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MYANMAR

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Myanmar's poverty and food insecurity crisis

Support to agriculture and food assistance is urgently needed to preserve a foundation for recovery

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EXECUTIVE SUMMARY

National poverty rates in Myanmar have risen dramatically due to economic disruption following the February 1, 2021 military take-over of government. Depending on assumptions about the scale of the economic impacts, household poverty rates are predicted to have risen to between 40 and 50 percent in 2021, compared to 32 percent in 2015 and just under 25 percent in 2017.[1] Between 849,000 and 1.87 million new households are thus living in poverty in 2021 in addition to the estimated 2.86 million households already in poverty in 2015. The poverty impacts of these disruptions are significant not only in the sharp increases in the total number of households in poverty, but also in the substantial deepening of poverty for households that were already poor. By the end of the current financial year, the average poverty gap (expenditure shortfall) is predicted to have increased from 26 percent in 2015 to between 34 and 40 percent for individuals living in poor households.

In spatial terms, 60 percent of predicted newly poor households are in the Delta and the Dry Zone, 25 percent are in the Hills and the Coastal zones, and 15 percent are in Yangon. Overall, three-quarters of newly poor households are in rural areas. These estimates do not reflect recent migration out of Yangon to rural areas. Higher poverty rates inevitably imply higher levels of food insecurity. Depending on the economic disruption assumptions used in the analysis, between 44 and 54 percent of individuals are predicted to be living in households unable today to afford a recommended diet (based on the least cost nutrient sources), compared to 36 percent in 2015.

The agricultural sector, crucial to the rural economy, is likely to contract in the coming year. Farmers are investing less in inputs for the 2021 monsoon season due to their higher cost (especially fertilizer) and the uncertainty concerning output markets. At the same time, many smallholder farmers are cash constrained and credit markets for farm input purchases are in disarray due to the mixed signals to farmers about their repayment obligations to the Myanmar Agricultural Development Bank (MADB) as well as the broader ongoing financial system crisis. While it is too late to implement programs to improve financial access to production inputs for the monsoon season, planning should begin now to provide additional support to farmers for the harvest and post-harvest management of monsoon crops as well as for the post-monsoon production season. MADB should thus consider writing off the 2020 COVID-19 Special Loan debt.

The estimated cost of transfers to mitigate food insecurity varies with the economic disruption assumptions used in the analysis and the choice of targeting criteria. A focused targeting criterion (i.e., households with children under the age of five and/or pregnant women, and unable to purchase a typical calorie adequate diet if all expenditure went solely to food) would cost between 25 million and 32 million USD per month to reach between 644,000 and 827,000 households.[2] Without food assistance, young children in these households will face a high probability of becoming stunted or wasted in their physical growth. All households will face increased incidence of anemia, increased mortality rates, and permanent loss of income. Furthermore, half of this group depends on smallholder farming or daily wages even as the “lean season” prior to the next harvest is imminent.

Transfers of physical commodities (e.g., rice, pulses, oil), though logistically complex, would have a similar per household budgetary cost as financial transfers and may be necessary in the near term

[1] Poverty analysis results presented in this paper are based on the Myanmar Poverty and Living Conditions Survey which was conducted in 2015 with a nationally representative sample of households based on the 2014 census. The predicted change in poverty rates is similar to that estimated by the United Nations Development Program using the Myanmar Living Conditions Survey conducted in 2017: 44.2 percent (optimistic scenario) and 48.2 percent (pessimistic scenario) (UNDP 2021).

[2] A broader criterion, such as transfers to all vulnerable households under the poverty line, would cost between 102 million and 126 million USD per month to reach between 2.6 million and 3.2 million households, excluding distribution costs. Vulnerable households in this context are those that are poor *and* meet one or more of the following characteristics: households with members present who are under five years old or are pregnant, households that are dependent on temporary wages or transfers/remittances, smallholder farmers, or households with all members above the age of 70 years.

due to the current lack of access to cash through the banking system. Another advantage of physical commodity transfers is that they could be self-targeting if safe but less preferred qualities of food, such as broken rice, lower quality pulses, and palm oil, were distributed. The availability of these commodities in Myanmar also makes local procurement feasible and greatly reduces the time required to deliver food assistance.

Current UN humanitarian response plans focus on the pre-February 1 conflict areas, mainly in the Hills and the Coastal zones, as well as in the vulnerable townships in Yangon (OCHA 2021). While households cut off or displaced by conflict are clearly at acute risk of hunger and disease, it is essential to expand the scope of assistance to include food insecure households in the Delta and the Dry Zone to mitigate hunger now and to ensure future national food security as these two areas account for more than 80 percent of Myanmar's cropped area.

1. INTRODUCTION

Five months after the February 1, 2021 military take-over, Myanmar's economy is seriously compromised. All sectors have been affected, and the financial system is all but paralyzed. This acute economic crisis comes at a time when the coping mechanisms of many households, both urban and rural, have been weakened by the cumulative economic effects of COVID-19. However, the international community is only beginning to come to terms with the scale of the crisis, even while existing humanitarian assistance programs focused on conflict areas are seriously underfunded. Plans for expansion of humanitarian assistance currently include only the vulnerable townships of Yangon. No consideration has been given to assistance for food insecure households in the Delta and the Dry Zone.

Agriculture is an especially important sector for resilience and food security in the current political and economic crisis. Pre-COVID, the production of crops, livestock, and fisheries contributed 23 percent of GDP and employed 52 and 43 percent of all male and female workers, respectively. Agriculture related services, such as input supply, processing, and distribution, increase the sector's share of GDP to 34 percent. In rural areas, agricultural sector performance directly affects employment and incomes for more than 80 percent of the population, and non-farm rural households benefit indirectly through purchases of goods and services by households with agricultural incomes. Poor households in rural areas–making up 87 percent of all the poor in the country–are especially adversely impacted by the poor performance of the agricultural sector, as they spend two-thirds of their weekly employment hours on agricultural activities. On the consumption side, food expenditures make up 56 percent of total consumption expenditures for rural households and 43 percent for urban households. For poor consumers, 65 percent of their income is spent on food, meaning that food prices directly affect their ability to secure an adequate diet. A well-functioning agricultural and food sector is therefore crucial for the resilience of the livelihoods of all citizens of Myanmar (CSO, UNDP, and WB 2020).

Since the military intervention, disruptions to the agri-food system have not only been more persistent than those posed by COVID-19 but also much more severe. The effects are already being felt in lower farmgate prices for rice and higher consumer prices for food, which may pose risks as the main agricultural season, the monsoon season, is underway.

How is agriculture and the rural economy likely to fare over the coming months until harvest time? What is the outlook for rural and peri-urban livelihoods during this period? What scale of humanitarian assistance for these communities is needed in the short and medium term? What resources are required and what are the potential delivery mechanisms? What will be the likely consequences of turning a blind eye to the situation? This Working Paper aims to provide initial answers to these questions with the purpose of mobilizing resources and guiding their use to mitigate the economic shock to rural livelihoods as well as to forestall the emergence of widespread malnutrition that could compromise broad-based economic recovery in Myanmar even after democratic institutions are restored.

The next section of this paper discusses the outlook for the agricultural sector. Section 3 then provides the outlook for GDP and poverty using macro-level (national economy) and micro-level (household economy) simulations through the rest of the 2020/21 financial year (ending 30 September). Section 4 estimates the cost of mitigating expected food insecurity for a range of vulnerable target groups. Section 5 provides conclusions as well as recommended actions.

2. STATUS AND OUTLOOK FOR MYANMAR'S AGRICULTURAL AND FOOD SECTOR

Occurring just as the rural economy was beginning to recover from COVID-19, the timing of the military take-over could not have been worse from the point of view of the agricultural sector due to the recent earnings from the monsoon harvest and the resumption of remittance flows from migrant household members. The coup coincided with the harvest of post-monsoon season pulse crops (usually grown on residual moisture after monsoon paddy) as well as with the planting period for irrigated summer paddy. The initial disruption of trading operations created a lot of uncertainty for farmers, traders, and processors. Five months after the coup, as farmers complete land preparation and begin planting for the 2021 monsoon season, they are confronted with steep increases in fertilizer and fuel prices while access to credit for farm operations is severely limited. We examine the challenges facing agriculture, first looking at the effects of the COVID-19 pandemic, and then at how the coup has exacerbated problems and compromised recovery.

2.1. Effects to date of COVID-19 on the agri-food system

When the military seized power in February 2021, Myanmar's agri-food system had already been burdened by almost one year of COVID-19 challenges. Beginning in March 2020, transportation restrictions to curb the spread of the pandemic caused significant disruptions throughout Myanmar's food supply chain, with the largest disturbances occurring during lockdowns around the first and second waves in March and September, respectively. Transportation restrictions during the first wave, often implemented at local levels, hindered deliveries of agricultural inputs ahead of the monsoon planting period, created longer delays on fertilizer orders for input retailers, and limited the areas that mechanization service providers could service (Boughton et al. 2021). Importantly, input retailers and mechanization service providers recovered quickly through a combination of business adaptations and less rigorous enforcement of travel restrictions. Monsoon crop production declined in some areas, partly due to irregular rainfall and pests. However, in aggregate, there were no clear signs of severe production declines for important crops during COVID-19. National production estimates for rice and pulses declined by less than 4 percent in 2020 compared to 2019 and maize increased by 2 percent (USDA 2021).

The COVID-19 policy response also caused widespread disruptions in crop trading. Farmers faced challenges in marketing their harvests as crop traders had to contend with closed commodity exchange centers and border crossings. However, the supply chain adjusted and these frictions diminished over time as trade resumed both domestically and internationally. With commodity exchange centers closed, crop traders relied on mobile phones to coordinate transactions and avoid violating curfews. Additionally, border gates temporarily reopened to exports, particularly for rice and maize. Ultimately, prices of the main commodities remained mostly stable during the 2020 monsoon harvest period and without severe disruptions relative to previous years. Rice prices increased by 2 percent on average relative to 2019–enabled by links to rising global prices through export markets–and farmers benefited through a 5 percent average increase in prices for their monsoon paddy (MAPSA 2021a). Lockdowns in urban areas caused only a modest increase of 3 percent in food prices for traditional food retailers in Yangon and Mandalay (Goeb et al. 2021). Rural food vendors also reported relatively small changes in food prices over that period (Oo et al. 2020).

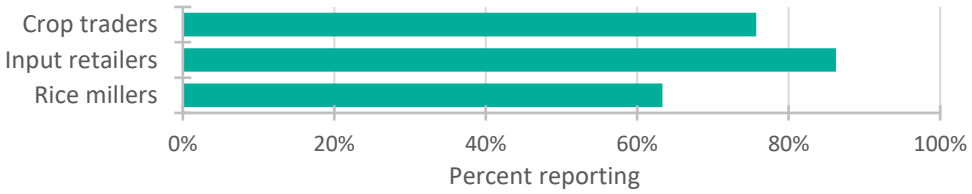
One of the more persistent impacts of COVID-19 that diminished slowly as restrictions were lifted was credit repayment by farmers. Input retailers, crop traders, and rice millers all extended credit to farmers. However, repayment rates were slower during COVID-19. In response, many agribusinesses reported planning to offer less credit in the future.

Although the impacts of COVID-19 policies did not have seismic effects on food prices or availability, they may still be a harbinger for the disruptions caused by the coup. During the most stringent periods around the first and second waves of COVID-19 in Myanmar, disruptions were large and widespread. However, agri-food system actors were able to adapt because restrictions were lifted, marketing continued, and key services, such as banking and mobile internet, were uninterrupted. In the absence of these key services, food system actors clearly face a different set of challenges.

2.2. Effects of the coup on the agri-food system to date

The shocks to the agri-food system since the February 2021 coup have been significantly larger and longer lasting than those posed by COVID-19. Although transportation restrictions have officially been lifted, safety concerns and rising fuel costs have led to even larger transportation disruptions than during COVID-19 lockdowns. Phone surveys were conducted with crop traders, agricultural input retailers, and rice millers in March and April 2021. More than 60 percent of each sample reported increased transportation costs.[3] For crop traders, transportation costs increased by an average of 22 percent within their state or region and by 39 percent outside of their state or region (Figure 1).

Figure 1. Agri-food system firms reporting increased transportation costs since February 1, 2021



Sources: Agricultural commodity traders survey–March 2021 round (MAPSA 2021b); Input retailers survey–March 2021 round (MAPSA 2021c); Rice millers survey–April 2021 round (MAPSA 2021d).

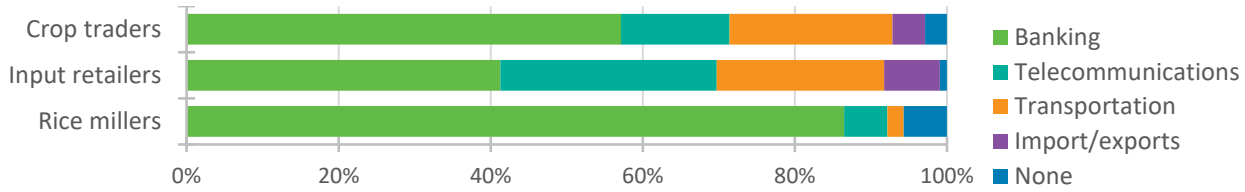
Increased transportation costs drive a widening wedge between farmgate prices and consumer prices. Survey data from rice millers show lower prices paid to farmers for their summer paddy compared to 2020, while a survey of food vendors shows rice prices have risen by 11 percent over the same period in 2020. Pulse prices increased in May 2021, largely due to India's removal of import quotas. Yet, farmers are unlikely to benefit from price gains in the immediate term as storage largely occurs beyond the farm. Further, the coup has removed several of the adaptation tools that traders used to continue operating during COVID-19. For example, cellphone internet blockages make it difficult to find prices and market information as well as to initiate mobile bank transfers.

The challenges to transportation and internet communications are affecting every level of the agri-food system, from farmers to consumers. However, the banking sector disruptions are the most impactful for most agribusinesses; 86 percent of rice millers, 57 percent of crop traders, and 41 percent of input retailers identified the banking sector as the source of their most important business disruption since February 1 (Figure 2). Without in-person banking services or internet for mobile transfers, agricultural trade must be heavily reliant on cash. As such, low daily and weekly cash withdrawal limits pose a significant challenge to their businesses. In crop marketing, firms have less working capital available compared to the same time last year and have reduced their purchase volumes as a result. Similar effects are seen at the farm level, where farmers have less cash

[3] The crop traders survey was conducted March 2021 with 108 traders from Shan, Mandalay, Magway and Sagaing. The input retailers survey was conducted in March 2021 with 146 shops in Shan, Ayeyarwady, Bago, Mandalay, and Kachin. The rice millers survey was conducted in April 2021 with 221 millers in Ayeyarwady, Yangon, and Bago.

available and lower incomes which, along with sharp increases in input costs and a large decline in credit available, reduce investments in production inputs.

Figure 2. Most important business disruption since February 1, 2021, by percentage of respondents



Sources: Agricultural commodity traders survey–March 2021 round (MAPSA 2021b); Input retailers survey–March 2021 round (MAPSA 2021c); Rice millers survey–April 2021 round (MAPSA 2021d).

In summary, since the military coup, disruptions to the agri-food system have not only been more persistent than those posed by COVID-19 but also much more severe. The effects are already being felt in lower farmgate prices for rice and higher consumer prices for food.

2.3. Outlook for farm input availability and prices

Input markets are clearly disrupted as farmers prepare for the next monsoon season. Early indications from a survey with mechanization providers in May 2021 show that land preparation for the monsoon season may not have been much affected in the Delta, which covers about 37 percent of all sown area in Myanmar. However, in the Dry Zone, which typically accounts for 40 percent of sown area, a decrease in land preparation linked to repeated droughts seems likely. Furthermore, prices charged for land preparation were approximately 25 percent higher this year than last year.

Access to timely credit is important for farmers to acquire inputs in preparation for the agricultural season. The Myanmar Agricultural Development Bank (MADB) is typically a major provider of agricultural credit, especially for rice producing areas–1.4 trillion Myanmar Kyat (MMK) in monsoon loans were issued by MADB between May and September 2020 in addition to the MMK 481 billion issued from a COVID-19 special relief fund. However, given the issues with loan repayments from the previous season and difficulties with financial service delivery in rural areas, MADB credit provision for the 2021 monsoon season will likely be substantially less than normal.[4] While the portfolio of most microfinance institutions is typically less geared towards agriculture, their reduced activities–linked to lack of liquidity due to low collection and saving rates and constraints due to withdrawal limits–will also hamper credit availability for the agricultural sector and the rural sector more broadly.

Agricultural businesses are typically also important providers of credit to farmers and there has been a large increase in demand for credit to farmers ahead of the 2021 monsoon season. Between 40 and 50 percent of crop traders, input retailers, and rice millers each reported a significant increase in requests for credit (Table 1). However, between 56 and 66 percent of these firms are experiencing difficulties in collecting repayments from farmers on credit already lent out. While about three-quarters expect to be fully repaid eventually, 27 percent of traders and 34 percent of input retailers plan to offer less credit to farmers during the 2021 monsoon season relative to 2020. Importantly, only 3 and 4 percent of traders and input retailers, respectively, plan to increase their credit offered out. Thus, these agribusinesses are unlikely to meet the growing demand for farmer credit.

[4] MADB indicated that they will start providing new loans, but only for those who have repaid 2020 monsoon loans. The Global New Light reported that only 18 percent of 2020 loans have been collected.

Table 1. Farmer credit overview for agribusinesses, by percentage of respondents

	Crop traders (%)	Input retailers (%)	Rice millers (%)
Increased demand from farmers for credit	40	50	48
Difficulties collecting credit repayments	56	66	60
Expect to be fully repaid (conditional on credit out)	76	74	-
Expected change in credit offered to farmers in 2021 monsoon season			
Decrease in credit offered	27	34	-
No change	69	64	-
Increase in credit offered	4	3	-

Sources: Agricultural commodity traders survey–March 2021 round (MAPSA 2021b); Input retailers survey–March 2021 round (MAPSA 2021c); Rice millers survey–April 2021 round (MAPSA 2021d).

International inorganic fertilizer prices and shipping costs substantially increased in 2021 compared to a year earlier, which leads to significantly higher border prices for fertilizer in Myanmar. The impacts of the current political crisis on the local transport sector and the depreciation of the Myanmar currency have further increased domestic fertilizer prices. Based on a survey of agro-retailers in June 2021, fertilizer prices were estimated to be 52 and 29 percent higher for urea and compound fertilizer, respectively, compared to the same period a year earlier. This is an important development as fertilizers are the largest purchased input for Myanmar farmers, constituting 30 percent of the value of all inputs purchased.

On the output side, we see that, while retail food prices were higher for many commodities, farm prices were primarily lower in the months immediately following the February 1 military intervention, as noted in the March crop trader survey.[5] As reported in Table 2, wholesale prices collected in May in major urban wholesale markets–an indication of farm level changes–show that prices of most domestically consumed agricultural products were down compared to last year. Conversely, prices of agricultural products linked to export markets, such as rice, maize, and pulses, have been largely stable or increased slightly, while prices of agricultural products linked to imports, such as vegetable oils, have increased significantly, being linked to international increases in prices.

Table 2. Wholesale prices for select agricultural commodities in Mandalay and Yangon in May 2020 and May 2021, in MMK/kg

	May 2020	May 2021	Change (%)
Mandalay			
Maize	285	327	+14.7
Mung bean	1281	1136	-11.3
Palm oil	1000	2166	+116.6
Pigeon pea	717	863	+20.4
Yangon			
Maize	310	341	+10.0
Rice	577	612	+6.0
Onion	322	246	-23.6
Potato	325	237	-27.1

Note: Prices for palm oil and chili in April 2021 are based on less than ten observations.
Source: Impact Terra

[5] Compared to almost a year ago (June 2020), food price inflation in May 2021 stood at 7 percent at the national level. It was relatively higher in the Dry Zone (10 percent) and the Hills and Mountains (7 percent). The poorest quintile is affected as much by food price inflation as the richest quintile. Most of the food price inflation over the last year occurred in the first months of 2021: The cost of an average food basket in May 2021 was 9 percent higher than in December 2020.

While input prices are higher for mechanization, fertilizers, and agro-chemicals, not all farm output prices show an upward trend. For the farm prices that do, these increases are generally smaller than increases in input prices, indicating lower incentives for farmers to invest in inputs and lower overall incomes for farmers in the next season. It is expected that effective demand for inputs will be lower in 2021 due to reduced farmer incomes last year (Headey et al. 2020), lower credit availability, and more uncertain agricultural profitability.

Given these market developments, input use in Myanmar during the 2021 monsoon season will likely be substantially less than normal. A survey of input retailers in June 2021 shows an average decline of 48 percent in fertilizer sales compared to the same period a year earlier. Ex-ante simulations of the impact on inorganic fertilizer use, which assume a ratio of additional crop output per unit of fertilizer applied of between three and five, indicate that a reduction in fertilizer use–all else equal–to half the level of a normal year would reduce agricultural output in 2021 by between 9 and 15 percent (MAPSA 2021f).

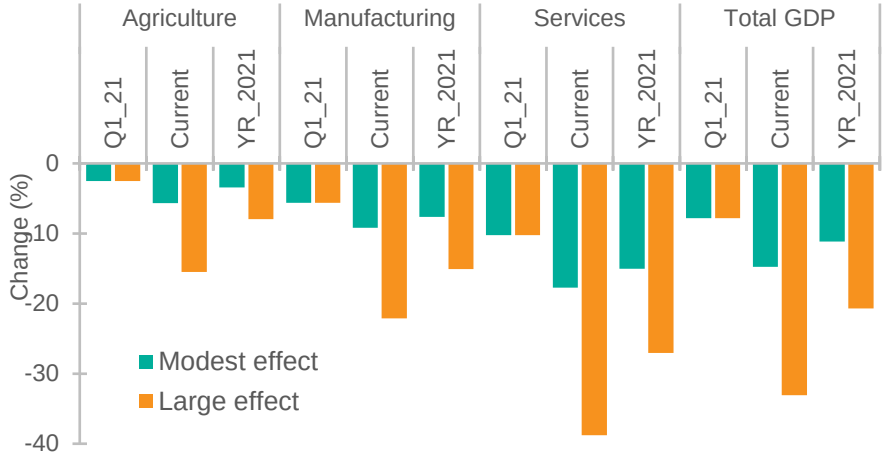
3. OUTLOOK FOR GDP, POVERTY, AND FOOD INSECURITY THROUGH FISCAL YEAR 2021

This section moves beyond the current situation for Myanmar's economy to assess the outlook for poverty and food security using a combination of macro-economic and micro-economic (household) simulation analyses. Prior to the February 1 military intervention, Myanmar's economy was on a recovery track, albeit a slow one. Whereas the COVID-19 induced crisis primarily affected the real economy through a combination of external and internal shocks, especially the April and August lockdowns, the sharp and prolonged downturn of economic activity since February 1 has been driven in large part by financial system failures. This makes it harder to distinguish between vulnerable and resilient sectors as the failures of the financial system cut across all sectors of the economy.

The macro-economic analysis is based on an extension of a Social Accounting Matrix (SAM) simulation conducted in 2020 to assess the impacts of COVID-19 on Myanmar's economy (Diao et al. 2020). Due to uncertainty about the actual effects of disruption on the economy, the updated analysis includes two scenarios. In the "modest effect" scenario, imposed shocks are equivalent to 35 percent of the shock used for the April 2020 COVID-19 lockdown given the similarity in the patterns in Google mobility data following the two events (MAPSA 2021g). Under the "large effect" scenario, imposed shocks are equivalent to 70 percent of the shock imposed during the COVID-19 lockdown to reflect additional impacts on the economy due to financial system dysfunction. Because of the linkage effects in the model, doubling the shocks causes more than double the reduction in GDP. The actual impact is expected to be somewhere between these two levels of shocks.

The expected impacts of the two levels of shock on total GDP and the relative impacts on broad sectors are depicted in Figure 3. Due to intra-annual seasonality in Myanmar GDP formation, the percentage changes displayed in Figure 3 should be understood as a comparison with a normal situation in the same period and not as changes relative to an earlier quarter. The "Q1_21" period represents the first quarter of the Myanmar fiscal year, October to December 2020, at which time the economy was recovering from COVID-19. The "Current" period represents Q3 (April to June 2021), with total GDP expected to be between 14.8 and 33.1 percent lower than under normal economic conditions. The overall impact for the financial year is predicted to be a reduction in GDP of between 11.2 and 20.7 percent, consistent with the range in expectations expressed by international organizations. At the sector level, services are expected to be impacted most severely, followed by manufacturing. Agriculture is the least severely affected sector. However, the reduction in agricultural GDP is important because of the high proportion of the poor whose livelihoods depend on the sector directly or indirectly.

Figure 3. Social Accounting Matrix (SAM) multiplier analysis of impacts on Myanmar's GDP during fiscal year 2021

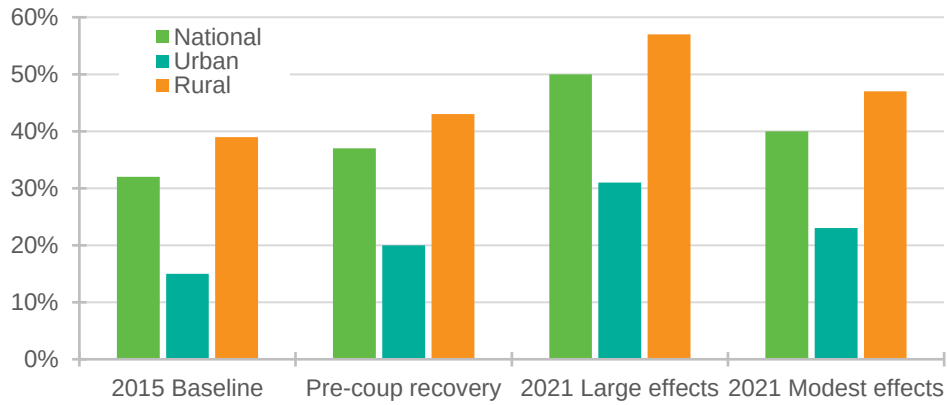


Source: Authors' calculations

Results from the SAM multiplier analysis are used as an input to an analysis of household-level impacts using the 2015 Myanmar Poverty and Living Conditions Survey data set. This allows us to predict the impact of changes in the economy on rates of poverty and food insecurity, relative to 2015, for different groups of households, such as urban versus rural households, vulnerable household groups, or households in different geographical zones. As in the case of the SAM analysis, the micro-simulation analysis is an extension of the analysis of household level impacts for COVID-19 (Diao et al. 2020). Details on the effects of modest and large economic disruption scenarios on specific household income sources are provided in Appendix Table A.1.

The economic consequences following the military intervention are predicted to result in poverty rates of between 40 and 50 percent of the population compared to 32 percent in 2015, which is the survey baseline year (Figure 4). Although urban poverty rates are predicted to increase more sharply than rural poverty rates, doubling relative to 2015 under the "large effect" scenario, rural poverty rates are still much higher than urban poverty rates. These rates imply between 849,000 and 1.87 million additional households living in poverty in 2021 compared to 2015, with three out of every four newly poor households located in rural areas.

Figure 4: Estimates of households below the poverty line under different economic scenarios by rural/urban, by percentage share



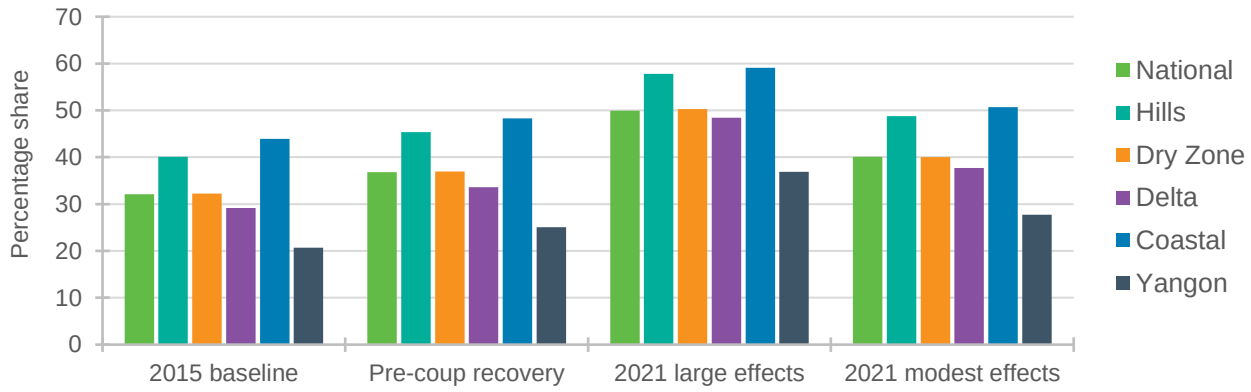
Source: Authors' calculations

Importantly, it is not only the total number of households in poverty that has increased but also the depth of poverty for households that were already poor. The poverty line expenditure shortfall is

predicted to have increased from 26 percent in 2015 to between 34 and 40 percent on average for individuals living in poor households by the end of the current financial year. This has important implications for the consequences of poverty, particularly in terms of food insecurity, which we discuss in more detail in the next section.

The geographical distribution of individuals living in poor households is important for planning interventions to alleviate poverty. Figure 5 shows predicted changes in poverty rates under the modest and the large effect scenarios for the Hills, Dry Zone, Delta, Coastal, and Yangon geographical areas. Relative to 2015, 60 percent of the predicted newly poor households under both scenarios are in the Delta and the Dry Zone, 25 percent in the Hills and the Coastal zones, and 15 percent in Yangon. Although Yangon has a higher rate of increase in newly poor households, these estimates do not reflect recent migration out of Yangon to rural areas (MAPSA 2021e).

Figure 5: Estimates of individuals living in households below the poverty line under different economic scenarios by geographical area, by percentage share



Source: Authors' calculations

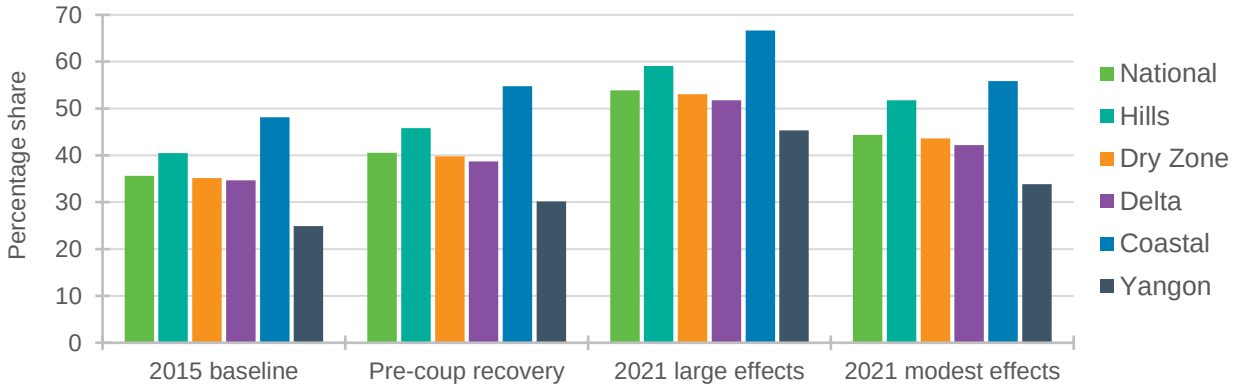
4. IMPLICATIONS OF THE CRISIS FOR SOCIAL PROTECTION PROGRAMMING

In the first part of this section, we look at the implications of increases in poverty on the ability of the population to afford a recommended diet using least cost available nutrient sources. In the second part, we look more closely at especially vulnerable groups among the poor and assess the costs of providing them with targeted food assistance.

The share of the population unable to purchase a recommended diet based on local food availability closely mirrors the share in poverty under each scenario (Figure 6).[6] The share of individuals living in households that are unable to afford a recommended diet is noticeably higher relative to poverty rates in Yangon, reflecting higher non-food expenditure shares in urban household budgets as well as higher costs for some foods. Households which depend on remittances as an income source have also found themselves unable to afford an adequate diet as private remittance transfers cannot be accessed through the banking system at present without high informal fees.

[6] For a detailed explanation of the composition and cost of a recommended diet in locations in Myanmar see Mahrt et al. 2019.

Figure 6: Estimates of individuals living in households unable to afford a recommended diet under different economic scenarios by geographical area, by percentage share



Source: Authors' calculations

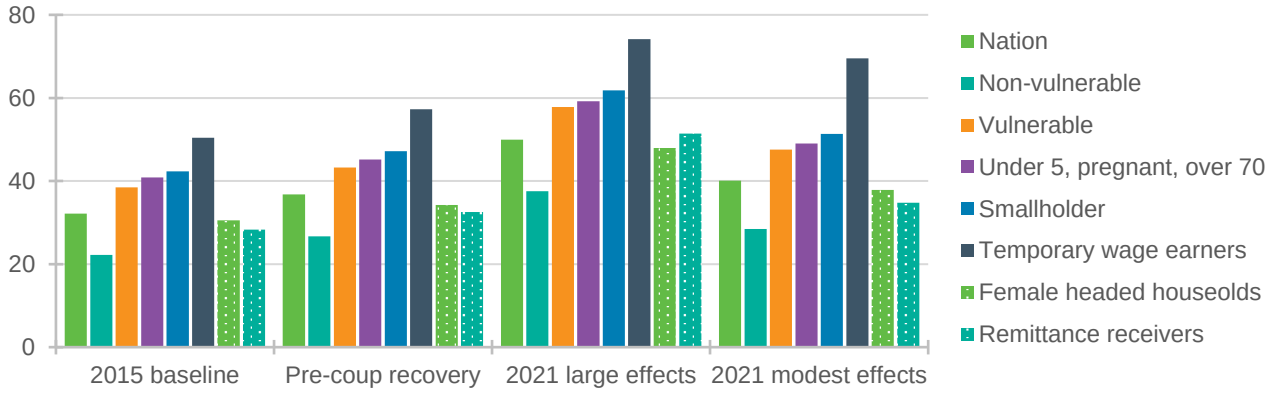
Given the current difficulties in accessing cash through the banking system, we recommend transfers of less preferred but nutritionally adequate physical commodities to specific vulnerable groups. Recommended daily amounts of rice, pulses, and oil using lower-cost types of such foods, such as broken rice, non-export quality pulses, and palm oil, would cost between 51,500 MMK and 63,000 MMK per household per month at current prices depending on whether pulses substitute or only complement animal-source protein.[7] An important advantage of providing a physical ration comprised of food types that are less preferred by consumers is that they are self-targeting to a degree. Provision of food assistance is unlikely to have major distortionary effects as the country regularly produces large exportable surpluses of rice and pulses, while Myanmar is a price taker on the international palm oil market. To the extent that procurement bids up the price of lower quality crop produce, this would potentially benefit crop producers and millers.

For targeting purposes, vulnerable groups can be identified based on their likelihood of becoming poor and the risk of prolonged or irreversible consequences if they do. Figure 7 compares the predicted poverty rates between non-vulnerable and vulnerable household groups with the latter disaggregated into the following household types: 1) households with children under five years of age or pregnant women or households comprised solely of adults over 70; 2) smallholder farmers; 3) temporary wage earners; 4) female-headed households; and 5) remittance receivers. While all vulnerable groups are predicted to have higher poverty rates than non-vulnerable groups, certain vulnerable household types are more likely to become poor or become more impoverished if already poor. These vulnerable household types include those with young children, pregnant women, or elderly residents and those with smallholder farmers or temporary wage earners. The same groups are also likely to incur more serious consequences. Households with children under five years of age or with pregnant women face the threat of permanent loss of human capital through diminished learning potential.[8] Smallholder farmers may not have the ability to cultivate their crops, leading to financial loss and, if unable to repay debts, may be forced to sell their land rights. Temporary wage earners may lose the ability to work productively even when opportunities become available again. Some vulnerable households belong to multiple categories and hence face an even higher likelihood of falling into poverty or experiencing deeper poverty with enduring consequences.

[7] Cost estimates are based on 393g /person/day rice, 131g /person/day pulses (sufficient to substitute for animal-source protein), and 33g /person/day palm oil.

[8] We include under-five years of age rather than under two-years of age (a common threshold for the first 1,000 days of life) because important cognitive development is still taking place and under-five children are certainly vulnerable to the emotional and psychological toll of living in a food insecure household.

Figure 7. Predicted poverty rates for different household groups under different economic scenarios, by percentage share



Source: Authors' calculations

Having identified potential groups to consider for targeting, we turn to the number of households requiring assistance and the cost of food commodities. Recognizing that provision of assistance requires time to mobilize in terms of financial resources and distribution logistics, we provide information for two levels of hardship. In addition to the poverty line we have been using in the analysis thus far, which considers household expenditure on food and non-food items, we now also include a food poverty line criterion. This is the cost of a calorie-adequate diet based on consumption patterns of households with total expenditures near the poverty line. A household that falls below the food poverty line is unable to meet minimal food expenditures even if all their expenditure were to be directed towards food and nothing else. For comparison purposes, adjusted to 2020 prices, the poverty line is 1,779 MMK per capita and the food poverty line 1,154 MMK per capita per day.

Table 3a. Predicted number of vulnerable households for different poverty lines and economic impact assumptions

	Total poverty line		Food poverty line	
Target group	Large	Modest	Large	Modest
All vulnerable	3,198,497	2,590,463	1,183,396	883,802
Under 5 or pregnant	2,104,630	1,726,271	826,648	643,630
Smallholder	1,566,931	1,267,446	592,084	448,658
Daily wage or remittance	509,077	472,648	199,512	154,883
Under 5 & smallholder	703,676	597,869	302,778	244,828
Under 5 & daily wage	231,038	223,689	107,520	88,489

Source: Authors' calculations

Table 3a provides estimates of the number of households with expenditure below the total poverty line and below the food poverty line under large and modest economic disruption parameters. Households with children under five and/or pregnant women are the largest type of vulnerable household, accounting for between two-thirds and three-quarters of the total, with the share being higher using the food poverty line criterion compared to the total poverty line. Smallholder households are the second largest type of vulnerable group, accounting for half the total number of vulnerable households. There is considerable overlap between these two categories; between 45 and 55 percent of vulnerable smallholder households have children under five and/or pregnant women. Daily wage and/or remittance dependent households account for between 16 to 18 percent of the total, respectively, and between 45 and 55 percent of these households have children under five and/or pregnant women.

Table 3b. Monthly cost of food assistance to vulnerable households for different poverty lines and economic impact assumptions, in USD million

	Total poverty line		Food poverty line	
Target group	Large	Modest	Large	Modest
All vulnerable	125.9	102.0	46.6	34.8
Under 5 or pregnant	82.9	68.0	32.5	25.3
Smallholder	61.7	49.9	23.3	17.7
Daily wage or remittance	20.0	18.6	7.9	6.1
Under 5 & smallholder	27.7	23.5	11.9	9.6
Under 5 & daily wage	9.1	8.8	4.2	3.5

Source: Authors' calculations

Table 3b provides estimates of the costs of food assistance (excluding logistical costs) for the corresponding target groups in Table 3a. Given that the focus is on vulnerable target groups, we cost the food ration on the basis that the pulses provided will need to satisfy their protein foods group requirements. Food assistance to all vulnerable households below the poverty line is predicted to cost between 102 million and 126 million USD per month, while provision to all vulnerable households below the food poverty line is predicted to cost between 35 million and 47 million USD per month. Costs for specific types of vulnerable group under different poverty lines and economic disruption assumptions are proportionate to the number of households in Table 3a. If the operational focus is on the most vulnerable, the four bottom right corner cells in Table 3b would guide resource allocations–smallholder farmer and wage dependent households with children under five and/or pregnant women. These figures represent the cost of food assistance for households with multiple vulnerabilities and whose total household expenditures are less than the food share of an average household close to the poverty line. The cost of food assistance for these households is between 13 million and 16 million USD per month.

5. CONCLUSIONS

First, the poverty and food insecurity situation in Myanmar during the current political crisis, which began in February 2021, is dire and there is an urgent need to expand food assistance. This expansion is especially important due to the approach of the "lean season" before the next harvest when a large number of poor people typically experience increased financial stress and food insecurity. Because of the compounded effects of the COVID-19 pandemic and the political disruption in the country, the suffering this year will be more profound–simulations show that between 40 percent and 50 percent of the Myanmar population will be in poverty under the modest and large economic effect assumptions.

Second, most of Myanmar's poor are in rural areas. While the rate of change in poverty following the February 1 take-over has been highest in urban areas, rural areas initially had higher poverty rates and a greater number of people reside in rural areas. It is thus estimated that 47 and 23 percent of the rural and urban population, respectively, are poor under the modest impact scenario. This share increases to 57 and 31 percent, respectively, under the large impact scenario. Under the latter scenario, there would be five times as many poor in rural areas compared to urban ones (4.0 million poor households in rural areas and 0.8 million in urban areas).

Third, short-term food assistance is essential to enable vulnerable poor households to avoid extreme hunger and irreversible financial or health consequences. In-kind food assistance is logistically complex but more feasible than cash transfers given the lack of access to cash through the banking system during the current crisis. To assure targeting of resources to those most in need, the focus should be on the delivery of self-targeted foods such as low-quality rice, pulses, and palm

oil. Procurement of these commodities is unlikely to result in major price distortions in food markets. This paper has identified key vulnerable groups among the poor who should be targeted with food assistance, particularly households with children under five and/or pregnant women, smallholder farmers, and wage dependent households. Costs of supplying food commodities to the most vulnerable households in deepest poverty, excluding the costs of logistics, range between 25 million and 32 million USD per month.

Fourth, assuring an adequate monsoon harvest and enabling farmers to prepare for a successful post-monsoon season is necessary to overcome food insecurity. Reduced farmer incomes last year due to COVID-19 related challenges, rising prices of all agricultural inputs in recent months, expected lower credit availability this season, and more uncertain agricultural profitability all indicate that there will be reduced investments by farmers and that agricultural output from the monsoon season will be lower this year than normal. Ensuring access to mechanized harvesting services for the monsoon rice crop will help reduce the risk of post-harvest losses and facilitate timely planting of post-monsoon pulses dependent on residual soil moisture. Existing credit access constraints should also be resolved ahead of the post-monsoon season and repayment of the Myanmar Agricultural Development Bank COVID-19 special loans should be waived. Making sure that trade opportunities are not subject to export restrictions will further help to assure adequate prices for farmers.

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APPENDIX

Table A.1. Size of shock (percentage reduction) assumptions by sector and quarter used for micro-simulation analysis

	Fiscal year 2021 (% reduction)				
	Q1 COVID-19 recovery	Q3 Large effects	Q3 Modest effects	FY2021 Large effects	FY2021 Modest effects
Agriculture					
Wages - permanent	-3	-16	-6	-9	-4
Wages - temporary	-3	-16	-6	-9	-4
Cereals	-4	-21	-8	-3	-6
Pulses & oilseeds	-3	-21	-8	-11	-5
Root crops	-1	-10	-3	-5	-2
Fruits & vegetables	-4	-19	-8	-12	-6
Sugarcane	-2	-17	-6	-8	-3
Beverage crops	1	-18	-6	-3	0
Other crops	-3	-26	-11	-11	-5
Poultry	-6	-29	-12	-18	-9
Other small livestock	-2	-12	-4	-7	-3
Large livestock	-2	-17	-6	-9	-4
Fish	-3	-13	-5	-9	-4
Mining and quarrying income	-3	-48	-22	-32	-18
Manufacturing income	-6	-22	-9	-15	-7
Electricity, gas, water supply, waste management income	-4	-17	-7	-11	-5
Construction income	-16	-57	-27	-39	-22
Wholesale and retail trade income	-10	-39	-18	-28	-15
Transportation and storage income	-9	-35	-16	-24	-13
Hospitality, communication, finance, real estate income	-12	-46	-21	-29	-17
Professional/scientific activities income	-8	-48	-22	-28	-15
Administrative, public administration income	-6	-23	-10	-16	-9
Education, health, social work income	-6	-23	-10	-16	-9
Transfer income	0	-100	-100	-67	-67
Domestic remittances	-6	-50	-6	-35	-6
International remittances	-6	-50	-6	-35	-6

Note: All government transfers are assumed to have stopped following February 1, consistent with observations from field surveys
Source: Authors' calculations

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