departments	18.8%
3.	Myanmar Companies	13.9%
4.	Local Authorities	5.8%
5.	Foreign Companies	4.4%
6.	Military with government departments and companies	1.3%
7.	Military with government departments	1.3%
8.	Government Departments with local authorities	1%
9.	Individuals	1%
10.	Ethnic Armed Groups	0.9%

These data are based on surveys of over 2,000 people conducted across six states and seven regions in 2015. See "Destroying People's Lives: The Impact of Land Grabbing on Communities in Myanmar", Land in Our Hands Network, December 2015.

In the paddy sector, the SAC targets average yields of 100 baskets³² per acre in general.³³ Without any subsidies from the government, and with mounting input expenses, this target is not realistic. Addressing land confiscation is a much-needed policy from the SAC. Data indicate that in almost half of the cases, confiscation directly involved either the military alone or the military in combination with other actors.³⁴

ONGOING CONFLICTS HURTING AGRICULTURE

Myanmar's conflict pattern has significantly changed following the coup. In addition to the areas of longstanding conflict in which ethnic armed organizations (EAOs) are active, heartland areas such as Sagaing and Magwe Regions in which majority Bamar populations reside have seen escalating fighting. It is important to note that Sagaing Region is the third

largest rice-producing area of the country, whereas Magwe is the fifth largest.³⁵ These regions are important producers of other agricultural commodities, too. The latter region is also, for example, the top grower of sesame in the country.³⁶ Farming activities in many ethnic areas have been disrupted as well.³⁷ In Rakhine State, even though conflict has calmed, those internally displaced persons who are farmers are unable to return home to cultivate their land because of concern over land mines.

In some instances, the junta's troops have burned agriculturalists' houses, goods and properties, including rice or paddy, sesame, and seeds essential for the next cropping season.³⁸ Farmers have also in some cases sold their farms in exchange for guns to use for self-defense.³⁹ This troubling disruption in farming activities has certainly had an impact on agricultural production, and it is fortunate that Irrawaddy and Bago Regions are still less vulnerable to conflict. However, farmers in the Irrawaddy Delta are concerned that if conflict resumes in Rakhine State, the delta will be affected—not least in relation to logistics across the border with Rakhine State.⁴⁰ Thus, farming remains vulnerable to conflict in serious ways.

Against many obstacles during this period of political turmoil, Myanmar farmers have struggled with the post-coup environment: heightened conflicts, a lack of credit subsidies, growing input expenses, reduced productivity, and unreliable markets. A key bright spot for the sector comes from crops other than paddy, especially beans and pulses as well as sesame, which have long been fundamental to the country's farm sector. Myanmar is the second largest global exporter of beans and pulses, after Canada.⁴¹ In fiscal year 2011, the area planted to pulses was estimated at 4.4 million hectares, or about 55 per cent of the area planted to paddy.⁴² Beans and pulses can be planted after the monsoon crop of paddy and have lower production costs due to lower input requirements. They also have better returns. Farmers mention that they invest in fertilizers in the monsoon paddy season in order to have greater bean and pulse yields. To them, a general guideline is to expect to break even with paddy and to enjoy profits from bean, pulse and sesame cultivation.⁴³

In fiscal year 2019-2020, Myanmar produced more than 1.3 million metric tons of black matpe, 1.5 of mung bean, and more than 500,000 of toor or pigeon peas.⁴⁴ The production of beans and pulses is often correlated with the Indian government's import policy. Policy changes in India directly affect bean and pulse prices in Myanmar; farmers adjust their cropping decisions accordingly. Recently, the Indian government signed a memorandum of understanding with Myanmar to import 250,000 tons of mung bean (urad) and 100,000 tons of pigeon peas (toor) yearly from 2021-22 to 2025-26.⁴⁵ It is hoped that India's policy on Myanmar beans and pulses will continue supporting Myanmar farmers.⁴⁶ If that happens, farmers will focus on beans and pulses in the years to come and enjoy increased production.

MORE POLICY ATTENTION AND MORE SKILLED LABOUR NEEDED

Successive Myanmar governments, including the NLD-led civilian administration of 2015-2020, have kept mentioning that agriculture is key to the country's success. The reality, however, is that the agriculture sector has been overlooked for quite some time. For instance, even though Cyclone Nargis in May 2008 hit across the Irrawaddy Delta, the

country's largest rice bowl area, concrete government support to address the resulting devastation and the impact on farming has not been evident. Farmers still face the issue of rising saltwater, a serious problem for rice cultivation.⁴⁷ The agricultural sector is very vulnerable to Myanmar's climate crisis; it needs to prepare for high potential risks. This will require significant investment in agricultural productivity by innovation.⁴⁸ Expenditure on agricultural research is minimal: in fact, agricultural research is one of the highest payoff investments that the public sector can make.⁴⁹ Myanmar has overlooked that fact.

The other issue is labour. Labour in the farm sector needs to be equipped with better skills. Innovation is needed to overcome climate change challenges and to compete in the global market. Myanmar's new generations are key to this end. However, the young are not interested in the at best negligible returns to agriculture, and many instead become immigrant workers, for example, in Thailand and China. A usual complaint heard when visiting Myanmar's rural communities is that only the elderly and children live there. Therefore, attracting a skilled workforce back to the country is a major task for any government in Myanmar. Without skilled labor, agricultural productivity is at risk. The coup's impact has obviously been to spur more emigration, especially of the young. The impact on agriculture, now and in the future, is a serious one.

CONCLUSION

Myanmar's agriculture has suffered from COVID-19 due to disruptions in the border trade with China. The coup has also had a significant impact on this sector that is critical to the nation's survival and growth in general. The crisis has escalated input costs and has thus reduced agricultural productivity. Farmers in conflict-affected areas are not able to work, and food security is at great risk. The food security issue is not strictly related to insufficient food production. Rather, logistics, including the transport of food to those who are in need, can also induce food security. The current civil conflict is giving rise to such situations.

Myanmar's agriculture is already far behind its regional and global competitors, but the coup has made the situation even more hopeless. While innovation is seriously needed, many in the workforce have turned to migration. The crops that offer some salvation for the sector, like beans and pulses, are now critical to farmers' survival. But this condition really depends on the Indian government whose policies have an impact on Myanmar's agriculture. In suspending government-sponsored farm credit, Myanmar's own administration now has little policy impact on agriculture.

As Myanmar's agriculture potential becomes bleaker, so does the country's socioeconomic wellbeing.

¹ ADB, "Myanmar's agriculture sector: unlocking the potential for inclusive growth", December 2015.

² The coup has made prospects for Myanmar agriculture bleak, with growing input expenses, reduced production, logistical difficulties, and trading disruptions.

³ For details on Myanmar Kyat exchange rates, see

<https://tradingeconomics.com/myanmar/currency>.

⁴ For gasoline price trends in Myanmar, see https://www.globalpetrolprices.com/Burma-Myanmar/gasoline_prices/.

⁵ S&P Global Platts, “Myanmar Protest Reduce Imports As Shipping Lines Suspend Operations”, 16 March 2021, <https://www.spglobal.com/platts/en/market-insights/latest-news/agriculture/031621-feature-myanmar-protests-reduce-imports-as-shipping-lines-suspend-operations>.

⁶ This is a big question mark, as energy giants Total and Chevron have confirmed plans to withdraw from Myanmar.

⁷ USDA, “Rice Trade – Monthly”, 22 November 2021,

https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Rice%20Trade%20-%20Monthly_Rangoon_Burma%20-%20Union%20of_11-01-2021.pdf.

⁸ Global New Light of Myanmar, “Myanmar rice market sees flat price in border despite sluggish trade” 14 July 2022, <https://www.gnlm.com.mm/myanmar-rice-market-sees-flat-price-in-border-despite-sluggish-trade/>.

⁹ Global New Light of Myanmar, “Myanmar rice market sees flat price in border despite sluggish trade” 14 July 2022, <https://www.gnlm.com.mm/myanmar-rice-market-sees-flat-price-in-border-despite-sluggish-trade/>.

¹⁰ Under the NLD government, there was a COVID relief programme for non-paddy crops, offering loans of 50,000 kyat per acre at a low interest rate of 4.0 per cent per six-month season.

¹¹ Personal communication with farmers in Bago, Magwe and Irrawaddy Regions and in Shan State, 20-23 January 2022.

¹² Form-7 is commonly known as a land rights certificate; it is used as collateral for loans and to transfer for title to land.

¹³ See Scott Leckie and Ezekiel Simperingham, *Housing, Land and Property Rights in Burma: The Current Legal Framework*, Displacement Solutions and HLP Institute 2019, http://displacementsolutions.org/files/documents/Burma_HLP_book.pdf.

¹⁴ Farmers have the right to use land under leasehold and tenant arrangements, but they have no right to ownership; they are unable to sell or buy the land that they cultivate. In practice, however, farmers make land transfers in various ways, including as collateral for loans.

¹⁵ USAID, “Customary Land Tenure in Burma”, 2017, https://land-links.org/wp-content/uploads/2017/12/USAID_Land_Tenure_LTP_Toolkit_1.6_Customary_Land_Tenure_in_Burma.pdf.

¹⁶ Jacob Goldberg, “Nowhere to go: Myanmar Farmers under siege from land law”, *Aljazeera*, 4 April 2019, <https://www.aljazeera.com/news/2019/4/4/nowhere-to-go-myanmar-farmers-under-siege-from-land-law>

¹⁷ For the text of the NLUP in English, see

https://www.burmalibrary.org/sites/burmalibrary.org/files/obl/docs21/Government-of-Myanmar-2016-01-National_Land_Use_Policy-en.pdf.

¹⁸ Oxfam, “Displaced and Dispossessed, conflict-affected communities and their land of origin in Kachin state in Myanmar”, May 2018, https://www-cdn.oxfam.org/s3fs-public/file_attachments/bp-displaced-dispossessed-land-myanmar-210518-en.pdf.

¹⁹ The Irrawaddy, “Farmers Fear Myanmar Junta Will Confiscate Their Land”, 5 November 2021, <https://www.irrawaddy.com/news/burma/farmers-fear-myanmar-junta-will-confiscate-their-land.html>.

²⁰ Global New Light of Myanmar, “Financial year should be set in conformity with the country: Senior General”, 8 June 2021, <https://www.gnlm.com.mm/financial-year-should-be-set-in-conformity-with-the-country-senior-general/>.

²¹ The NLD government assumed that changing the fiscal year would enhance revenue collection and be favourable to business operations that typically start after the monsoon seasons.

- ²² Myanmar Digital News, “Speech by SAC leader on meeting of 9/2021”, 18 June 2021, <http://www.mdn.gov.mm/my/niungngntteaaciimnaupkhuprekeangciukktttth-tpmtteakaakyreuuciikhup-biulkhupmuukii-23>.
- ²³ Mekong Region Land Governance, “Case Study: Chinese Investment in Tissue Culture Banana in Kachin State”, November 2020, https://www.mrlg.org/wp-content/uploads/2020/11/Myanmar-Banana-Case-Study-30NOV2020_Final.pdf.
- ²⁴ Ibid.
- ²⁵ Ibid.
- ²⁶ Htet Naing Zaw, “Myanmar MPs approve discussion to regulate Chinese Banana Plantations”, *The Irrawaddy*, 5 December 2019, <https://www.irrawaddy.com/news/burma/myanmar-mps-approve-discussion-regulate-chinese-banana-plantations.html>
- ²⁷ Yang Naing, “Chinese owned banana plantations fueling exploitation in Myanmar”, *The Irrawaddy*, 23 November 2021, <https://www.irrawaddy.com/news/burma/chinese-owned-banana-plantations-fueling-exploitation-in-myanmar.html>.
- ²⁸ Business and Human Rights Center, “Myanmar: Banana plantation owned by Chinese companies raises local concerns over land and environmental problems”, 19 April 2018, <https://www.business-humanrights.org/en/latest-news/myanmar-banana-plantation-owned-by-chinese-companies-raises-local-concerns-over-land-and-environmental-problems/>. The experience of Laos reveals the overuse of chemicals for optimized outputs, destroying soil, water, and other resources.
- ²⁹ Irrawaddy, Magwe and Mandalay Regions are also tagged for similar purposes. See policy in details in Global New Light of Myanmar, “Cut Expenditure, too much consumption of cooking oil for health life”, 21 January 2022, <https://www.gnlm.com.mm/cut-expenditure-too-much-consumption-of-cooking-oil-for-healthy-life/#article-title>.
- ³⁰ Nature, “Oil palm concessions in southern Myanmar consist mostly of unconverted forests” 15 August 2019, <https://www.nature.com/articles/s41598-019-48443-3.pdf>.
- ³¹ Studies point out that these plantations cause soil erosion, soil and water pollution as well as serving as drivers of climate change. See WWF, “Impacts” (on palm oil), 2022, <https://www.worldwildlife.org/industries/palm-oil#:~:text=Oil%20palm%20production%20also%20leads,between%20areas%20of%20genetic%20diversity>.
- ³² By best estimates, 1 basket has 21kg or 46lb for paddy by Myanmar measurement.
- ³³ Its leader argues that “efforts must be made to further achieving success in the yield of 100 baskets per acre”. See more details about his speech in Global New Light of Myanmar, “Speech by SAC Leader at meeting 1/2022”, 21 January 2022, https://cdn.myanmarseo.com/file/client-cdn/2022/01/21_Jan_22_gnlm.pdf.
- ³⁴ Land in Our Hands Network, “Destroying People’s Lives: the impacts of land grabbing on communities in Myanmar”, December 2015, https://www.tni.org/files/article-downloads/lioh_research_report_eng_0.pdf.
- ³⁵ This varies by season; for detailed data see Central Statistical Organization, Myanmar, “Sown Acreage of Selected Crops by Regions and States”, 20 February 2018, http://mmsis.gov.mm/statHtml/statHtml.do?orgId=195&tblId=DT_YAE_0032&conn_path=I2.
- ³⁶ Several areas of sesame (oilseed) cultivation are unable to continue producing because of ongoing conflicts.
- ³⁷ All ethnic areas like Kayah, Kayin, Kachin, Mon, and Chin States as well as Tahnintharyi Region have faced conflict dynamics daily since the coup.
- ³⁸ According to Data for Myanmar sources, the military has burnt down approximately 1963 civilian homes at 96 locations between 1 February 2021 and 5 January 2022, especially in Sagaing and Magwe Regions; see Datawrapper, “Reported number of houses burnt down by Myanmar’s military”, January 2022, https://www.datawrapper.de/_/5zo49/?fbclid=IwAR0ls9ikGt-j6mv5idsIkzOYrD-4F9CNU7_b3AbrjIgSONIBc3xrB2y7O8c.

- ³⁹ Author's personal communications with several anonymous sources, January 2022.
- ⁴⁰ Author's personal communications with local farmers and moneylenders, 18-23 January 2022.
- ⁴¹ ADB, "Myanmar's agriculture sector: unlocking the potential for inclusive growth" December 2015.
- ⁴² Ibid.
- ⁴³ Beans and pulses are mainly sown in the central Dry Zone, followed by the Irrawaddy Delta, hilly and coastal zones, respectively.
- ⁴⁴ USDA, "Beans and Pulses Updates 2020", 18 June 2020, https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Burma%20Beans%20and%20Pulses%20Updates%202020_Rangoon_Burma%20-%20Union%20of_06-04-2020.
- ⁴⁵ Eleven, "Over \$242 m earned from export of beans and pulses from Oct to mid Dec", 26 December 2021, <https://elevenmyanmar.com/news/over-242-m-earned-from-export-of-beans-and-pulses-from-oct-to-mid-dec>.
- ⁴⁶ India Shipping News, "India signs 5-year pulses import deal with Myanmar, Malawi", 29 June 2021, <https://indiashippingnews.com/india-signs-5-year-pulses-import-deals-with-myanmar-malawi/>.
- ⁴⁷ Author's personal communication with local farmers, 18-23 January 2022.
- ⁴⁸ Myanmar has invested little in enhancing future agricultural productivity compared with neighboring countries.
- ⁴⁹ Julian Alston et al., "A Meta-Analysis of Rates of Return to Agriculture R&D", International Food Policy Research Institute, February 2000.

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