



DELTA RAPID MARKET ASSESSMENT REPORT

Understanding the impacts of COVID-19 on rural smallholder farmers and food systems in the Ayeyarwady Delta

MAY 2020

Funded by :



Livelihoods and Food Security Fund



Managed by UNOPS

ACKNOWLEDGEMENTS AND DISCLAIMERS

ACKNOWLEDGEMENTS

We thank the governments of Australia, Canada, the European Union, Ireland, Switzerland, the United Kingdom and the United States of America for their kind contributions to improving the livelihoods and food security of rural poor people in Myanmar. Their support the Livelihoods and Food Security Fund (LIFT) is gratefully acknowledged.

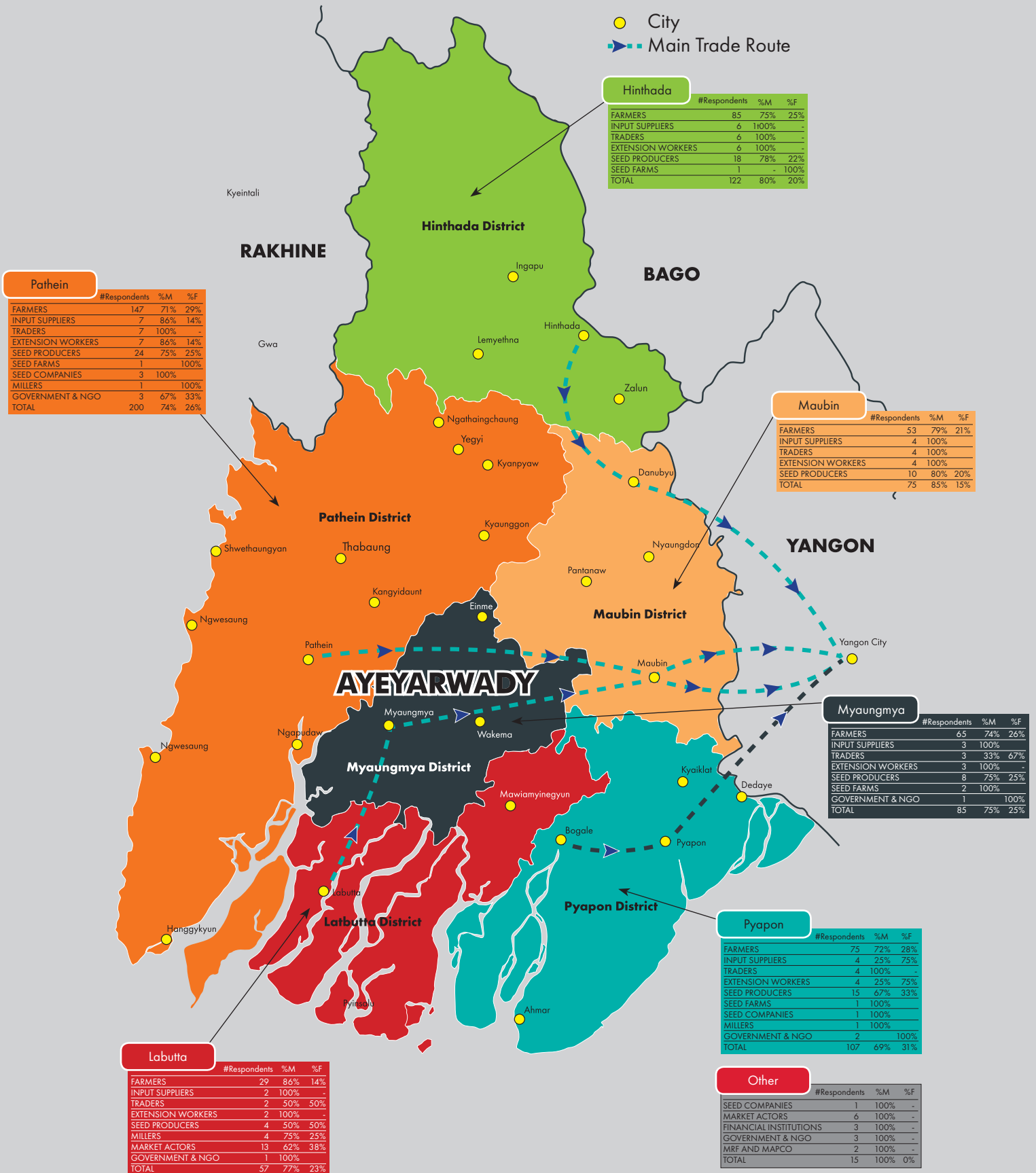
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MAP OF AYEYARWADY DELTA



EXECUTIVE SUMMARY

Funded by LIFT, Mercy Corps (MC) and Welthungerhilfe (WHH), in collaboration with Village Link (VL), conducted a joint Rapid Market Assessment (RMA) in the Ayeyarwady Delta from late April to early May 2020. The objective of the RMA was to better understand the current and potential impacts of COVID-19 (COVID) on rural smallholder farmers and the broader food system, with a specific focus on the rice and pulses value chains.

661 respondents were interviewed in total across 26 townships in the Delta. The survey targeted key actors involved in the agricultural value chain, from smallholders and the landless to seed producers, input suppliers, rice millers, other market actors and government officials. 428 respondents were surveyed through Village Link's 'Htwet Toe' online application, with the remainder interviewed either via phone or online surveys following physical distancing guidelines, and circumventing logistical challenges due to travel restrictions.

The following report presents findings and proposed recommendations resulting from the assessment, to further inform the design and implementation of potential COVID-19 response and recovery programs in the Ayeyarwady Delta and more broadly, Myanmar.

KEY FINDINGS:

1

Despite more optimistic views presented by farmers and local government, farmers access to improved seed will likely be constrained by an inability of seed suppliers¹ to provide improved seed to market

- 96%² (25) of surveyed farmers do not believe the Crisis will reduce their ability to get quality seed for farming during the upcoming monsoon (planting) season.
- Around 20% of seed producers and seed companies are skeptical they will receive the Registered Seed (RS)³ they require to produce Certified Seed (CS), especially when taking government-imposed restrictions into consideration.
- 40% of seed companies believe their yields will be impacted by COVID. Furthermore, a shortage of agro-inputs (i.e. fertilizers and other agrochemicals) and labour leads 66% of seed producers to anticipate decreased yields of seed production this season.
- Interestingly, interviews with Department of Agriculture (DoA) officers reflect they do not anticipate changes in their ability to distribute RS to seed producers and companies, despite 50% of DoA staff directed to work from home.
- An overwhelming 90% of seed producers expect their income from seed production to be reduced when compared to the same time last year. Respondents note the higher costs of inputs (including fertilizer and agrochemicals) due to difficulties sourcing adequate supply, increased labour rates and transportation costs as causes for their decline in income.
- When asked to compare seed production costs to the same time last year, 87% of seed producers expect an increase in expenses. This correlates with their anticipated drop in income, with the majority of respondents stating similar reasons for increased input costs, including labour and transportation.

¹ This includes seed producer farmers, seed companies, dealers/sub-dealers supplying seeds, and DoA/DAR seed farms

² Qualitative survey only

³ RS mostly comes from the DoA. Their usual process for acquiring seed is: 1) Township DoA asks seed producers what their demand is for the next season, and 2) submits a cumulative demand list for the township to the regional DoA. 3) Seed producers usually get the variety of seed they request, if produced by the seed farms within the region. They may not get the quantity of seed demanded, depending on production levels and/or demand for seed.

2

Agro-input providers⁴ have already reported challenges due to mobility restrictions and are expecting to face further limitations over the following months - threatening farmers' access to other key inputs⁵ to improve farm productivity

- The majority of farmers (83%) do not believe that COVID will impact their ability to access key inputs¹⁶
- However, 81% of interviewed input suppliers (agro-dealers and sub-dealers)⁶ anticipate COVID will reduce both the supply and demand of agrochemicals (fertilizers, pesticides, etc.) in their stores, as compared to the same time last year.
- Over half (58%) attribute this to reduced demand with 27% (7) anticipating they will need to close their shops. In fact, 15% (4) of input dealers and sub-dealers have already had to close their stores.

3

Extension and mechanization services have been halted, placing additional pressure on food production at the farm level

- All interviewed extension officers (26) state the Pandemic has affected their ability to deliver their duties and responsibilities, since they are not allowed to enter villages. They also reveal that they have not provided farmers with any extension support since the Pandemic started.
- According to the Myanmar Rice Federation (MRF), the current summer rice production process has faced difficulties in harvesting, drying, and storage, affecting the quality of rice. This may lead to rice traders and millers receiving lower quality paddy from farmers this summer.
- Aligned with the views presented by extension officers, the MRF agrees that the availability of farm machinery services has and will continue to pose a significant challenge for farmers.

4

Despite a reported influx of migrants to home villages, difficulties in obtaining labour for farming is identified as an immediate impact of the Pandemic

- Physical distancing and curfew regulations have further exacerbated the impact of COVID-19; leading to shortages of skilled labour and further affecting the day-to-day operations of most Micro, Small and Medium Enterprises (MSMEs)

⁴ In particular dealers and agro-dealers

⁵ Excluding seed, this includes fertilizer, machinery, pesticides, or any other materials that contribute to crops and their growth

⁶ 85% (22) of interviewed input suppliers do not sell seed

- 80% of seed producers anticipate difficulties in finding skilled labour, with most respondents stating that labour rates⁷ have increased due to this scarcity.
- The majority of respondents⁸ surveyed as part of the RMA believe the availability of skilled labour will be scarcer due to COVID, attributing this shortage to lockdown, curfew and transportation restrictions.

5

Seed producers, companies and agro-input suppliers may be forced to adopt sub-optimal responses⁹ to increasing production costs, declining incomes and projected challenges in accessing loans

- All interviewed seed companies (5) state they have already experienced a decline in income with 60% (3) explaining their expenses have increased since the Pandemic¹⁰, due to transportation and lockdown restrictions. As a result, one seed company has temporarily shut down its sales outlet
- 76% of seed producers anticipate difficulties ensuring sufficient cash flows to meet their working capital needs, with 44% of them expecting their levels of debt to increase, stating it will be difficult for them to repay existing debts.
- 85% of interviewed input suppliers state their monthly income has decreased as a direct result of COVID with 58% of respondents stating little to no demand, and 15% (4) having to close their shops entirely.
- The majority (52%) of input suppliers state they have savings they can fall back on, however 42% believe they would have to sell assets in order to maintain working capital.

6

Operational suspensions and financing obligations will likely reduce the ability of financial institutions to provide loans to farmers

- Interviewed micro-finance institutions (MFIs) are in a risky position, with their own solvency in jeopardy, further exacerbating challenges of operating in an already high-risk environment. In addition, financial institutions are also concerned about the credit risk involved with lending to vulnerable groups (risk of nonpayment), leaving the question of funding relatively uncertain.
- 31% of farmers anticipate an increase in debt, with 87% of farmers stating they do not foresee any changes in their ability to access financing. In contrast, 46% of seed producers expect their access to loans to decrease. Seed producers are concerned they may not be able to pay off their existing debts and/or that financial institutions will not lend to them due to these outstanding debts.

⁷ Quantitative data on labour wage rates was not collected during the assessment

⁸ 60% of respondents from both seed farms and seed companies stating it will be more difficult to get labour. 85% of extension officers also believe that labour will be more scarce

⁹ Including but not limited to closing shops, increasing levels of debt, forced to sell assets, etc.

¹⁰ Over the last month; April to May 2020

7

Mobility restrictions have also reduced the ability of rice millers to secure labour and logistical services to support processing, packaging, and storage of rice - resulting in decreased income and pushing them to apply different coping methods

- All rice millers (6) state their income will be decreased due to low demand for their milling facilities. Millers express decreased processing of rice, and lowered levels of trade and restrictions on exporting rice as contributing factors to an anticipated loss of even further income
- 66% of millers (4) are also changing the usual way they would stock rice, with 2 reducing the amount of time rice is usually stored and 2 reducing the quantity of rice they store.

8

Storms, flooding, and other shocks and stresses will negatively impact the agricultural sector even further

- 83% (5) of millers expect greater damage to their livelihoods from storms, flooding or other natural disasters should the impact from COVID be prolonged, with concerns that major storms may hit during the monsoon season.

9

Trade and transport restrictions make it more challenging for farmers and market actors to benefit from the prospects of increased food demand - driven by fears of approaching shortages or increased prices

- Panic buying, import restrictions, government efforts to increase food reserves and increased demand in international markets, offer scarce opportunities for farmers and local market actors to improve production and access improved markets.
- 79% of market actors have already noted changes in transportation or supply chains of the agricultural products which they trade, process or transport when compared to the same time last year.
- Similar to traders and market actors, interviewed Township DoAs (2) believe that transportation restrictions imposed by the government may have an impact on all actors across the value chain, from millers to transporters, and other actors across the value chain.
- 68% (13) of interviewed market actors deal with importing and/or exporting goods, with their businesses significantly impacted by trade and transportation restrictions, limiting the sales of goods both domestically and internationally.

- Interviewed market actors state these export restrictions are negatively impacting their businesses even further.
- A representative from the MRF agrees with views of larger market actors, stating that “Exporters are facing big challenges with labour and export. [The] export permit is [linked] with the quota system and the duration of the process is too short for export permit, custom clearance, transport, etc.” He also states that the government-imposed restrictions, in response to COVID, will cause substantial challenges for businesses, importers and retailers.

10 Market actors are challenged by increasing uncertainty of supply and demand due to information asymmetry - leading them to implement various measures to reduce their costs

- All interviewed market actors (19), including retailers, wholesalers, transporters and export/importers state they have already experienced reduced income since the Pandemic, with 10% (2) smaller rice wholesalers stating they have had to shut down business operations completely due to decreased demand and a lack of sales.
- Uncertainty about supply and demand (in the short-medium term) and overall market stability has led 32% of larger market actors to shift their stocking practices or the volume of agricultural products they trade, process or transport.
- 63% of larger market actors have made adjustments to their businesses in response to COVID-19. Several have cut their labourers’ wages and/or switched existing monthly salaried staff to casual day labourers on rotational shifts. Others are trying to source their supply from other geographical areas (16%) and/or change their transportation routes (10%).

11 The use of cash advances and credit terms typically extended in trading are reduced, with a high risk of anticipated default - scaling down established social capital across market systems

- Offering informal credit to buyers and suppliers has been common practice amongst businesses, providing frequent cash advances. This has now changed, with cash advances and credit terms only offered sparingly amongst one another, adding friction to business relationships.
- Market actors are also concerned about being able to collect on their accounts receivable due to anticipated decreased levels of income across the value chain, and potentially diminishing trust.
- This has led several actor groups to indicate they may require financial assistance in order to ensure adequate cash flows, with MSMEs concerned about maintaining their working capital.

12

It is anticipated that food insecurity and malnutrition will be exacerbated among poor farming households in the wake of increased debt, rising costs, and eventual default on loans, if the Crisis is prolonged

- The impacts of COVID-19 are already being felt by farmers¹¹, with 53% stating they are experiencing a reduction in income and 39% stating reduced mobility due to lockdown and curfew restrictions. Furthermore, 24% have reduced their savings or stored food and 18% have reduced their spending.
- These farmers intend to adopt further negative coping strategies if the Crisis continues for another three months, with 28% of farmers interviewed stating they will have to consume less food and a quarter (25%) stating they will need to reduce the frequency of their meals.
- Farmers outlook on the impact of COVID on their food security and income, if the Crisis were to continue for another 6 months (as compared to 3 months), is even more bleak, with 39% now stating they will need to consume less food (12% increase), 33% reducing the frequency of their meals (9% increase), 32% needing to lower the quality of food consumed (15% increase), and 38% now stating that they will need to borrow money (21% increase)
- The timing and seasonality of these findings should be noted. The assessment was conducted prior to farmers' main planting (monsoon) season, typically a time of heightened food insecurity¹², which means farmers may already be enacting certain coping strategies. However, it is argued that the Pandemic has and will put additional pressure on the food security situation.

13

Government imposed restrictions have significantly affected agricultural trade and market systems across all levels - critical relief measures are needed to reduce the severity of this impact

- Union, regional and local governments have rolled out stringent social distancing measures to mitigate the Pandemic's spread, including localized lockdowns of buildings and streets with confirmed cases, "Stay at Home" programs, curfews in some locations, and mandatory quarantines for travelers.
- MFIs were not allowed to operate from April 6-May 15, 2020.
- Factories were closed and reopened subject to social distancing requirements and Ministry of Health and Sports (MOHS) inspections.
- Effects are further compounded by physical distancing, lockdown and curfew restrictions as well as import and export regulations - all of which have severely impacted market systems, including the agriculture sector.
- The government finally announced its COVID-19 Economic Relief Plan (CERP) on April 28, 2020. Actions include monetary stimulus; easing the impact on the private sector through improvement in the trade, investment and banking industries; targeting households and workers for financial assistance; health care system support; and response financing, including contingency funds.
- While CERP might bring hope, its effectiveness will depend on cross-collaboration across multiple sectors and actors. Implemented actions and subsequent results will need to be closely monitored and measured.

¹¹ Farmers: 45% of which grew rice and 21% black pulses this summer season. Excludes seed farmers

¹² LIIFT: Baseline Survey Results, July 2012

14

While the COVID-19 Crisis exposes fragilities in our food systems, it also provides an excellent opportunity to revisit and shift agricultural growth via rural - urban development paradigms (beyond CERP)

- While CERP will provide immediate responses to support economic actors - including farmers and market actors engaged in the agriculture sector - it is imperative for stakeholders to start thinking about creating more resilient agriculture and rural development systems, “to build back better”. As such, a strong enabling environment, with collaboration between all levels of government, development actors and the private sector, are required in order to minimize the impact of additional shocks and stresses on the agricultural value chain and rural livelihoods.

RECOMMENDATIONS

1. Support seed suppliers (seed producers, companies, DoA/DAR farms, etc.) to ensure that their already limited outreach to farmers is not further reduced through improving their access to labour, FS, RS and other services¹³. In addition, support can include maintaining access of those seed suppliers to input supply, flexible terms and conditions for outstanding loan repayments, and obtaining new loans on favorable terms (links to recommendation #6 below). Use the MRF B2B portal system currently being developed for linking different market actors in the agricultural and rice value chain.
2. Provide temporary smart subsidy mechanisms (for example through vouchers) to reestablish farmer and seed producers' purchasing power to buy quality inputs; While strengthening the capacity of agro-input providers (especially local dealers and sub-dealers) to supply key inputs for farmers.
3. Use the Crisis as an opportunity to 'push' the use of ICT for extension service delivery (for example by encouraging extension officers to be resource individuals for app providers' call centers) and to develop solutions for access to mechanization services (links to recommendation #4 below). For activities that require field work (i.e. on-site field inspection for RS production, the DoA/DAR could involve seed producers to be part of these teams using social distancing measures in order to reduce reliance on their own personnel, while maintaining frequent monitoring levels. Alternative mechanisms such as Participatory Guarantee System (PGS) can be developed for CS production as an alternative to formal inspection by the DoA.
4. Explore the use of cash programming to temporarily tackle challenges around access to labour. While exploring longer-term solutions for access to labour through mechanization, or innovative labour market access through ICT (i.e. 'Grab' or 'Get' for labour services)
5. Leverage the provision of temporary smart subsidies (mentioned above) to help agro-input providers negotiate better deals from input companies (i.e. in terms of payment terms). Assist these market actors to ensure sufficient cash flow levels to meet their working capital needs by assisting them to get access to low-interest loans and/or loan restructuring (i.e. delaying payments).
6. While CERP specifically covers support for FIs¹⁴; debt-relief interventions can be implemented¹⁵ to assist the indebted and the most vulnerable, supporting them to avoid negative coping mechanisms, while indirectly supporting FIs to reduce non-performing loans. This can be done through providing loan restructuring, providing partial payment of loans in arrears, or additional interest payments resulting from loan extensions.
7. Establish linkages between millers and labour groups and, if needed, provide support for on-the-job training/ internship for labour to improve skills. While leveraging the use of ICT for labour sourcing (as mentioned above). Establish linkages and coordination mechanisms between groups of millers and logistical service providers (i.e. with transporters, develop group's delivery scheduling system; with storage service providers, establish coordinated information sharing mechanism re; availability of storage space). Explore the use of ICT to digitize logistical service sourcing (i.e. Grab or Get for logistical services).
8. Develop scalable and affordable weather-based agricultural insurance with remote sensing and smart contract technologies that allow transparency and decentralized validation without the need for intermediaries. Support farmer access to location-specific and readable weather information by bridging the demand and supply side

¹¹ EGS Mobile App links supply to demand

¹² Financial Institutions

¹³ For formal FI's only (excluding Village Savings and Loans groups)

of weather information through scaling up practices that meet farmers' weather information needs - supporting access, understanding and use.

9. Assist agribusinesses to use or expand scalable out grower schemes with buyback guarantee mechanisms that promote the consolidation of farming systems among smallholders. This will reduce transaction costs for other market actors to participate in the schemes, resulting in improved access to affordable inputs, loans and other key services (including mechanization, logistics and other services). This activity can be built on existing Mercy Corps and WHH-supported contract farming activities with grain buyers and seed companies and scale up.
10. Improving linkages between farmers and market actors through ICT (i.e. online marketplace). This could also be used to improve access to information for farmers and market actors, especially pricing, improving their agency overall and building their resilience to cope with this Crisis as well as potentially future shocks.
11. Leverage the smart subsidy activity (mentioned above) that support demand creation (through vouchers for farmers to increase their purchasing power), to reestablish advance and credit systems use in trading of agro-inputs.
12. Cash transfer programming targeting the most vulnerable. This may include cash-based support linked with activities related to reestablishment of the rural labour markets (#6 and 7 above) and cash-for-work¹⁶ for the most vulnerable to be employed for infrastructure development (irrigation channels, embankments, warehouse, access roads etc.) on government seed farms or private seed growers and companies. This would also directly contribute to an increase in RS production needed for improving the agricultural productivity of the seed sector.
13. Connect farmers and market actors with CERP stimulus. Including providing assistance to MSMEs to have access to affordable loans covered by CERP. Monitor the implementation of CERP.
14. Promote urban-rural development dialogue, engaging stakeholders, including the Yangon and Ayeyarwady regional governments, as well as union-level governments, development partners, representatives of private sector actors and civil society groups built on evidence-based solutions. This will build upon existing platforms like the Regional Seed Platform and National Seed Platform, in which all mentioned actors will participate in.
15. Ensure WASH, Gender and Decent Work are an integral part of all program design and implementation. This will include continuing COVID-19 prevention awareness raising through messaging, digital platforms, billboards. This should also be done at the community level when engaging with farmers and seed producers. Ensure hygiene is maintained and support the provisioning of handwashing facilities where needed.

¹⁶ Using mobile cash for work payment systems such as Wave payment.

1.0. INTRODUCTION

1.0 BACKGROUND AND CONTEXT

The COVID-19 Pandemic is jeopardizing economies, healthcare, and food systems throughout Myanmar. Although the health effects will certainly be felt very strongly, it is expected that the negative economic impact on the most vulnerable will be much greater in scope and duration. While it is not possible to fully grasp the geographic reach and severity of this rapidly evolving Crisis in Myanmar, the RMA, combined with learned experience from recent outbreaks, paints a picture of the likely impacts on food and income security of the COVID-19 Pandemic. The Crisis has affected urban areas more quickly and more prominently, with Yangon, the country's largest city, marked as the epicenter of the Pandemic and significantly affected by physical distancing restrictions such as closures of stores and restaurants¹⁷. In addition, Yangon's densely populated urban and peri-urban areas make physical distancing even more challenging, amplifying COVID's risk factors¹⁸. However rural areas are also being increasingly impacted as the Crisis has forced tens of thousands of migrants to return to their villages, due to diminishing job opportunities in urban and peri-urban areas, as well as nearby countries¹⁹.

The Ayeyarwady Delta is administratively divided into 26 townships and 6 districts, covering coastal and lowland areas, with three sub-agricultural zones²⁰. The Ayeyarwady River basin and its delta includes four main river arms²¹ and four main agricultural trade corridors²² indicated on the map. The Delta's population is dominated by landless and smallholder farming households²³. Of these, the majority have incomes that are characterized as low, unreliable and overly dependent on the agriculture sector and/or limited remittances, resulting in protracted debt cycles and endemic food insecurity; this renders landless households particularly vulnerable to shocks and stresses. The region is known as Myanmar's "rice bowl", signifying the region's importance in producing main staples for the country¹⁹.

As the virus creates fragilities in the local market systems, it has the potential to trigger new food and income insecurity, particularly on the landless and smallholders farming households. Therefore, the country's entire food security is at risk, as the inability of the agricultural sector in the Delta to cope with the Crisis could have knock-on effects throughout Myanmar. Findings from the RMA demonstrate multiple layers of economic impact related to the COVID-19 Crisis that has created breakdowns in supply chains: potential shortages and price spikes of inputs, reduced market outlets for agricultural products, distortions in the labour market, and reduced cross-border trade; all of these will affect food production and food security. As economic migrants move back to their rural areas as a result of COVID-19, local rural communities and farming families are faced with additional pressures. It is probable that already limited resources will be consumed quickly, and these additional pressures will place food systems in jeopardy. Given market uncertainties, farmers will be much more risk averse when it comes to investing in agricultural inputs. This could negatively impact overall production and result in a sub-competitive supply of food.

¹⁷ Approximately 80% of Myanmar's COVID cases are in Yangon. Mon, Ye. (2020, May 16). 'Nobody wants to stay at home': Yangon poised to ease COVID-19 eatery restrictions. Retrieved from <https://frontiermyanmar.net/en/nobody-wants-to-stay-at-home-yangon-poised-to-ease-covid-19-eatery-restrictions>

¹⁸ Wai, Kyaw San. (2020, May 1). Myanmar and COVID-19. Retrieved from <https://thediplomat.com/2020/05/myanmar-and-covid-19/>

¹⁹ Wai, Kyaw San. (2020, May 1). Myanmar and COVID-19. Retrieved from <https://thediplomat.com/2020/05/myanmar-and-covid-19/>

²⁰ Salty water, brackish water zone, freshwater areas

²¹ Patheingyi, Pyawbwe, Bogale and Toe rivers

²² Yangon - Danubyu - Hintadha; Yangon - Maubin - Patheingyi; Yangon - Maubin - Myaungmya - Laputta; and Yangon - Pyawbwe - Bogale

²³ GRET: Land Tenure in Rural Lowland Myanmar, 2017

1.2 GOVERNMENT OF THE UNION OF MYANMAR (GoUM) RELIEF INITIATIVES

With the first officially reported case of COVID-19 in Myanmar on March 23, 2020, the Government of the Union of Myanmar (GoUM) responded with several initiatives²⁴ to help contain the spread, including restrictions on travel, lockdowns and daily curfews in some cities. In addition, gatherings of more than 5 people are not allowed. These rapid restrictions of both movement of people and goods has caused disruptions across the economy, including value chains. Essential transport is still allowed, however requires the individual or official traveling to present a letter from the General Administrative Department (GAD) stating the person's authorized village and/or purpose of travel, and documentation proving they have been tested negative for COVID-19²⁵.

The financial sector, including MFIs have also been impacted by the Crisis with the Financial Regulatory Department (FRD) officially suspending loan repayments (other than voluntary), taking on new clients, and accepting saving balances until May 15th. However, MFIs have now been deemed an essential service²⁶. This, combined with the Central Bank lowering interest rates by 1.5%, and the government-affiliated Myanmar Agricultural Development Bank's (MADB) plans to disburse more loans with lower interest rates (now 7% compared to 8%), has the potential to alleviate some financial pressure across the agricultural value chain.

On April 27, 2020, the Government of the Union of Myanmar (GoUM) released its COVID-19 Economic Relief Plan (CERP). The CERP sets out seven goals, ten strategies, 36 action plans and 76 actions covering a broad range of extraordinary fiscal measures and policy responses. The CERP details proposed actions to be undertaken, as well as actions affected by each of the GoUM ministries so far, with each action set out under the relevant goal, naming the responsible ministry/authority. The seven goals of the CERP are:

1. Improving the macroeconomic environment through monetary stimulus;
2. Easing the impact on the private sector through improvements to the investment, trade and banking sectors;
3. Easing the impact on labourers;
4. Easing the impact on households;
5. Promoting innovative products and platforms;
6. Healthcare system strengthening; and
7. Increasing the COVID-19 Fund and the Contingency Fund.

In addition, the COVID-19 Fund was established on March 8, 2020 with a capital of MMK 100 Billion. Hotel and tourism companies, small and medium enterprises and cut-make-pack businesses owned by Myanmar nationals are eligible to apply for loans through the COVID-19 Fund. On April 28, 2020, the Committee for Remedying Economic Effects of COVID-19 announced a list of businesses that have successfully obtained loans from the COVID-19 Fund.

²⁴ Myanmar: Government and Institution Measures in response to COVID-19. Retrieved from: <https://home.kpmg/xx/en/home/insights/2020/04/myanmar-government-and-institution-measures-in-response-to-covid.html>

²⁵ Anecdotal information

²⁶ Republic of the Union of Myanmar Ministry of Labour, Immigration and Population Statement on Coronavirus Disease 2019 (COVID-19) concerning factories and businesses. (2020, May 4). Retrieved from: <https://www.globalnewlightofmyanmar.com/republic-of-the-union-of-myanmar-ministry-of-labour-immigration-and-population-statement-on-coronavirus-disease-2019-covid-19-concerning-factories-and-businesses/>



2.0 METHODOLOGY

2.1 OBJECTIVE OF THE STUDY

The Rapid Market Assessment was conducted with a specific focus on the economic impact of COVID-19 on households and market actors primarily engaged in farm activities in the Delta to better understand:

- The current impact the Crisis has had on their livelihoods;
- How actors anticipate their livelihoods and food security to be further impacted in the near to medium term, along with their subsequent behaviours in response to these anticipated impacts (i.e. how they intend on adapting their behaviour in response to the anticipated effects of COVID-19).

2.2 METHODOLOGICAL APPROACH

A combination of both qualitative and quantitative data was collected from a total of 661 respondents (Female: 161, 24%) across different actor groups. 428 surveys were conducted with farmers via Village Link's 'Htwet Toe' Application, collecting primarily quantitative data. The remaining 233 surveys were conducted over the phone or online, serving as Key Informant Interviews (KIIs), collecting a combination of both quantitative and qualitative data. All questionnaires were accurately translated, with comprehensive enumerator training on questions and delivery (i.e. tone, inflection). Respondents answers were recorded and translated by enumerators.



2.3 SAMPLING METHODS AND RESPONDENTS PROFILE

661 respondents participated in the assessment and were categorized into 13 groups. Due to challenges given the context of COVID-19, non-probability sampling methods were used. Both voluntary sampling (online surveys) and convenience sampling (phone interviews with easy to reach individuals) methods were employed, by leveraging existing relationships formed with actors by MC, WHH and VL through previous and existing work in the region. The RMA ensured fair representation of respondents from each of the 6 districts and 26 townships, when possible. In addition, selection of respondents was also conducted to ensure inclusivity across all socio-economic backgrounds, sex and ethnicities. Moreover, individual actors within each group were selected based on the primary goods handled (i.e. rice, pulses, etc.) and further by the size and scope of their operations (i.e small, medium to large actors). Respondents profiles and selection methodology:

Farmers: Smallholder farmers²⁷ across 26 townships in the Delta region. These farmers are located in different agro-ecological zones (salty water, brackish and freshwater) and grow mostly rice and/or pulses during the Monsoon and/or Summer Seasons. These farmers are amongst those registered as users of the 'Htwet Toe' application (developed and run by Village Link). 426 farmers (Female: 117, 26%) voluntarily participated in the online survey while an additional 26 farmers (one from each township) were randomly selected from remaining users to participate in more comprehensive phone interviews²⁸.

Seed Producers: Seed producers are farmers who engage in rice seed multiplication from Registered Seed (RS) to Certified Seed (CS), in addition to producing grains or other agricultural produce. Seed producers operate individually or as a group of several producers and sell produced seeds to neighbouring farmers or millers/traders, or in local markets. To be able to multiply RS into CS, seed producers have to comply with standards established by the government which include inspections as part of the certification process. 79 (Female: 21, 27%) rice seed producers participated in the phone interviews and were selected amongst rice seed producer beneficiaries of the LIFT funded WHH, Rice Seed Sector Development (WHH-RSSD) project. In general, seed producers are more skilled and commercially oriented than regular farmers and therefore could be expected to have better informed responses to survey questions than regular farmers.

Seed Farms: These are farms run by the Department of Agricultural Research (DAR) or the Department of Agriculture (DoA) of the Ministry of Agriculture, Livestock and Irrigation (MoALI) to produce early generation seed (Breeder, Foundation and Registered Seed; BS, FS and RS respectively). DAR seed farms are expected to focus on varietal development, agronomic research and promoting the uptake of varieties, while DoA seed farms work on multiplying the varieties into sufficient quantities of foundation and registered seeds. However, in practice, they both focus on multiplication of RS into CS at the township level.

²⁷ For the purposes of this RMA, the term 'farmers' is used to encompass those which focus on crops, and predominately excludes those which engage in the fisheries or livestock sectors
²⁸ It should be noted that this sample, and consequent perspectives of surveyed farmers reflects those who may be considered 'better-off' as they are effectively accessing smart phones with application capabilities, as well as digital information.

A total number of 5²⁹ DAR/DoA seed farm operators participated in phone interviews, (Female: 2, 40%) the majority of which were selected from RSSD participants.

Seed Companies: This category includes small- and medium-scale seed companies who publicly engaged in multiplication or production of improved rice varieties. Larger-scale private companies were also interviewed, who privately produce, import and/or market high quality seeds, including hybrid varieties. A total number of 5 seed companies (Female: 0) were selected through convenience sampling and interviewed by phone, many of which are WHH-RSSD project partners.

Agro-Input Dealers/Sub-dealers: Input dealers and sub-dealers play an important role in ensuring farmers' access to agricultural inputs. Some large input companies have established distribution networks and provide sales services to these dealers/sub-dealers, who operate independently from input companies. Key inputs being traded by dealers and sub-dealers are mostly fertilizers and other agro-chemicals (pesticides, fungicides, herbicides are among others). Sometimes they offer improved seed, animal feed, medicine, small tools and equipment. There is no standard criteria of distinguishing dealers from sub-dealers, yet overall, dealers have a bigger turnover or sales volume as compared to sub-dealers. In addition, a dealer typically has a larger shop and storage facility, located in major cities/towns, and sourcing inputs directly from companies. 26 dealers/sub-dealers were interviewed (Female: 4, 15%), one from each township. They were selected from users registered with the 'Htwet Toe' application.

Extension Officers: Includes private, government, and NGO extension officers. They play a key role in providing extension services for farmers. Government extension officers fall under the Township or District DoA, while private extension officers³⁰ are hired and paid by large input companies to provide extension services to key farmers and/or dealers and sub-dealers. 26 extension officers were interviewed, one from each township³¹ (Female: 4, 15%). They were selected from users registered with the 'Htwet Toe' application.

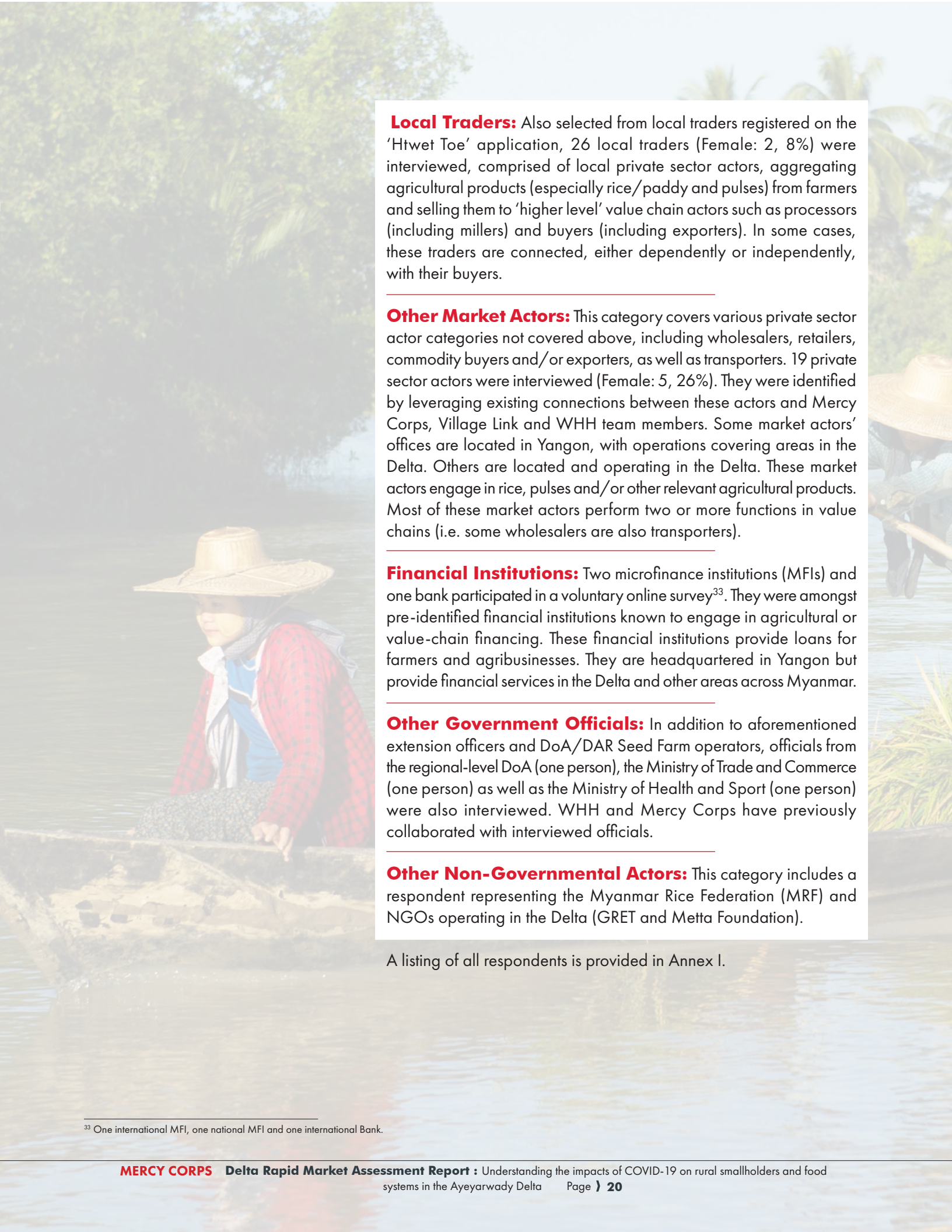
Rice Millers: These include small (up to 5 ton production capacity per day), medium (5-30 tons) and large millers (more than 30 tons). 6 millers³² were interviewed (Female: 2, 33%) most of whom are Mercy Corps private sector actor partners. In many cases rice millers are also rice traders, as they procure paddy from farmers, transport, process and sell it to wholesalers or local buyers. Large millers are sometimes also exporters or closely linked with certain exporters.

²⁹ 4 out of 5 seed farms are supported by the WHH-RSSD project

³⁰ Sometimes referred to as sales agents, as they are also expected to sell certain agro-inputs

³¹ 23 private extension officers, 2 Government or DoA Officers and 1 NGO officer

³² 4 millers from Labutta, 1 from Pathein and one from Pyapon



Local Traders: Also selected from local traders registered on the ‘Htwet Toe’ application, 26 local traders (Female: 2, 8%) were interviewed, comprised of local private sector actors, aggregating agricultural products (especially rice/paddy and pulses) from farmers and selling them to ‘higher level’ value chain actors such as processors (including millers) and buyers (including exporters). In some cases, these traders are connected, either dependently or independently, with their buyers.

Other Market Actors: This category covers various private sector actor categories not covered above, including wholesalers, retailers, commodity buyers and/or exporters, as well as transporters. 19 private sector actors were interviewed (Female: 5, 26%). They were identified by leveraging existing connections between these actors and Mercy Corps, Village Link and WHH team members. Some market actors’ offices are located in Yangon, with operations covering areas in the Delta. Others are located and operating in the Delta. These market actors engage in rice, pulses and/or other relevant agricultural products. Most of these market actors perform two or more functions in value chains (i.e. some wholesalers are also transporters).

Financial Institutions: Two microfinance institutions (MFIs) and one bank participated in a voluntary online survey³³. They were amongst pre-identified financial institutions known to engage in agricultural or value-chain financing. These financial institutions provide loans for farmers and agribusinesses. They are headquartered in Yangon but provide financial services in the Delta and other areas across Myanmar.

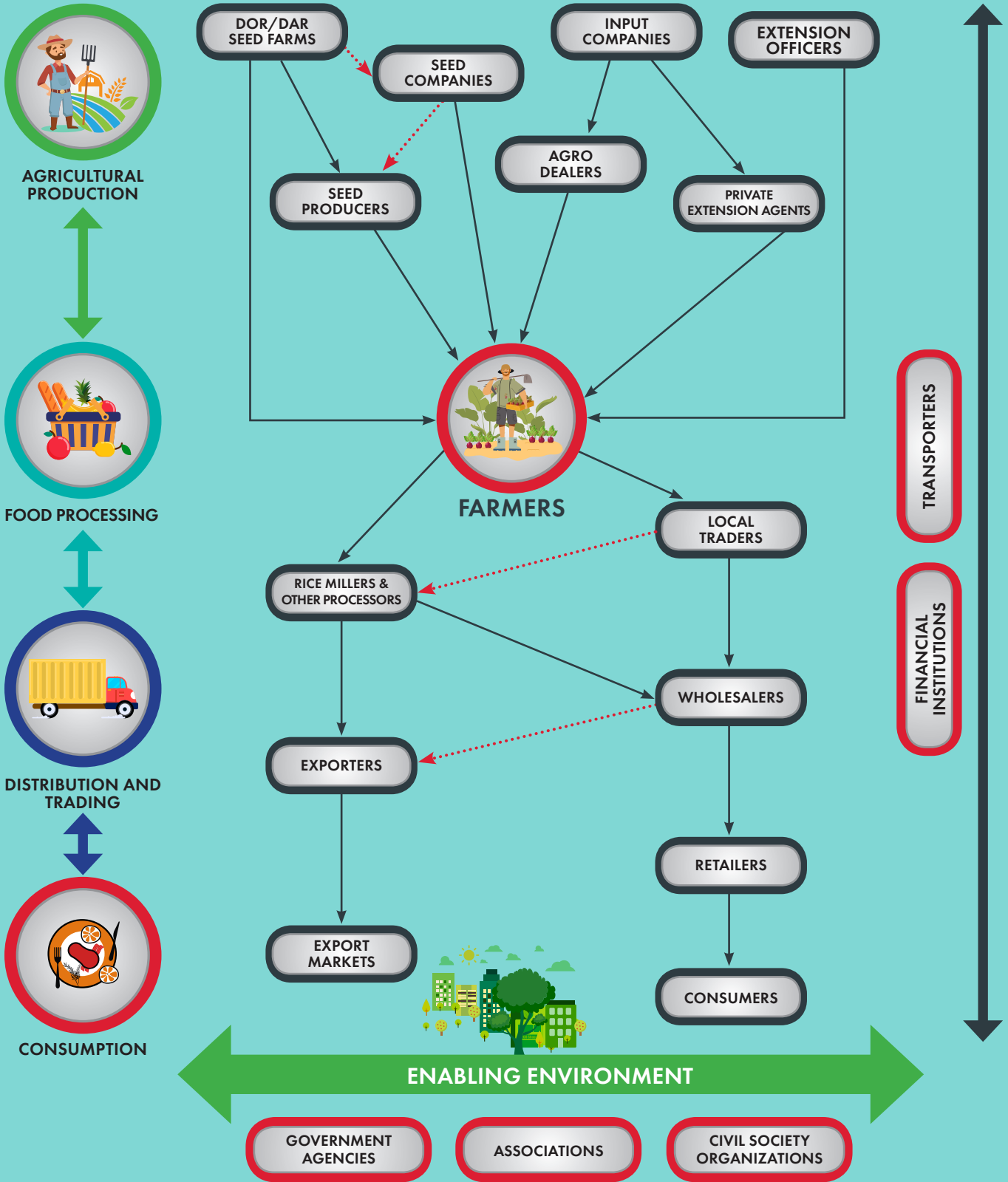
Other Government Officials: In addition to aforementioned extension officers and DoA/DAR Seed Farm operators, officials from the regional-level DoA (one person), the Ministry of Trade and Commerce (one person) as well as the Ministry of Health and Sport (one person) were also interviewed. WHH and Mercy Corps have previously collaborated with interviewed officials.

Other Non-Governmental Actors: This category includes a respondent representing the Myanmar Rice Federation (MRF) and NGOs operating in the Delta (GRET and Metta Foundation).

A listing of all respondents is provided in Annex I.

³³ One international MFI, one national MFI and one international Bank.

MAP OF RMA RESPONDENTS



2.4 QUESTIONNAIRES AND KEY RESEARCH QUESTIONS

Questionnaires were designed considering multiple factors including:

- Interviews would be conducted over the phone or online and should take approximately 20-30 minutes, depending on the actor group;
- The short time frame available to translate and train RMA enumerators;
- A combination of closed, open and probing questions were asked, in order to triangulate data where possible;
- This was also done to avoid either respondent and/or enumerator bias (i.e. implying that COVID would have a negative, as opposed to no impact or positive impact, on respondents)

In line with the objectives of the RMA (listed above), the main components of questionnaires included:

1. Demographic information;
2. COVID awareness and access to WASH;
3. The impact of the COVID Crisis on food security and livelihoods;
 - a. Understanding shifts in behaviour and operations including production, supply, demand, labour, transportation, and access to markets
4. COVID's impact on the respondents' farming practices or business;
5. The specific impact COVID has already had, and is anticipated to have, on respondents' income, expenses and other associated dynamics;
 - a. Mainly measuring changes in income, expenses, pricing and access to finance.

A sample quantitative questionnaire used to interview farmers is included in ANNEX II.

2.5 LIMITATIONS OF ASSESSMENT

Seasonality and timing of the assessment may have an impact on its findings. April to May are the primary harvesting months for the summer season. As the surveys were conducted from the last week of April to the first week of May, market actors, especially farmers, may not have fully realized the impact of COVID on revenue streams, distribution channels or labour. Planting for monsoon season occurs around the last week of May, so findings from obtaining agricultural inputs may not be fully realized as yet either.

As is the case in all surveys of this nature, several types of bias should be considered, including:

- Respondent recall, perceptions and bias – especially when asked about acres of land cultivated, goods produced, income, expenses and debt;
- Sample bias – between phone and app-based surveys could include socio-economic factors with some respondents having access to smartphones, while others do not

Again, due to the nature of the RMA, data analysis was conducted over a short period of time, to highlight key trends and potential opportunities to provide interventions. The data gathered provides further opportunities for deeper analysis, disaggregation and comparisons.

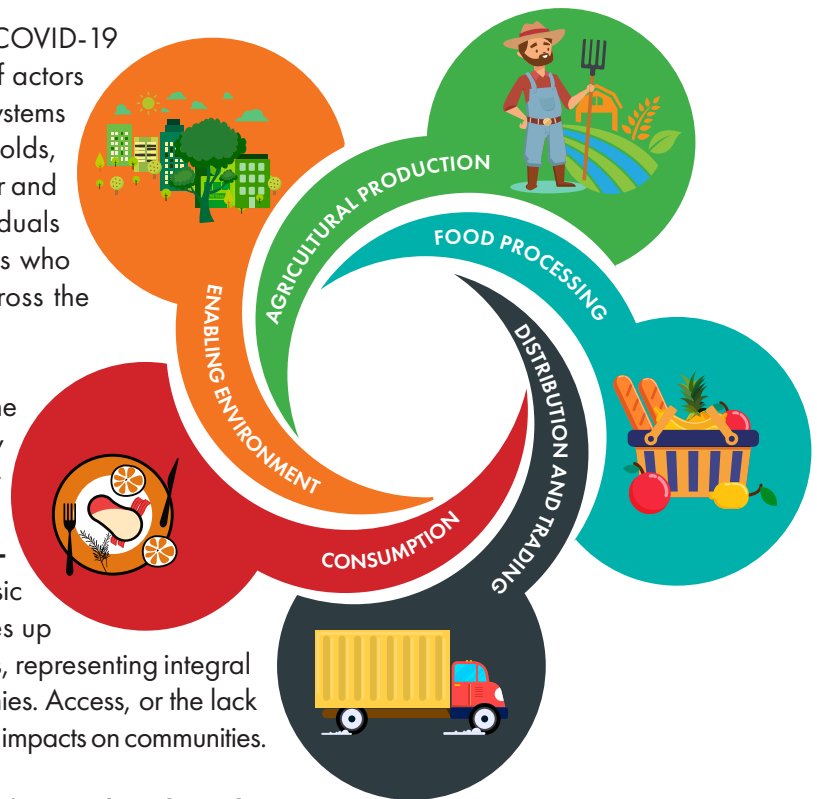
³⁴ Due to the type and volume of questions asked, many interviews took approximately 60-90minutes to complete

3.0 ANALYSIS AND KEY FINDINGS

3.1 STRUCTURE AND OVERVIEW

The findings from the RMA suggest that the COVID-19 Crisis will have significant effects for the majority of actors engaged in the agricultural value chain and market systems in the Delta. Cascading effects will impact households, especially the most vulnerable (including smallholder and landless farmers, labourers, MSMEs owners, individuals reliant on the informal sector, as well as individuals who have lost their livelihoods due to COVID-19), across the agricultural sector.

The Food System Framework³⁵ is used to analyze the data and information collected and present the key findings from the RMA. A food system is generally understood to be the chain of activities connecting **food production, processing, distribution, consumption, and waste management**. As food is a basic necessity; along with air, water, and shelter, it takes up a substantial amount of urban and regional resources, representing integral components of both community and regional economies. Access, or the lack thereof, to affordable, healthy food can have significant impacts on communities.



The first section (3.3.1) presents the dynamics around **agricultural production**.

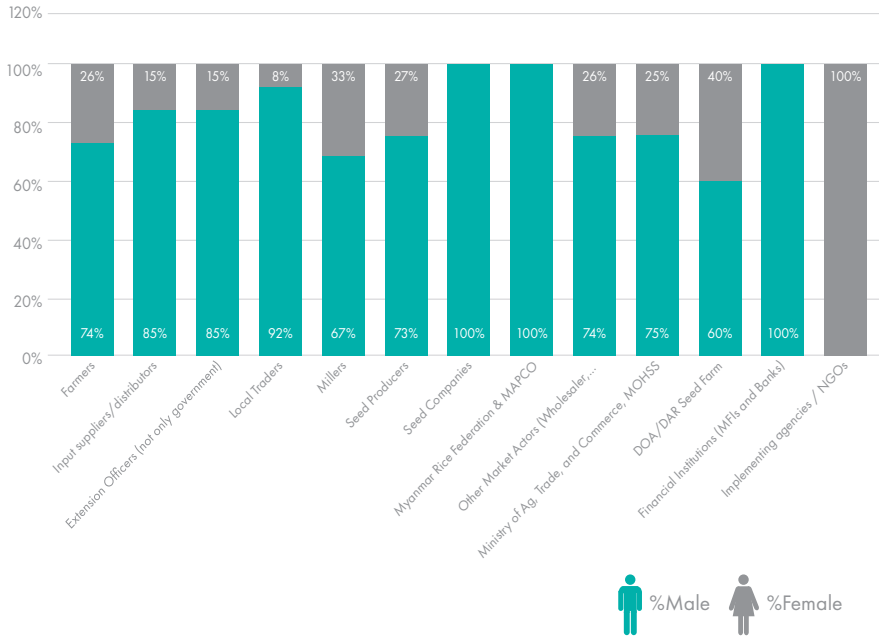
This part covers some of the major findings of the RMA, stemming from online surveys and phone interviews conducted with farmers. To understand the ongoing and projected impact of the COVID-19 Crisis on food systems in the Delta region better, information from actors engaged in the seed, other agro-input and extension systems (seed producers, seed companies, input dealers/sub-dealers, etc.) are incorporated. This is then followed by an analysis surrounding **food processing** which presents findings from off-farm market actors such as rice millers. Subsequently, an analysis of **distribution and trading**, as well as **consumption** is conducted against data and information collected from local traders and other market actors such as retailers, wholesalers, exporters, etc. This is then complemented with data around possible coping mechanisms reported by farmers. In addition, an **enabling environment** is required to ensure all actors are adequately supported to maximize their productivity. This includes the Myanmar Rice Federation (MRF) and MAPCO, actors who promote the sustainability of rice production in Myanmar, as well as Non-Governmental Organizations (NGOs) operating across agricultural value chains in the Delta.

Information gathered from transporters, financial institutions, government actors, and other sources (i.e. secondary information) are integrated across these key elements of food systems to enrich the analysis of each sub-section. While the environmental impacts of industrial farming practices and food waste, as well as the energy and resources consumed by growing, harvesting, processing, and transporting our food are also significant, this RMA did not cover elements around **waste management**.

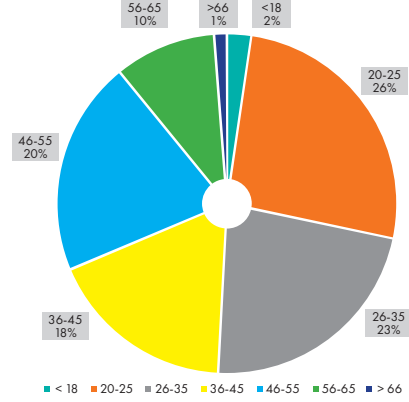
³⁵ Knowledge Base Collections: Food Systems. Retrieved from: <https://www.planning.org/knowledgebase/food/>

3.2 DEMOGRAPHICS

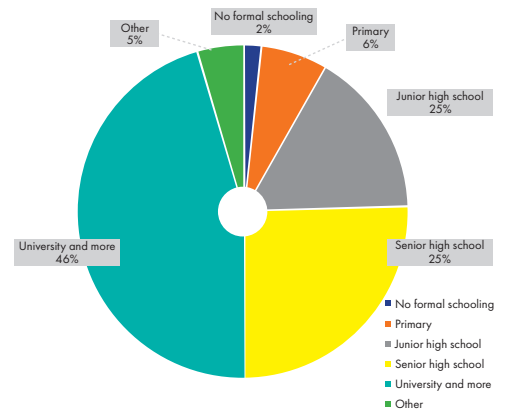
RMA Respondents Disaggregated by Sex



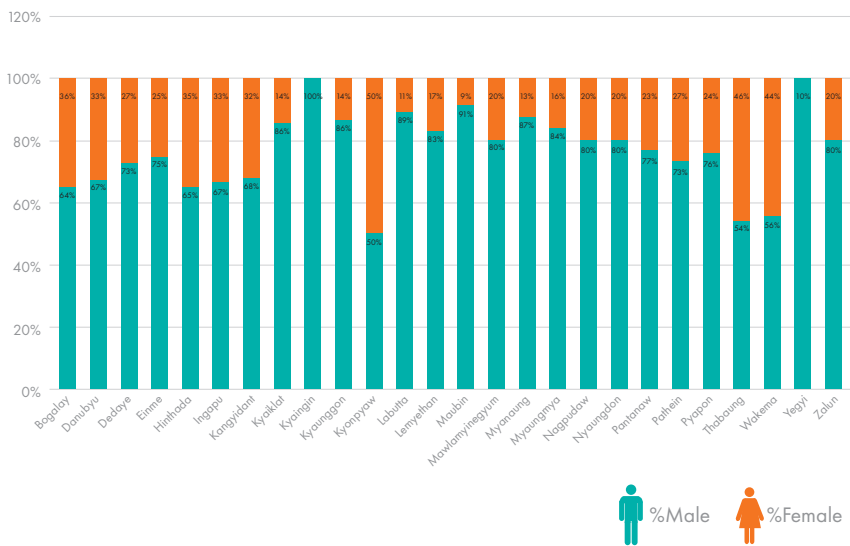
RESPONDENTS: AGE GROUPS



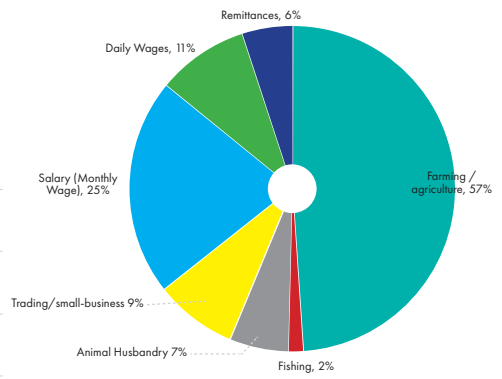
RESPONDENTS: LEVEL OF EDUCATION



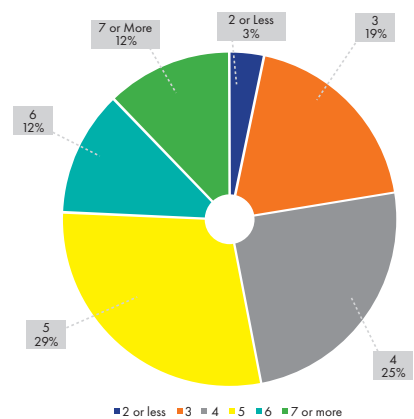
FARMERS BY TOWNSHIP AND SEX



FARMERS: PRIMARY SOURCE OF INCOME



FARMERS: HOUSEHOLD SIZE





3.3 FINDINGS

3.3.1 AGRICULTURAL PRODUCTION



Interestingly, government actors at the regional level believe that COVID will have little to no impact on the agricultural industry, including access to inputs and labour. Similarly, farmers also have a more optimistic view regarding the impact of COVID on their incomes and livelihoods, in many cases, in direct contradiction to the views of other stakeholders. Despite the reported severity of the impacts of the Pandemic (i.e. the majority of farmers mention that COVID has reduced their incomes), most farmers still believe they will be able to cultivate similar amounts of land and grow similar products (as compared to last year) this upcoming Monsoon season. This can be attributed to several factors, which will be discussed across the thematic areas presented. However, market actors across agro-input systems (from seed producers and companies to agro-input dealers and sub-dealers) are more pessimistic, having already experienced input and labour shortages, compounded by an anticipated decline in the demand for seeds and other agro inputs (such as fertilizers and other agrochemicals) consequently decreasing prices.

Agriculture is a fairly insulated industry, which will not be impacted by COVID-19. The only constraint farmers will face this season is the weather.”

-- an interviewed local government official

Farmers take optimistic views towards the impacts of the Pandemic

Surprisingly, farmers production behaviours for the upcoming Monsoon season do not align with their anticipated decline in income and anticipated negative coping strategies due to COVID-19. 53% of farmers have already experienced a reduction in income since the Pandemic (discussed in Section 3.3.4). Farmers views are in stark contrast to those of other private actors engaged in food systems across the Delta region, explained in further detail below.

56% of Farmers grew rice, the main agricultural product of the Delta region, during the last/ongoing summer season. Other major products included: chili (21%), black gram/pulse (20%), tomato (12%), and green gram/pulse (8%). It should be noted that 28% of respondents did not grow anything last summer season. This can be explained by the large proportion of farmers who do not plant during the summer season based on the salinity of the land. However, excepting rice and pulses, farmers still intend on growing the same products for the upcoming monsoon season, despite concerns about declining income;

- The number of farmers growing rice increases from 45% to 57%, since the monsoon season is the main season for growing rice;
- The proportion of farmers growing black gram/pulse decreases from 20% to 5% as the main growing season is from November to March;
- Green gram/pulse also decreases from 8% to 3% as the main growing season is from October to February.

Additionally, farmers on average still plan to cultivate similar amounts of land this season, with 91% stating they do not expect COVID to impact their yields;

- A slight decrease in expected acres of production should be noted for farmers cultivating less than 5 acres of land. Conversely, an increase of production, from 23% to 31% in the number of acres produced for farmers cultivating 5-10 acres of land.

See Annex III for further information relating to comparison of agricultural products, acres of cultivated land and farmers' responses to key questions, disaggregated by district.

See Annex IV for comparable income and expense data collected for all interviewed market actors

Furthermore, the majority of farmers state that the Covid-19 Crisis will not impact:

- Their monthly household expenses (57%)
- Demand of agricultural products (63%)
- Agricultural prices (66%)
- Working capital (84%)
- Their ability to access loans (87%)
- Their current level of debt (34%), with only 31% expecting their debt to increase
- Will not face any other constraints resulting from COVID that will impact their farming production (98%)

Key Finding #1: Despite more optimistic views presented by farmers and local government, farmers' access to improved seed will likely be constrained by an inability of seed suppliers³⁶ to provide improved seed to market

High yielding seed is vital to improving agricultural productivity and quality. In Myanmar, including the Delta Region, farmers can obtain seed from four different sources: seed producers, DoA seed farms, seed companies (including small and medium companies producing seeds, and larger companies producing or importing hybrid seeds), and/or use their own saved seed.³⁷ While the role of other agricultural products (i.e. vegetables, pulses, etc.) is as important as rice within the food systems in the Delta Region, this section only focuses on the rice seed sector, particularly the high yielding rice seed supplied by seed producers, seed companies and DoA/DAR seed farms.

Lack of agro-inputs (including quality seed), or the lack of money to purchase them, is one of the most common constraints faced by farmers in the Delta prior to the COVID outbreak³⁸. However, 96³⁹% of surveyed farmers do not believe the Crisis will reduce their ability to get quality seed for farming during the upcoming monsoon (planting) season. It is also important to note that in Myanmar, more than 90% of the seed planted for most crops is farm-saved seed, which mostly holds true for rice and pulses.⁴⁰ A more advanced private production and marketing system has only been developed for vegetables and hybrid maize, while the performance of the seed value-chain is rather limited for most other crops.

Perspectives from seed suppliers, especially seed producers and seed companies, are not as optimistic as that of farmers. Around 20% of seed producers and seed companies are skeptical they will receive the Registered Seed (RS)⁴¹ they require to produce Certified Seed (CS), especially when taking government-imposed restrictions into consideration. Interestingly, interviews with DoA officers reflect they do not anticipate changes in their ability to distribute RS to seed producers and companies, despite 50% of DoA staff directed to work from home. Yet, several other seed producer respondents disagree, having already ordered RS seed, but yet to receive it.

“[DoA/DAR] seed farms will not be able to deliver the quantity [of RS] required.”

-- an interviewed seed producer

“Demand for Registered Seed (RS) will be high from seed producers, and we are unsure if we’ll be able to get enough RS seed to meet our demand.”

-- a seed producer member of the Shwe Khit Arr Mar group in Bogale

In addition, 40% of seed companies believe their yields will be impacted by COVID. Furthermore, a shortage of agro-inputs (i.e. fertilizers and other agrochemicals) and labour leads 66% of seed producers to anticipate decreased yields of seed production this season. Furthermore, 69% of seed producers and 60% of seed companies anticipate that transportation and physical distancing restrictions will impact the ability of the DoA to provide field inspections, a key step in the CS certification process and in ensuring overall quality of CS produced by seed producers and seed companies.

³⁶ This includes seed producer farmers, seed companies, dealers/sub-dealers supplying seeds, DoA/DAR seed farms

³⁷ The rice sector gives a good insight into the diversity of seed systems of the country. According to the Ministry of Agriculture and Irrigation's statistics (2013): 1.5% of rice production is under hybrid varieties, 55% under high-yielding varieties; 20% under high-quality varieties, while 23% is under local varieties. The ratio between hybrids, quality seed and local seed is probably even more tilted towards the local seeds for sectors like legumes and oilseeds.

³⁸ LIFT: Baseline Survey Results, July 2012

³⁹ Qualitative survey only; 25 respondents

⁴⁰ Centre for Development Innovation, Wageningen UR (CDI) Agribusiness and Rural Development Consultants (ARDC): Pathways for Developing the Seed Sector of Myanmar: A Scoping Study (2015)

⁴¹ RS mostly received from the DoA. Their usual process for acquiring seed is: 1) Township DoA asks seed producers what their demand is for the next season, and 2) submits a cumulative demand list for the township to the regional DoA. 3) Seed producers usually get the variety of seed they request, if produced by the seed farms within the region. They may not get the quantity of seed demanded, depending on production levels and/or demand for seed.

In addition, 40% of seed companies believe their yields will be impacted by COVID. Furthermore, a shortage of agro-inputs (i.e. fertilizers and other agrochemicals) and labour leads 66% of seed producers to anticipate decreased yields of seed production this season. Furthermore, 69% of seed producers and 60% of seed companies anticipate that transportation and physical distancing restrictions will impact the ability of the DoA to provide field inspections, a key step in the CS certification process and in ensuring overall quality of CS produced by seed producers and seed companies.

While not at all surprising, seed farms, operated by the DoA or DAR of MOALI, have differing views. All interviewed DoA/DAR seed farms (5) believe they will still be able to obtain the Foundation Seed (FS) and Registered Seed (RS) required for their production. 80% (4) seed farms used their own saved FS seed from previous seasons to produce RS, while 20% (1) received Breeder Seed (BS)⁴² from the DAR to produce their own FS and RS. They also do not anticipate any disruptions in inspections and the certification process (as it is done themselves) and believe that their production yields will not be impacted as a result of COVID, thus expecting to produce FS and RS seed in the upcoming monsoon season. With a relatively limited amount of high yielding seed used by farmers coming directly from DoA/DAR farms (i.e. there are only 6 seed farms across Ayeyarwady Region), reduction in the ability of seed producers and seed companies to supply high yielding seed to farmers will reduce farmers' access to quality seed.

In addition, the interviewed DoA/DAR seed farms do not anticipate the quality of their seed to be impacted by decreased inspections. Seed producers are less optimistic, with almost 40% not believing they will be able to meet quality standards set by the DoA. This is considered a relatively low confidence level⁴³. Several seed producers will rely more heavily on mobile communications, their own knowledge and past experience to ensure quality. One respondent stated he will rely on the Su Paung Ayar farmer association, a network of peers who check each other for quality production. It could be inferred that higher proportions of seed producers will similarly begin relying more heavily on their peer networks and associations with declining inspections. The Township and Regional DoA⁴⁴ concur that inspections will be decreased; however, they don't believe this will have a significant impact on the agricultural value chain. The Regional DoA confirms that 50% of its officers have been instructed to work from home, where they will communicate and coach seed producers over the phone. They have initiated a 'Viber' group with all seed producers, where they share information on agriculture and the prevention of COVID. However, these measures will not resolve the issue of certification, as physical inspections are still required as part of this process.

⁴² The responsibility for producing Breeder Seed (BS) falls solely under DAR jurisdiction (Yezin, Napitydaw)

⁴³ Anecdotal data on ability to meet quality standards prior to COVID-19

⁴⁴ The Department of Agriculture's mission is three-fold (1) Seed production, (2) Training and Education, (3) Research and Development

Definition of seed classes

Nuclear Seed (NS): A hundred percent genetically pure seed with physical purity, produced by the original breeder from a basic nucleus seed stock. A pedigree certificate is issued by the producing breeder.

Breeder Seed (BS): The progeny of nucleus seed multiplied in larger areas as per requirement coming from the DAR/DoA, under supervision of plant breeder and monitored by a committee consisting of representatives from relevant departments. This is also a hundred percent physically and genetically pure seed, used for the production of foundation seed.

Foundation Seed (FS): The progeny of breeder seed produced by recognized seed producing agencies in the public and private sectors, under supervision of the DoA/DAR or seed certification agencies in such a way that its quality is maintained according to prescribed seed standards.

Registered Seed (RS): Registered seed shall be the progeny of foundation seed that is so handled as to maintain its genetic identity and purity according to standards specified for the particular crop being certified. DoA/DAR will produce RS for seed companies and seed producers for the below CS production.

Certified Seed (CS): The progeny of foundation seed produced by registered seed growers under the supervision of DoA/DAR or seed certification agencies to maintain seed quality as per minimum seed certification standards.

The Regional DoA further explains that the remaining 50% of DoA staff will continue to work in the field, meaning only one staff member will be able to visit seed producer locations to distribute RS, inspect production to meet quality standards, knowledge share, and supervise the production process. In spite of this reduction in staff mobility, the respondent believes that production areas in this year's monsoon season will remain unchanged resulting in (i) Township DoA officials continuing to collect RS seeds from seed farms (via truck), and delivering them to seed producers at minimum prices; (ii) Township DoA's having qualified CS stock for grain farmers, which will be sold at a reasonable price⁴⁵; and (iii) Some seed producers and farmers being served by the DoA's door to door seed delivery system⁴⁶. Furthermore, both the DoA and DAR state that the demand for rice seed will continue to be high, with distribution continuing as usual.

Despite the high level of confidence presented by the regional level DoA, 53% of farmers state they are already feeling the impact of COVID-19, stating decreases in income as a result, and intend on adopting negative coping mechanisms if the Crisis continues for another 3-6 months (discussed in further detail in Section 3.3.4 below). This raises the question of farmers' financial capability or willingness to invest in seed, which is likely to decrease according to seed suppliers.

Seed companies are concerned with the demand for seed with 100% (5) responding they believe the demand for seed will decrease. They attribute this to anticipated declines in farmers' incomes, wherein farmers do not have the discretionary income for seed and/or perceive investing in seed as risky. Similarly, 62% of seed producers believe the demand for seed will decline, expecting farmers to either use their own seed or purchase lower quality seed due to their lowered incomes. They anticipate these factors will force the price of seeds down. In terms of DoA/DAR seed farms, the price for RS seed is set by their head office, with seed farms themselves having little autonomy over the price of seed. However, when asked, none of them believe the price of seed will be impacted as a result of COVID-19. For seed producers, the majority of them (56%) state that prices should remain constant, with 31% in fact stating that prices should be reduced, aligning with current market conditions. Other reasons for selling at reduced prices include exhausting stock before expiry, as well as helping neighbouring farmers, who may not be able to afford much during the Crisis. Anecdotal data indicates that 'an inclusive' community frame of mind is common practice in the Delta prior to the Pandemic, with efforts to help each other intensifying post-COVID.

Secondary data sources indicate that 82% of farmers in the Delta used their own seed for paddy, with only approximately 10-11% using improved seed (purchased or provided)^{47, 48}. Although the percentage of farmers who typically use their own seed versus improved seed was not assessed during the survey, it could be argued that the decreased availability of improved seed will put an additional pressure on the already low agricultural productivity in the region. The ability of seed producers and other seed suppliers to produce seed this monsoon season (2020) will impact the seed supply for the following summer season (2020/2021). However, other factors such as mobility restrictions and anticipated decreasing purchasing power of farmers due to reduced income, are expected to negatively impact farmer access to improved seed during Monsoon season 2020.

Key Finding #2: Agro-input providers⁴⁹ have already reported challenges due to mobility restrictions and are expecting to face further limitations over the following months - threatening farmers' access to other key inputs⁵⁰ to improve farm productivity

The majority of farmers (83%) do not believe that COVID-19 will impact their ability to access key inputs. However, it should be noted that farmers may require less of these inputs during the Monsoon season (i.e. compared to summer), especially for rice production, since they cannot control the water supply (rainfall) and levels of water

⁴⁵ According to data obtained from the Township DoA, the price for qualified CS seed (per basket) ranges from 10,000MMK (Sin Thu Kha) and 15,000MMK (Paw San Yin). The variation in price is since Paw San Yin is a high demand variety.

⁴⁶ The DoA delivers RS seeds to seed producers (who pre-order these seeds) in less accessible villages

⁴⁷ LIFT: Baseline Survey Results, July 2012

⁴⁸ Myanmar Rice and Pulses: Farm Production Economics and Value Chain Dynamics, June 2019

salinity.⁵¹ In addition, the DoA reiterates that agrochemicals and other key inputs will not be impacted as all agrochemical shops should be able to operate regularly (following physical distancing regulations). They also stated that due to seasonality, inputs are not currently in high demand, but are confident there will be enough stock for planting season.

In contrast to the interviewed farmers and DoA official views, other actors believe their ability to get inputs and fertilizers, especially agrochemical inputs, will be impacted as a result of transportation restrictions. 60% of both seed farms and seed companies and 75% of seed producers⁵² state they will have difficulties obtaining fertilizers and other key inputs required for their seed production. Furthermore, seed companies especially state that border trade restrictions are making it more difficult to obtain quality fertilizer and agrochemicals, with foreign imports (which are still allowed into the country, but at limited quantities) being sold at higher prices⁵³. This could negatively impact productivity and/or drive production costs up. In addition, 60% (3) of seed companies could not obtain the goods, services, materials (from within the region) required over the last 2 weeks, stating that materials usually obtained from Yangon are not available due to transportation restrictions). **Many respondents are concerned that a shortage of inputs will drive the price of agro-inputs up, making it less affordable for farmers to purchase, especially if they are experiencing a loss of income due to COVID-19. However, 85% agro-input dealers and sub-dealers state the prices for their goods should remain the same.**

81% of interviewed input suppliers (agro-dealers and sub-dealers)⁵⁴ anticipate that COVID-19 will reduce both the supply and demand of agrochemicals (fertilizers, pesticides, etc.) in their stores, as compared to the same time last year. Over half (58%) attribute this to reduced demand with 27% (7) anticipating they will need to close their shops. In fact, 15% (4) of input dealers and sub-dealers have already had to close their stores. Their supply will also be impacted, with 54% of input suppliers anticipating further transportation or supply chain disruptions. Furthermore, 62% anticipate that COVID-19 will also reduce the supply and demand of small equipment (trays, insect traps, nets, drum seeders, etc.) sold in their stores.

In line with these other actors, 69% of **extension officers** state that agrochemicals and other key inputs will be impacted due to transportation and lockdown restrictions. Although not directly addressed as part of the assessment, 62% of extension officers believe there will be a change in demand for equipment and equipment rental services, 23% attributing this to the lockdown; another 19% stating an increase in the cost of skilled labour; and 19% anticipating that incomes of all farmer actors will be decreased, and will be unable to purchase or rent the required equipment.

Departing from the views of other government officials, a Union Department of Agricultural Research (DAR) representative believes that overall, farmers will face unstable prices for agricultural inputs and outputs due to COVID-19, potentially decreasing farmers' access to these key inputs and potential income.

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Departing from the views of other government officials, a Union Department of Agricultural Research (DAR) representative believes that overall, farmers will face unstable prices for agricultural inputs and outputs due to COVID, potentially decreasing farmers' access to these key inputs and potential income.

⁴⁹ In particular dealers and agro-dealers

⁵⁰ Excluding seed, this includes fertilizer, machinery, pesticides, or any other materials that contribute to crops and their growth

⁵¹ Myanmar Rice and Pulses: Farm Production Economics and Value Chain Dynamics, June 2019

⁵² Seed producers are also farmers. Farmers who engage in seed production, generally, possess better knowledge and skill on farming production and more commercially oriented than regular farmers.

⁵³ Only 15% of domestic needs for inputs are met domestically, meaning that the majority of inputs need to be imported from other countries. Myanmar Rice and Pulses: Farm Production Economics and Value Chain Dynamics, June 2019

⁵⁴ 85% (22) of interviewed input suppliers do not sell seed

Key Finding #3: Extension and mechanization services have been halted, placing additional pressure on food production at the farm level

Mobility restrictions have also resulted in the reduction of farmers' access to extension services. All interviewed extension officers (26) state the Pandemic has affected their ability to deliver their roles, since they are not allowed to enter villages. Most of them (65%) also believe that COVID-19 has negatively impacted agricultural production on various fronts including access to inputs, labour, financial services and other services, especially mechanization. 100% of interviewed extension officers reveal they have not provided farmers with any extension support since the Pandemic started. When asked the best way in which to adapt to this unprecedented situation, 92% of them state that due to their restricted mobility, farmers should be encouraged to use digital extension platforms.

This view is aligned with concerns expressed by seed producers on the challenges to accessing mechanization services (i.e. combine harvester, drier, etc.) as well as the response from one Township DoA officer. It is important to note that data collection was conducted during the summer harvesting period with some respondents already beginning land preparation activities for the Monsoon season, meaning that demand for mechanization services is higher than normal. The interviewed township DoA officer suggested support to establish linkages between relevant actors and available mechanization services, to alleviate concerns expressed by farmers and other actors by decreasing pressure on harvesting, land preparation and production activities.

“It can be difficult to get timely harvester services. Labutta’s field harvesting time is later than other regions, with farmers used to getting harvester services from other areas. The DoA is establishing linkages with the Department of Mechanical Engineering to get farm machinery services [for farmers].”

-- a Township-level DoA official

According to the MRF, the current summer rice production process has faced difficulties related to harvesting, drying, and storage, which has affected the quality of the rice; this could lead to rice traders and millers receiving lower quality paddy from farmers this summer. They also agree that the availability of farm machinery services has and will continue to pose a significant challenge. In agreement with MRF, MAPCO specifically highlights the need to help farmers access combine harvester services.

Key Finding #4: Despite a reported influx of migrants to home villages, difficulties in obtaining labour for farming is identified as an immediate impact of the Pandemic

Interestingly, only 20% of farmers believe they will have difficulties acquiring the required labour (for land preparation, harvesting, etc.) this upcoming monsoon season. Potentially giving an explanation for the farmers' perspective, the DoA (both township and regional) believe that labour will in fact be easier to obtain, due to the influx of returning migrants,⁵⁵ as well as a higher availability of labourers from the construction and/or restaurant sectors, which have now been forced to close since COVID.

However, in contrast to farmers and government officials, several seed farms, seed companies and seed producers (20%, 40% and 44% respectively) believe COVID-19 will impact their **land preparation** due to transportation restrictions and a scarcity of skilled labour. In fact, the majority of respondents⁵⁶ surveyed as part of the RMA believe the availability of skilled labour will be scarcer due to COVID-19, attributing this shortage to lockdown and transportation restrictions.

⁵⁵ This news is among other reports reporting the return of Myanmar migrant workers to go back home due to the Pandemic. Oo, Zaw. (2020, March 29). Migrant workers must be included in Myanmar's COVID-19 response. Retrieved from: <https://www.mmimes.com/news/migrant-workers-must-be-included-myanmars-covid-19-response.html>

⁵⁶ 60% of respondents from both seed farms and seed companies stating it will be more difficult to get labour.

Seed producers note that a shortage of labour has driven wages up, increasing their expenses and overall costs for seed production. These respondents are also concerned about the availability of required machinery as well as finding skilled operators to use this machinery.

“We could easily hire seasonal [machinery] operators in the past, but now most of them have returned to their villages. Our farm had to ask the Agricultural Mechanization Department to send an operator from another township. He was allowed to enter our village as he’s government staff, but cannot stay overnight in our farm...”

-- one seed farmer

“Labourers available at this time are not as experienced. Every task takes more time and energy...”

-- a Township-level DoA official

Seed producers - who are also farmers, but in general more skilled and commercially oriented than other smallholders - are more pessimistic, with 80% of them anticipating difficulties in finding skilled labour and most respondents stating that labour rates⁵⁷ have increased. In line with the views of seed producers, 85% of extension officers believe the supply and demand of labour will be impacted as a result of COVID-19, as ‘outsiders’ are no longer able to enter villages, as well as due to transportation and lockdown restrictions. In conjunction with these views, MAPCO also believes seed growers will be impacted by a labour shortage.

DoA/DAR seed farms, being fully subsidized by the government, do not anticipate the size of their workforce to be impacted over the next 6 months (if COVID-19 continues), while 40% (3) of seed companies anticipate they may have to cut staff as it will be more difficult to hire casual labourers from other townships. The Myanmar Rice Federation (MRF) argues that millers specifically might face labour shortages for drying, milling and processing, again due to measures taken by the government including lockdowns, quarantining and other mobility restrictions.

Key Finding #5: Seed producers, companies and agro-input suppliers may be forced to adopt sub-optimal responses to increasing production costs, declining incomes and projected challenges in accessing loans

DoA/DAR seed farms do not anticipate a change in income or working capital as a result of COVID-19. This is because seed farms propose their estimated production costs, as well as other expenses to the Union and Regional DoA. These budgets are then granted, with seed farms returning all revenue back to the Union/Regional DoA. Similarly, due to their operational structure, none of the interviewed seed farms currently have any debt, however 20% (1) would be interested in applying for low-interest, short-term government loans to cover additional overhead costs (labour, transport) as a result of COVID-19.

40% (2) of seed companies believe that their production costs will increase due to rising labour costs and additional Personal Protective Equipment (PPE) required due to COVID-19, with one respondent stating they were already

⁵⁷ Quantitative data on labour wage rates was not collected during the assessment

intending on increasing labour wages (before COVID-19) from 5,000 to 7,000MMK per day. 80% state that their operations will be impacted with anticipated production delays and increased labour and transportation costs, should COVID-19 get worse over the next 3-6 months.

Seed companies' significantly bleak financial outlook is directly correlated to COVID-19, with all (5) stating that they have already experienced a decline in income and 60% (3) stating increased expenses since the Pandemic due to transportation and lockdown restrictions. Some note declining seed sales and/or that sales have completely ceased and being unable to collect payment for sales made on credit, as contributing factors. Seed companies explain that their expenses have increased because they had to provide accommodation and food for staff who were unable to return to their home villages. 60% (3) also state that their livelihoods and food security have been impacted as a result of COVID-19 due to increasing prices of household goods, transport and lockdown restrictions. Seed companies are trying to mitigate these impacts, with one respondent having to temporarily shut down his sales outlet. These increased overhead costs lead seed companies to believe that their production costs are increasing. In addition, 60% (3) respondents state that the prices of goods and services required by the company has increased over the last 3 weeks (due to transportation restrictions).

However, seed companies do not want to pass these costs onto their consumers, with 60% (3) stating they believe the price of their seed should be reduced (by approximately 15-20%) so they can diminish their inventory levels⁵⁸, but also ensure their customers, who may be struggling with decreased incomes, can afford to purchase seed. They also state that this will help with customer retention and loyalty, once COVID-19 imposed restrictions loosen up.

Nearly half of all seed producers (49%) have experienced a reduction in income over the last month, with 57% (of the 49%) attributing this change to the Crisis. An overwhelming 90% expect their income from seed production to be reduced when compared to the same time last year. Respondents note the higher costs of inputs (including fertilizer and pesticides), labour and transportation as causes. Transportation restrictions imposed under the lockdown mean seed producers are no longer able to sell their seeds at the market⁵⁹. The few that will be able to sell at markets⁶⁰, anticipate they will need to reduce their prices in order to sell their stock.

Seed producers state that their household expenses have increased by 57% over the last month, with 67% of all respondents attributing this change to COVID-19. Respondents mentioned they have had to stockpile foods and purchase other essential household items including medical supplies to protect themselves during COVID-19 (including purchasing face masks, hand sanitizer, etc.) When asked to compare seed production costs to the same time last year, 87% expect an increase in expenses. This correlates with the anticipated drop in income, with the majority of respondents stating similar reasons for increased input costs, including labour and transportation.

37% of seed producers either have or are trying to adapt their business model in the wake of COVID-19. Many are doing their best to maintain and/or strengthen market linkages through frequent communication with existing customers as well as trying different marketing strategies. However, in line with their financial outlook, 76% still believe they will have difficulties ensuring sufficient cash flow to meet their working capital needs and 44% of seed producers expect their levels of debt to increase, stating that it will be difficult for them to maintain working capital and/or repay existing debts.

There were mixed results when seed producers were asked whether they still believe they can obtain loans for their seed production – 46% believe their ability to obtain loans will decrease with several respondents stating they do not believe they will be able to acquire any type of agricultural loan (from banks or MFIs) due to the Crisis and/or

⁵⁸ Seed is normally stored for approximately 6 months and will be more difficult to sell if they are required to store them for longer periods of time, due to declining demand.

⁵⁹ Seed growers sell 70% of their CS to nearby small holder farmers, seed companies, millers and traders and sometimes DoA. This is equivalent to approximately 20,000 baskets.

⁶⁰ Some respondents expect restrictions on markets to ease in the short term

the fact that they currently have outstanding loans with the financial institutions. Additionally, respondents are aware that the availability of informal loans (from neighbours, family, etc.) will decrease. Most seed producers would like access to low interest loans in the short-medium term, so they are not forced to shut down operations.

85% of interviewed input suppliers state their monthly income has already reduced as a direct result of COVID-19, with 58% of respondents stating little to no demand, and 15% having to close their shops entirely (4). Moreover, 65% anticipate their revenue will decrease when compared to the same time last year, with 46% of these respondents attributing this decline to high transportation and labour costs. 62% of input suppliers state their expenses have already increased and 19% state that their expenses have decreased; 81% (both stating increases and decreases) attributed this change to COVID-19. In addition, 54% of these respondents anticipate expenses to increase, mostly (35%) attributing this to high transport costs.

35% of input suppliers have made adjustments to their business since COVID-19 such as adding bamboo barriers in front of their stores (15%) and some (12%) have extended long-term credit to farmers. However, these measures may not be enough to support their bottom line. The majority (52%) of input suppliers state they have savings they can fall back on, however 42% believe they would have to sell assets in order to maintain their working capital. All interviewed input suppliers (100%) currently have no debt and do not intend to apply for financial assistance. Only 8% (2) are concerned that farmers will be unable to pay back loans (goods purchased on credit).

Key Finding #6: Operational suspensions and financing obligations will likely reduce the ability of financial institutions to provide loans to farmers

Similar to international financial markets, MFIs and banks in Myanmar have been significantly impacted due to government suspensions. However, these suspensions, combined with MFIs' financing obligations (domestic and international loans, obligations to other investors), imply that MFIs will have to severely cut back on monsoon lending in the absence of significant capital injections⁶¹. Financial institutions play a critical role in funding all actors engaged in the agricultural value chain, and their inability to do so will have knock-on effects on the economy as a whole.

3⁶² financial institutions, 2 MFIs, and one bank were interviewed as part of the assessment and recognize the urgency for immediate cash relief across the agricultural sector, with one MFI responding, "the timely provision of needed money/liquidity for clients including farmers and agribusinesses [is required]." He would like his MFI to change products to accommodate maximum flexibility to meet their clients' need for finance, matching with the rapidly changing environment. However, the interviewed MFIs are in a dangerous position themselves, with their own solvency in jeopardy, further exacerbating the challenges of operating in an already high-risk environment. In addition, financial institutions are also concerned with the credit risk involved with lending to vulnerable groups (risk of nonpayment), leaving the question of funding relatively uncertain.

Moreover, interviewed government officials also seem to recognize that farmers will require a certain level of financial support, explaining that farmers who typically go to pawnshops at the beginning of the monsoon season to sell their gold for additional cash flow, will face difficulties post-COVID-19 as these shops are now closed. Nevertheless, both the regional and township DoA reiterated that the Myanmar Agricultural Development Bank (MADB) will be distributing loans as usual, and at a decreased interest rate (7% compared to 8%). It is difficult to predict the efficacy of the current measures being put in place by the government and financial institutions with the precarious nature of the current economic ecosystem.

⁶¹ Toth, Russel. (April 2020). IFPRI: Sustaining Myanmar's Microfinance Sector during the COVID-19 Economic Crisis to Support Food Security, Resilience, and Economic Recovery.

⁶² One international MFI, one national MFI and one international bank were interviewed for the RMA

Although the RMA addresses farmers' current levels of debt, and whether they intend on accessing financial assistance should the Crisis continue, the question of farmers' anticipated ability to repay existing debt was not directly asked. However, secondary data⁶³ indicates that farmers engaged in the agricultural sector were highly indebted prior to the Crisis, with many farmers actually borrowing from the MADB simply to roll over debt or pay off high-interest loans provided by informal lenders. This strategy, coupled with usurious loan terms, has further perpetuated farmers' debt cycles⁶⁴, with late payments or default payments of 30-60% reported by non-bank lenders⁶⁵.

One smaller rice miller has observed an immediate shift in sales patterns from farmers since the outbreak, stating that farmers are more interested in selling their paddy for immediate cash, as opposed to using their milling facilities for processing⁶⁶. This need for fast cash could be linked to either farmers experiencing decline in income and/or farmers' inability to repay existing debt (most likely informal debt due to suspensions across the formal financial sector).

3.3.2 FOOD PROCESSING

Key Finding #7: Mobility restrictions have also reduced the ability of rice millers to secure labour and logistical services to support processing, packaging, and storage of rice - resulting in decreased income and pushing them to apply different coping methods



Despite the various actors engaged in food processing, the RMA focused on rice mills. Rice millers note immediate challenges to their business due to a shortage of labour caused by transportation and lockdown restrictions. As similarly noted by other interviewed actors, this shortage has increased the cost of labour, leading 50% (3) of rice millers to anticipate an increase in expenses. Increasing expenses are also attributed to rising transportation costs due to road closures and travel restrictions, reducing the availability of transportation services. However, many expect the government to loosen transport restrictions sooner rather than later, especially as it is now harvest time for the summer rice crop.

67% of millers have already experienced a drop in income since the outbreak of COVID-19. When asked specifically about income relating to their business operations since the outbreak of COVID-19, all (6) respondents anticipate a further decrease in income, stating low demand and decreased prices of rice as factors. However, there are contrasting views from millers when asked about the volume of rice processed by their businesses. Smaller millers do not expect any type of change, while medium to larger millers expect demand to decrease anywhere from 30% to as much as 80%. In addition, the larger millers mention that lowered levels of trade due to border closures, combined with restrictions on exporting rice, as contributing factors to an anticipated loss of even further income. As expected, large millers seem to take a more opportunistic approach as they tend to be more informed than small millers. One of the interviewed larger millers mentions that they would like to expand their geographical areas to source and secure as much paddy as possible from farmers, as they anticipate that demand is higher compared to last year, due to panic buying or due to government plans to increase national reserves of rice. However, smaller millers take a more conservative, wait-and-see approach by monitoring the market situation while maintaining communications with farmers and customers.

The other 50% of millers (2 smaller millers and one larger miller) state they have already experienced - and anticipate they will continue to experience (as a result of COVID-19) declining expenses as mills will not be run as regularly

⁶³ Myanmar Agricultural Development Bank: Initial Assessment and Restructuring Options, 2014.

⁶⁴ Rescuing Myanmar's farmers from the debt trap. (2017, April 17. Retrieved from:

<https://www.economist.com/finance-and-economics/2017/04/12/rescuing-myanmars-farmers-from-the-debt-trap>

⁶⁵ Myanmar Agriculture in 2011: Old Problems and New Challenges. Ash Center; Harvard Kennedy School, 2011

⁶⁶ Farmers primarily use rice mills (especially the smaller ones) in two ways: 1) farmers sell their paddy to millers, who then process the rice and go on to sell this product to buyers. This option provides farmers with cash relatively quickly; 2) farmers can also use millers' services, for a fee, to process their paddy into rice, with the farmer then selling the processed rice to their own buyers. This option will provide extra income for farmers, however there is a delay in realizing this income.



(decreased demand), further decreasing costs for machinery and maintenance. When asked whether the fee charged for using their milling facility should shift in response to COVID-19, half of the millers interviewed believe the fee should be reduced. This indicates that millers are not intending to recoup lost revenue from their operations by passing these additional costs onto their users. When specifically asked whether the price of rice should be increased or decreased, compared to the same time last year, 67% (4) respondents said that the price of rice should be decreased to accommodate vulnerable groups experiencing lower levels of income due to COVID-19. **This perspective is common across actor groups in the Delta, a collective sense of community and wanting to support each other, especially in times of need.**

Millers are trying to adapt their business model to cope with the immediate impacts the Crisis has had on their business. 67% of millers (4) are also changing the usual way they would stock rice, with 2 reducing storage time and 2 reducing the quantity of rice they store. Despite the fact that millers anticipate their income to decrease, only one mid-sized miller (17%) believes he will need to sell his assets in order to maintain the necessary level of working capital required for operations. 4 respondents, 2 of which did not have any debt prior to COVID, already have, or are planning on applying for financial assistance. It can be assumed that this will be to cover their decreased working capital, with one respondent in particular stating that his machinery requires repair. However, when asked about the type of assistance they require, respondents reiterated the importance of immediate cash injections, as well as **longer-term loans with manageable interest rates**. In addition, millers are seeking more market linkages, with 2 (33%) millers stating that these would be more important than loans themselves. It can be assumed that small to medium-sized millers fear being 'squeezed' out of the value chain.

Key Finding #8: Storms, flooding, and other shocks and stresses will negatively impact the agricultural sector even further

In addition, 83% (5) millers expect greater damage from storms, flooding or other natural disasters should the impact from COVID-19 be prolonged, with concerns that major storms may hit during the monsoon season. One miller (17%) expressed concerns that more people will be forced to steal stored or transported paddy or rice than in normal circumstances, due to the Crisis.

Causing further anxiety, the majority of interviewed MSMEs are concerned about another major storm (similar to Nargis). Additionally, respondents are also concerned with border closures, how long transportation restrictions will continue, and theft if this situation is prolonged.

3.3.3 DISTRIBUTION AND TRADING

Key Finding #9: Trade and transport restrictions make it more challenging for farmers and market actors to benefit from the prospects of increased food demand - driven by fears of approaching shortages or increased prices



Secondary data suggests that food prices have increased by 172.4% in March 2020 over the same month in the previous year⁶⁷. Panic buying, import restrictions, government efforts to increase food reserves, and increased demand in international markets offer scarce opportunities for farmers and local market actors to improve production and access improved markets. As previously explained, farmers and market actors face multi-tiered challenges to benefit from this opportunity. In addition, transportation restrictions create an additional layer of constraint, negatively affecting the ability of farmers and other market actors to benefit from this situation.

“I think there will be more rice production for food processing due to high demand in [domestic] consumption, since import of food from outside is limited.... Low supply and high demand will give seeds a higher price this coming season.”

-- a representative of MRF

30% of farmers believe that COVID-19 will reduce their ability to transport or market their agricultural product this summer season and for the upcoming season. This number is lower when compared to other actors involved in the value chain and could be attributed to several factors. The timing of this assessment may play a factor; the survey was conducted while the majority of farmers were engaged in preparing for harvest or harvesting summer production, not yet fully realizing the impact of transportation restrictions. In addition, farmers' specific distribution channels differ (not directly addressed as part of the RMA); some farmers may sell their products at market directly, while others sell to millers or local traders; transportation impacts may be felt more strongly with farmers who distribute their product themselves, as opposed to going through a broker/middleman. It could be assumed that as farmers are 'lower' on the value chain, they have not yet felt, nor are fully aware of the negative impacts of transportation restrictions and subsequent shifts in supply, demand and pricing, as consistently expressed by other respondents.

All seed farms (5) anticipate that COVID-19 will impact their ability to transport or market their seed, stating that at this time last year, they had already transported their seeds. In addition, 80% of seed companies and 68% of seed producers also report difficulties in their ability to transport or market their seed due to travel restrictions and a lack of public transportation. Subsequent increases in cost of transportation, combined with the requirement of permission letters to travel pose another constraint.

'Local traders' are classified as mostly aggregators or collectors who acquire the majority of their traded products directly from farmers. The 'Other Market Actors' category are those 'higher up' in the value chain and who acquire their goods from other actors 'lower down' in the value chain. This group includes wholesalers, retailers, transporters and export/importers.

Aligned with responses from other interviewed actor groups, many market actors have reported that the cost of labour is increasing due to a shortage of both skilled and unskilled labourers. The decreased availability of skilled labour means decreased productivity, with one market actor noting that "a task that could have been completed in one day now takes 3 days." This can be attributed to transportation, lockdown and curfew restrictions.

⁶⁷ Myanmar Food Inflation. Retrieved from: <https://tradingeconomics.com/myanmar/food-inflation>

Transportation restrictions, especially road closures, have significantly impacted market actors and traders. However, their perspectives vary, most likely due to their position in the value chain, as well as the scope and size of their operations, with larger market actors distributing their goods both domestically and internationally. 79% of market actors have already noted changes in transportation or supply chains of the agricultural products which they trade, process, or transport when compared to the same time last year. In comparison, a smaller proportion of 46% local traders have experienced changes in supply chain flows, 35% of which attribute this to transport restrictions. Transportation restrictions have caused both delivery delays or changes in transport routes in order to deliver to different locations and customers⁶⁸. Some actors are now using water ways to transport goods (as opposed to roads), however this significantly increases transport time. One respondent states that transportation restrictions are forcing his customers to go directly to wholesalers, bypassing him in the value chain.

Similar to traders and market actors, interviewed Township DoAs (2) believe that transportation restrictions imposed by the government may have an impact on all actors across the value chain, from millers to transporters, and other actors across the value chain. 68% (13) of market actors deal with importing and/or exporting goods, with their businesses significantly impacted by trade and transportation restrictions, limiting the sales of goods both domestically and internationally. 16% (3) of market actors state that some formal and informal ports are still open, however strict restrictions are still in place, with 2 respondents stating they require permission letters in order to transport goods.

The government has imposed export restrictions on rice producers across Myanmar. According to the Deputy Director of the Ministry of Commerce (MoC), 600,000 metric tonnes of rice are allowed to be exported in the first quarter. In addition, exporters will have to sell 10% of their rice to the government as part of the government's food assistance program.⁶⁹ However, this information conflicts with other sources⁷⁰, stating the export quota is 150,000 metric tonnes per month, equating to 1,050,000 metric tonnes for the remainder of the fiscal year. Using quotas provided directly from the MoC (600,000MT), compared to data published by the Myanmar Rice Federation (MRF)⁷¹, this is approximately 17% of total rice exported last year.

“I have been receiving conflicting messages. Export facilitation was listed as a key initiative to help the agricultural sector, [yet] export quotas have been drastically limited by the government. The recommended export price by the MRF is too high and stops foreign buyers.”

-- a rice exporter

Interviewed Market actors state these export restrictions are negatively impacting their businesses even further. A representative from the MRF agrees with the views of larger market actors, stating that “exporters are facing big challenges with labour and export. [The] export permit is [linked] with the quota system and the duration of the process is too short for export permit, custom clearance, transport, etc.” He also states that the government imposed restrictions, in response to COVID, will cause significant challenges for businesses, importers and retailers. In stark contrast to the views of the MRF, the Regional DoA is much more optimistic regarding the impact of COVID-19 on market actors to ensure production and trade of agricultural products will continue, he responded “[Market actors] can't be affected. The trade won't lock down and import/export will be in the same situation”.

⁶⁸ 10% of market actors, 1 boat transporter and another rice importer/exporter state they have had to change their transportation routes as a result of the Crisis

⁶⁹ MoC, MRF set rice export quota of 150,000 tonnes in May 2020. (2020, April 30). Retrieved from: <https://www.globalnewlightofmyanmar.com/moc-mrf-set-rice-export-quota-of-150000-tonnes-in-may-2020/>

⁷⁰ USDA Foreign Agricultural Services: Burma - Rice Export Policy Updates during COVID-19. (2020, May 17). Retrieved from: <https://agenparl.eu/burma-burma-rice-export-policy-updates-during-covid-19/>

⁷¹ MRF: Rising with Rice - Responsible Contract Farming Program, Smart Supply Chains and Rice Buffer Stock Scheme as Key Enablers

Key Finding #10: Market actors are challenged by increasing uncertainty on supply and demand due to information asymmetry - leading them to implement various measures to reduce their costs

While the secondary information⁷² suggests otherwise, 53% (10) of small-scale local rice traders⁷³ anticipate that the supply and demand of rice will decrease, with 27% attributing this decrease to millers either closing up and/or stopping buying rice. Another 12% state dealers have stopped purchasing, perhaps due to the lack of transportation. Moreover, 89% of market actors anticipate decreased demand for rice which they trade, process or transport due to transportation and lockdown restrictions. They explain that this could be because individuals in remote villages, who used to previously purchase goods from market actors, are no longer able to. Furthermore, many individuals engaged in 'panic buying', stockpiling large quantities of rice, before the lockdown was imposed, also potentially impacting demand in the short to medium-term.

35% (7) of traders trade pulses, with the majority of these traders (78%) anticipating the supply and demand of pulses to be reduced due to: (i) reduced demand; (ii) end of season; (iii) little to no purchases from dealers; and (iv) transportation restrictions. However, the seasonality of pulses should be taken into account.

Uncertainty about supply and demand (in the short-medium term) and overall market stability has led 32% of larger market actors to change their stocking practices or the volume of agricultural products they trade, process or transport. One states "as the market is not stable, the stock storage is not reliable - based on the seriousness of the COVID-19 situation, the scope of work will be either increased or decreased". Another respondent states that he will reduce the amount of product he usually stocks by 50%.

All market actors (19) state they have less income due to the outbreak, with 10% (2) of smaller rice wholesalers stating they've had to shut down business operations completely due to decreased demand and a lack of sales. In addition, curfew and physical distancing restrictions translate to decreased working hours for actors, limited hours to sell goods in markets (if at all) and the majority of stores forced to close their doors, again causing sales to decline.

Local traders appear to be less significantly impacted when compared to 'other market actors', with 69% stating that their income has already reduced due to COVID-19. Again, 62% attribute this to either low demand or low supply. 58% of traders anticipate their revenue to be less when compared to the same time last year if they can no longer sell their products (rice and pulses) to buyers/dealers. 16% (3) state that continued decreased revenue will force them to sell assets, with the above 2 smaller rice wholesalers who have had to shut down their business already in the process of selling assets.

Larger market actors anticipate shifts in expenses correlated with income, with 27% anticipating an increase and 26% declines. 31% of local traders state they are currently experiencing increased expenses, 42% of which attribute this to COVID-19. 23% attribute this change to additional costs such as medical expenses (face masks, hand sanitizer, etc) and 8% say this is due to family members returning home

63% of larger market actors have made adjustments to their businesses in response to COVID-19. Several have cut their labourers wages and/or switched existing monthly salaried staff to casual day labourers on rotational shifts. Others are trying to source their supply from other geographical areas (16%) and/or change their transportation routes (10%). 11% (2) of market actors state they are trying to increase information sharing along the value chain with one stating he is trying to "link with resourceful rice millers to ensure supply".

Local Traders: 35% have made adjustments to their business since the COVID-19 outbreak, with one respondent closing his shop. 19% (5) are using digital platforms to increase sales and maintain open communication with customers. 32% of larger market actors also expect their day-to-day operations to be impacted by higher accounts receivables (awaiting payment for goods sold) and/or not having enough cash on hand to be able to pay off outstanding accounts payable.

⁷² Rice export price surges amid Covid-19. (2020, April 1). Retrieved from: <https://www.globalnewlightofmyanmar.com/rice-export-price-surges-amid-covid-19/>

⁷³ 73% (19) of interviewed traders who trade rice

Key Finding #11: The use of cash advances and credit terms typically extended in trading are reduced, with a high risk of anticipated default - scaling down established social capital across market systems

Market actors responses were mixed when asked if they are experiencing any challenges with accessing financial services resulting from COVID-19. The majority of market actors understand that the market environment is shifting, including the way in which money changes hands. Offering informal credit to buyers and suppliers was common practice amongst businesses, with frequent cash advances. This has now changed, with cash advances and credit terms only being offered sparingly amongst one another, adding friction to business relationships. Market actors are also concerned about being able to collect on their accounts receivables due to anticipated decreased levels of income across the value chain, and potentially diminishing trust.

It can be assumed that a lack of this informal credit has put additional strain on market actors' working capital. One respondent states that his levels of inventory are high and will be stored for longer amounts of time, further impacting his working capital (i.e. large amount of capital tied up in his assets, which are not as liquid). Yet 100% (19) of respondents state they have not and do not plan to apply for any type of financial assistance to fund operations.

Traders are split 50/50 when asked if they anticipate challenges in accessing finance, with 27% stating financial institutions are not servicing their villages. Although none of the interviewed traders currently have any debt, 96% responded 'not yet' when asked if they have or intend to apply for financial assistance. This implies that financing may be necessary once they have exhausted other options to obtain funds including selling assets and/or other informal channels including borrowing from family or friends.

3.3.4 CONSUMPTION

Key Finding #12: It is anticipated that food insecurity and malnutrition will be exacerbated among poor farming households in the wake of increased debt, rising costs, and eventual default on loans, if the Crisis is prolonged



Monsoon season and the months preceding it, tend to be the time when landless and vulnerable household incomes are most stretched. There are fewer job opportunities, and rice stocks held by farming households are either running low or exhausted completely⁷⁴. While this assessment did not specifically collect information from end consumers, farmers are also considered food consumers.

The impacts of COVID-19 are already being felt by farmers⁷⁵, with 53% stating they are experiencing a reduction in income and 39% stating less mobility due to physical distancing restrictions. Furthermore, 24% have reduced their savings or stored food and 18% have reduced their spending.

The following findings provide insights on the impacts of the Pandemic to the food and nutrition security situation, especially in a rural context:

- Farmers intend to adopt further negative coping strategies if the Crisis continues for another three months, with 28% of farmers interviewed stating they will have to consume less food and a quarter (25%) stating they will need to reduce the frequency of their meals.

⁷⁴ LIFT: Baseline Survey Results, July 2012

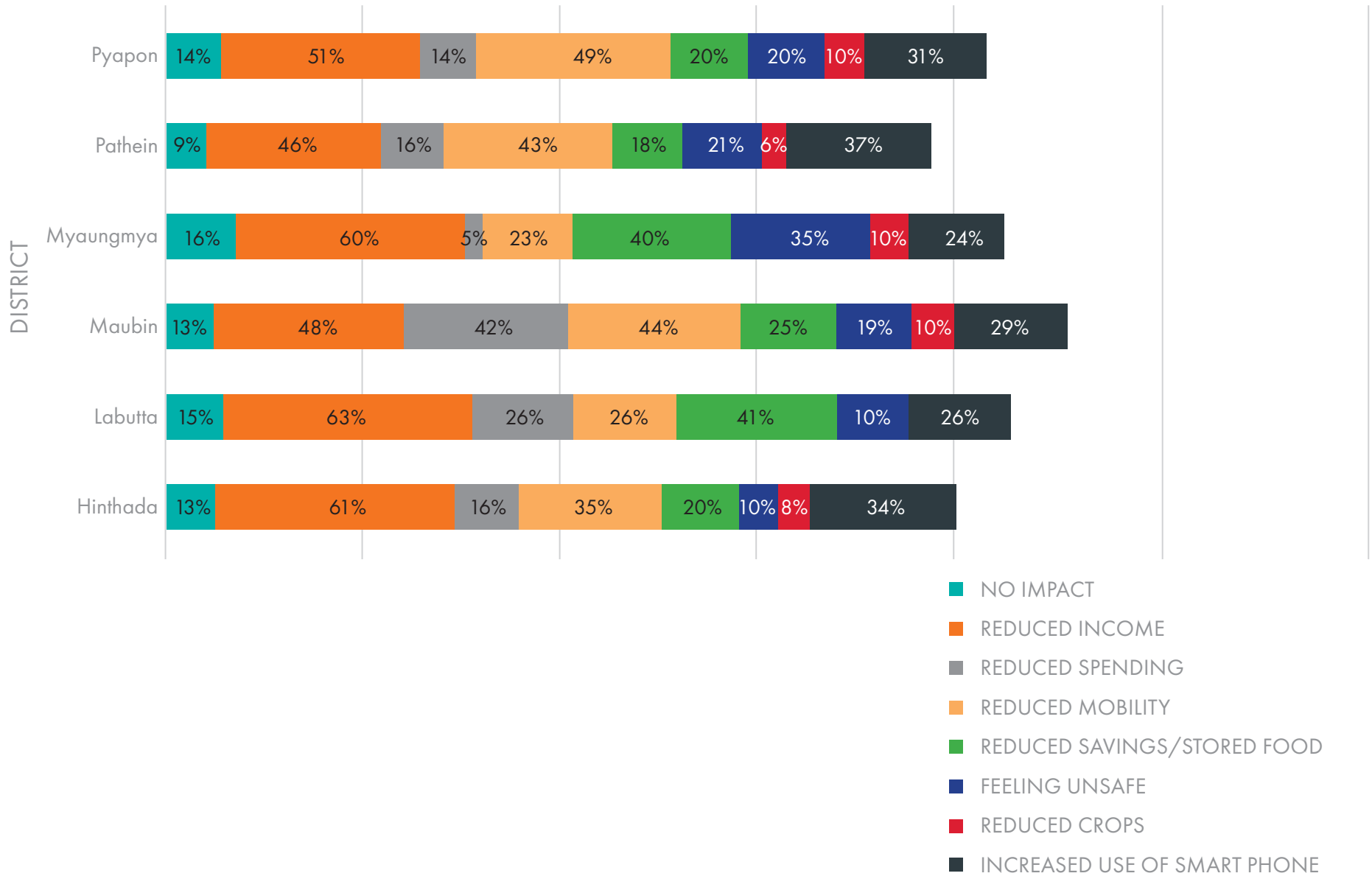
⁷⁵ Farmers: 45% of which grew rice and 21% black pulses this summer season. Excludes seed farmers



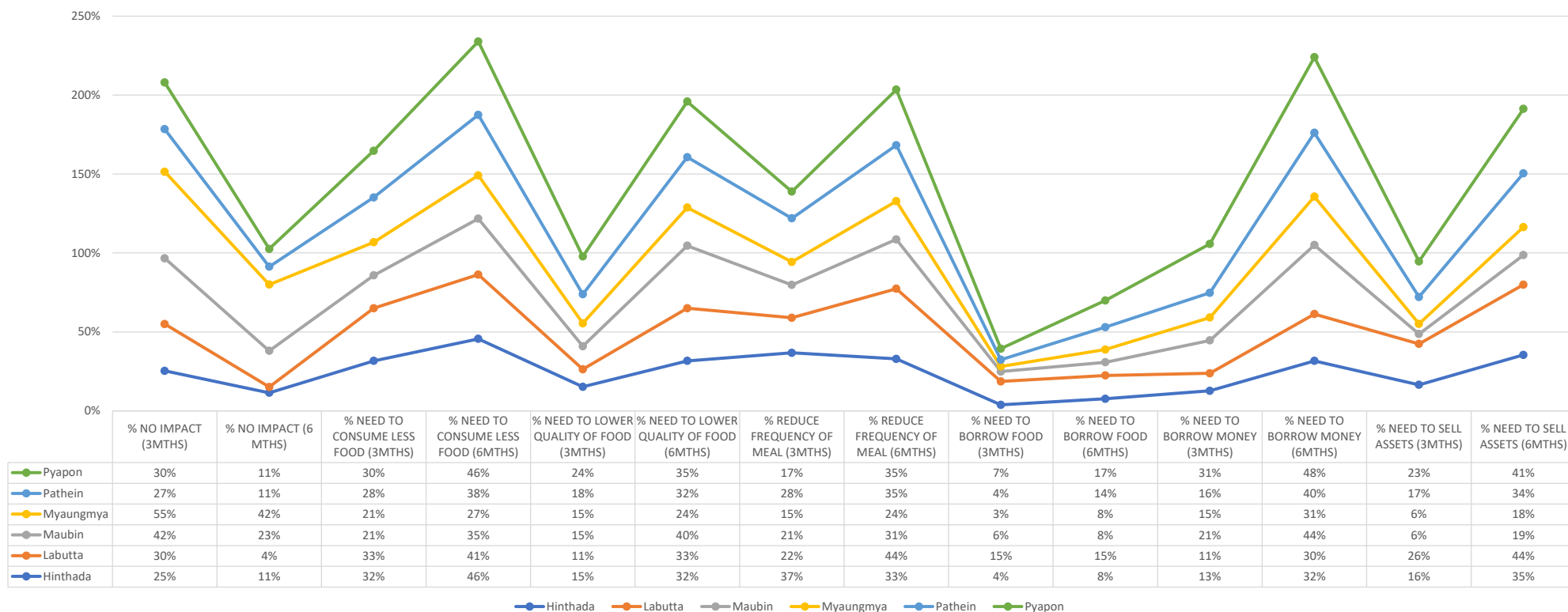
- Farmers' outlook on the impact of COVID-19 on their food security and income, if the Crisis were to continue for another 6 months (as compared to 3 months), is even more bleak, with 39% now stating they will need to consume less food (12% increase), 33% reducing the frequency of their meals (9% increase), 32% needing to lower the quality of food consumed (15% increase), and 38% now stating that they will need to borrow money (21% increase).
- The timing and seasonality of these findings should be noted. The assessment was conducted prior to the farmers' main planting (monsoon) season, typically a time of heightened food insecurity⁷⁶, which means farmers may already be enacting certain coping strategies. However, it is argued that the Pandemic has and will put additional pressure on the food security situation.

⁷⁶ LIFT: Baseline Survey Results, July 2012

CURRENT IMPACT OF COVID-19 ON FARMERS



FARMER ANTICIPATED COPING MECHANISMS - 3 MONTHS VS 6 MONTHS



3.3.5 ENABLING ENVIRONMENT

Key Finding #13: Government imposed restrictions have significantly affected agricultural trade and market systems across all levels - critical relief measures are needed to reduce the severity of this impact



Global leaders and worldwide authorities have unquestionably been struggling to weigh competing public health and socioeconomic concerns. Considering the weak health system of the country, authorities in Myanmar have been taking imperative action to ‘flatten the curve’. Union, regional and local governments have rolled out stringent social distancing measures to mitigate the Pandemic’s spread, including localized lockdowns of buildings and streets with confirmed cases, “Stay at Home” programs, curfews in some locations, and mandatory quarantines for travelers. Essential shops and markets remain open while restaurants and food stalls can sell takeout. As previously mentioned, MFIs were not allowed to operate for certain periods. Factories were closed and reopened subject to social distancing requirements and MOHS inspections. Effects are further compounded by the aforementioned mobility restrictions, import and export regulations - all of which have severely impacted market systems, including the agriculture sector.

The government finally announced its COVID-19 Economic Relief Plan (CERP) on April 28, 2020. With 10 strategies, 36 action plans and 76 actions, the CERP seeks to mitigate the economic impact of the Pandemic on Myanmar. Actions include monetary stimulus; easing the impact on the private sector through improvement in the trade, investment and banking industries; targeting households and workers for financial assistance; health care system support; and response financing, including contingency funds. While CERP might bring hope, its effectiveness will depend on cross-collaboration across multiple sectors and actors. Implemented actions and subsequent results will need to be closely monitored and measured.

Key Finding #14: While the COVID-19 Crisis exposes fragilities in our food systems, it also provides an excellent opportunity to revisit and shift agricultural growth via rural - urban development paradigms (beyond CERP)

At this stage, nearly every single individual worldwide is either directly or indirectly impacted by the Pandemic. All participating market actors in this assessment (including smallholders, traders, millers, etc.) are experiencing challenges despite facing different levels of impact and attitudinal views. The findings from this assessment reveals a whole series of higher level challenges around the food systems that must now be addressed.

The two interviewed NGO officials operating in the Delta provide support to different actors, including those in the agricultural value chain. They believe COVID-19 has already adversely affected the agricultural sector and livelihoods of farmers in the Ayeyarwady. Similar to the views from other stakeholders presented earlier, NGOs attribute the declining supply of agricultural goods to transportation restrictions. They also anticipate farmers will be impacted by labour shortages and lower incomes.

We will experience the following in the next 3-6 months; an increasing number of people infected with COVID due to flu season [already compromised immune systems], decreased employment opportunities in the community, increased livelihoods needs, hunger and increased theft.”

-- an NGO official

The views of key government actors interviewed, including 2 Township DoAs, the Regional DoA as well as the Union DAR, have been included in relevant sections above, oftentimes taking an optimistic point of view as compared to other actor groups. Representatives from both MAPCO and the MRF, both contributing to the growth and sustainability of the rice industry in Myanmar, were also interviewed as part of the RMA. The MRF believes COVID has and will have several impacts on the rice industry - all highlighting the fragility of the current food system, most notably that:

1. "The price of summer rice will be affected, due to restrictions placed on rice exports";
2. "Rice production in the monsoon season could be impacted by delayed land ploughing, harrowing, nursery preparation";
3. "Shortage of labour due to lockdown, which is a significant issue in rice farming";
4. "The production of seed will be affected, with seed demand and supply for the coming rainy season being disrupted";
5. "Limited imports of agrochemicals and other key inputs, meaning supply is low and demand is high, so we are expecting higher [input] prices this coming season".

In addition, he expressed that an enabling environment is required in order to recuperate from the effects of the Crisis. The MRF has also sent a formal memo advising the government on ways in which they can support stakeholders in the rice sector. A full list of MRF's critical recommendations to the government can be found in Annex V. Overall, the MRF states that all market actors need both financial and management support from the government. Development actors should also contribute where they can in his opinion, working together to support all actors in the rice value chain including farmers, seed producers, millers, inputs suppliers, etc.

3 public health officials were also interviewed as part of the RMA, providing information on the strains COVID-19 has had on the health care system across the Delta. Their responses can be found in Annex VI.

While CERP will provide immediate responses to support economic actors, including farmers and market actors engaged in the agriculture sector, it is imperative for stakeholders to start thinking about creating more resilient agriculture and rural development systems, "to build back better". As such, a strong enabling environment, with collaboration between all levels of government, development actors and the private sector are required in order to minimize the impact of additional shocks and stresses on the agricultural value chain and rural livelihoods.

3.4 CROSS CUTTING CHALLENGES

3.4.1 WASH (WATER, SANITATION AND HYGIENE)

Access to WASH will be a critical component to 'flattening the curve' of the COVID-19 spread in Myanmar. Although all respondents were asked about WASH, only findings from farmers, the largest sampled actor group are presented here. 96% of farmers are aware of the COVID-19 Pandemic, with 91% of total respondents following the necessary preventative measures. The majority (73%) of all interviewed farmers get their updated information regarding COVID-19 from their mobile phones and/or social media. This could be cause for concern as this information is most likely not coming from official sources, with lots of misinformation being shared about the Pandemic, its effects, scope or severity across social media. 59% of respondents also stated that they obtain updated information from television, or village leaders (38%).

The most common preventative measures practiced include staying home (69%), frequent hand washing (64%), and wearing masks (57%). However, 6% stated they did not have access to any sources of clean water with a further 32% stating they did not have access to public hand washing facilities in their villages. The majority of respondents

obtain clean water from ground sources (i.e. groundwater, springs), with 25% having access to water supply networks in their villages.

The majority of farmers (88%) can buy soaps in their villages and 79% have access to feminine hygiene products. However, over a quarter (28%) say that feminine hygiene products are now more difficult to get, and 12% say they are now more expensive.

See Annex III for graph on farmers responses to WASH questions

3.4.2 Gender

24% of respondents surveyed were women. Preliminary analysis of data sets collected did not show any direct correlations between stakeholders behaviours and responses to the impact of COVID-19. However, an opportunity for further analysis - through disaggregation of data sets by sex - is possible, but time constraints due to the rapid nature of the assessment did not allow this.

Although the RMA did not directly measure Gender Equality and Social Inclusion (GESI) and protection issues present in communities, secondary literature⁷⁷ from global and regional sources indicates that women will be additionally impacted by the Outbreak. Women will be straddled with additional care responsibilities, caring for ill, elderly family members as well as their children due to school closures. Furthermore, intimate partner abuse and other forms of abuse may be exacerbated due to increased household tensions, lockdown restrictions, combined with an increased reliance on negative coping strategies. COVID-19 aid projects should take this into consideration during project design, to ensure women, as well as other vulnerable groups (i.e. people with disabilities, minorities, etc.) are not 'left behind' as they are at risk of experiencing further discrimination and/or marginalization as a result of the Pandemic.

3.4.3. Migration

Although not directly addressed during the RMA, anecdotal findings suggest that large numbers of migrants are returning to their native villages due to the COVID-19 Crisis. As mentioned above, this has led government actors to believe that there is in fact a surplus of labour. Yet this directly contradicts data collected from market actors, seed producers, millers and others, stating that there is a critical shortage of skilled labour. This contrast may be due to several factors, including returning migrants:

- Have limited agricultural skills and knowledge based on the length of time they have been away from their native villages;
- Lacking the motivation to perform manual labour, depending on the type of work and/or sector they were engaged in whilst working away;
- Have enough savings to last them the short-medium term.

Returning migrants' participation in local labour markets within the agricultural sector will largely depend on the severity and length of impact that COVID-19 has on their households. Further data and analysis will be required in this area to develop recommendations.

⁷⁷The COVID-19 Outbreak and Gender: Key Advocacy Points from Asia and the Pacific. (2020). Retrieved from: <https://www2.unwomen.org/-/media/field%20office%20eseasia/docs/publications/2020/03/ap-giha-wg-advocacy.pdf?la=en&ndvs=2145>

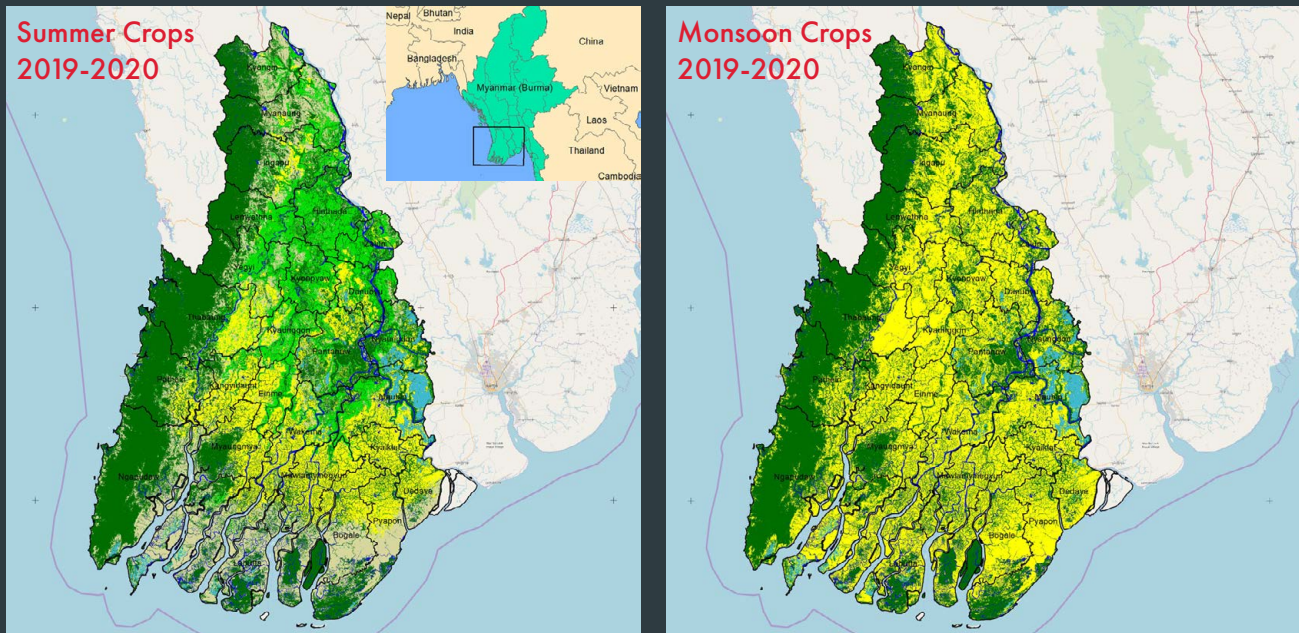
4.0 CONCLUSION AND RECOMMENDATIONS

Despite varying perspectives for market actor groups surveyed through the assessment, it can be concluded that the impacts of COVID-19 will be significant, impacting the livelihoods of all individuals involved in the agricultural chain. Critical measures need to be taken immediately to mitigate the impact of the effects from this unprecedented Pandemic.





Even with farmers' and state-level government officials' optimistic outlook on the capacity of market systems to support food production amidst the COVID-19 Pandemic, market actors engaged in the agro-input systems (such as seed producers/ companies, dealers and sub-dealers of key inputs) suggest their businesses are impacted by the Crisis. The already limited access of farmers to inputs and services (finance, labour, extension systems, etc.) will be further challenged, reducing the capacity of farmers to produce at optimum levels and to benefit from projected increased demands.

The following maps show the scale of impact COVID has had on the assessed food systems, and reinforces the need for response

Please see the two satellite maps below. That vast swathe of yellow and light green on the first map (left) depicts rice and other crops which have been harvested over the last couple of weeks (April-May 2020) across the Ayeyarwady Delta region of Myanmar. It covers 592,750 hectares of rice and 480,878 hectares of other crops (mostly grams/pulses, sesame, and vegetables) which could feed millions of people for months. The second map (right) shows last year's monsoon season which suggests expanded areas of agricultural production - especially rice (1,722,109 hectares).



Legend

	Rice
	Aquaculture
	Open water
	Forest

In normal years, a bumper crop would be cause for celebration. However, the findings from this RAM portrait devastating impacts of COVID-19 to agriculture market systems and exposes fragilities in the food system. With the upcoming monsoon season (May-June 2020), the RMA findings reinforce the need for immediate response and lays a foundation for revisiting current agricultural and rural - urban development paradigms.

Key findings	Recommendations	M ⁷⁸	L ⁷⁹	Alignment with CERP
1. Despite more optimistic views presented by farmers and local government, farmers access to improved seed will likely be constrained by an inability of seed suppliers ⁸⁰ to provide improved seed to market	<ul style="list-style-type: none"> Support seed suppliers (seed producers, companies, DoA/DAR farms, etc.) to ensure that their already limited outreach to farmers is not further reduced through improving their access to labour, FS, RS and other services⁸¹ In addition, support can include maintaining access of those seed suppliers to input supply, flexible terms and conditions for outstanding loan repayments, and obtaining new loans on favorable terms (links to recommendation #6 below) Use the MRF B2B portal system currently being developed for linking different market actors in the agricultural and rice value chain. 	✓ ✓	✓ ✓	2.1.7. Support to Farmers, Small Agri- Processors, Seed Farmers and Agri-Businesses for Planting and Income Retention, and (b) Cash or lending support to smallholder farmers who have lost sales revenue or remittance income to support input purchases in time for monsoon planting, of the CERP. (c) Complement support with advice on productivity enhancement and market connectivity;
2. Agro-input providers ⁸² have already reported challenges due to mobility restrictions and are expecting to face further limitations over the following months - threatening farmers' access to other key inputs ⁸³ to improve farm productivity	<ul style="list-style-type: none"> Provide temporary smart subsidy mechanisms (for example through vouchers) to reestablish farmer and seed producers' purchasing power to buy quality inputs While strengthening the capacity of agro-input providers (especially local dealers and sub-dealers) to supply key inputs for farmers 	✓	✓	
3. Extension and mechanization services have been halted, placing additional pressure on food production at the farm level	<ul style="list-style-type: none"> Use the Crisis as an opportunity to 'push' the use of ICT for extension service delivery (for example by encouraging extension officers to be resource individuals for app providers' call centers) and to develop solutions for access to mechanization services (links to recommendation #4 below). For activities that require field work (i.e. on-site field inspection for RS production, the DoA/DAR could involve seed producers to be part of these teams using social distancing measures in order to reduce 	✓ ✓	✓ ✓	

⁷⁸ Interventions with immediate to medium-term effect (next 4-8 months)

⁷⁹ Interventions which require longer-term interventions to result in effect.

⁸⁰ This includes seed producer farmers, seed companies, dealers/sub-dealers supplying seeds, DoA/DAR seed farms

⁸¹ EGS Mobile App links supply to demand

⁸² In particular dealers and agro-dealers

⁸³ Excluding seed, this includes fertilizer, machinery, pesticides, or any other materials that contribute to crops and their growth

Key findings	Recommendations	M ⁷⁸	L ⁷⁹	Alignment with CERP
	<p>reliance on their own personnel, while maintaining frequent monitoring levels.</p> <ul style="list-style-type: none"> Alternative mechanisms such as Participatory Guarantee System (PGS) can be developed for CS production as an alternative to formal inspection by the DoA. 		✓	
<p>4. Despite a reported influx of migrants to home villages, difficulties in obtaining labour for farming is identified as an immediate impact of the Pandemic</p>	<ul style="list-style-type: none"> Explore the use of cash programming to temporarily tackle challenges around access to labour Exploring longer-term solutions for access to labour through mechanization, or innovative labour market access through ICT (i.e. 'Grab' or 'Get' for labour services) 	✓	✓	<p>3.1.2 Implement Labour-Intensive Community Infrastructure Projects (a) Implement labour-intensive community infrastructure projects for those laid off, or returning migrants</p>
<p>5. Seed producers, companies and agro-input suppliers may be forced to adopt sub-optimal responses to increasing production costs, declining incomes and projected challenges in accessing loans</p>	<ul style="list-style-type: none"> Leverage the provision of temporary smart subsidies (mentioned above) to help agro-input providers negotiate better deals from input companies (i.e. in terms of payment terms). Assist these market actors to ensure sufficient cash flow levels to meet their working capital needs by assisting them to get access to low-interest loans and/or loan restructuring (i.e. delaying payments) 	✓ ✓		<p>2.1.7 (see above) and; 2.1.2. Credit Guarantee Schemes (a) Government guarantees 50% of any new loans made by banks to Myanmar enterprises (up to a turnover <MMK 1 billion) for working capital, that are not beneficiaries of Action Plan 2.1.1., and conditional upon maintenance or rehire of staff as employed on February 1, 2020</p>

Key findings	Recommendations	M ⁷⁸	L ⁷⁹	Alignment with CERP
6. Operational suspensions and financing obligations will likely reduce the ability of financial institutions to provide loans to farmers	<ul style="list-style-type: none"> While CERP specifically covers support for FIs⁸⁴; debt-relief interventions can be implemented⁸⁵ to assist the indebted and the most vulnerable, supporting them to avoid negative coping mechanisms, while indirectly supporting FIs to reduce non-performing loans. This can be done through providing loan restructuring, providing partial payment of loans in arrears, or additional interest payments resulting from loan extensions 	✓		<p>2.1.6. Loan Restructuring and Rescheduling (a) Allow banks to restructure and reschedule existing loans extended to MSMEs that regularly pay interest and principal on a timely basis for a longer period (not more than 3 years); and</p> <p>2.1.7. (see above)</p>
7. Mobility restrictions have also reduced the ability of rice millers to secure labour and logistical services to support processing, packaging, and storage of rice - resulting in decreased income and pushing them to apply different coping methods	<ul style="list-style-type: none"> Establish linkages between millers and labour groups and, if needed, provide support for on-the-job training/internship for labour to improve skills Leveraging the use of ICT for labour sourcing (as mentioned above) Establish linkages and coordination mechanisms between groups of millers and logistical service providers (i.e. with transporters, develop group's delivery scheduling system; with storage service providers, establish coordinated information sharing mechanism re; availability of storage space). Explore the use of ICT to digitize logistical service sourcing (i.e. Grab or Get for logistical services) 	<p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p>	<p>3.1.2. Implement Labour-Intensive Community Infrastructure Projects (a) Implement labour-intensive community infrastructure projects for those laid off, or returning migrants</p> <p>2.1.7 (c) see above</p>
8. Storms, flooding, and other shocks and stresses will negatively impact the agricultural sector even further	<ul style="list-style-type: none"> Develop scalable and affordable weather-based agricultural insurance with remote sensing and smart contract technologies that allow transparency and decentralized validation without the need for intermediaries. Support farmer access to location-specific and readable weather information by bridging the demand and supply side of weather information through scaling up practices that meet farmers' weather information needs - supporting access, understanding and use 	<p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p>	N/A

⁸⁴ Financial Institutions

⁸⁵ For formal FI's only (excluding Village Savings and Loans groups)

Key findings	Recommendations	M ⁷⁸	L ⁷⁹	Alignment with CERP
9. Trade and transport restrictions make it more challenging for farmers and market actors to benefit from the prospects of increased food demand - driven by fears of approaching shortages or increased prices	<ul style="list-style-type: none"> Assist agribusinesses to use or expand scalable outgrower schemes with buyback guarantee mechanisms that promote the consolidation of farming systems among smallholders. This will reduce transaction costs for other market actors to participate in the schemes, resulting in improved access to affordable inputs, loans and other key services (including mechanization, logistics and other services). This activity can be built on existing Mercy Corps and WHH-supported contract farming activities with grain buyers and seed companies and scale up. 	✓	✓	2.1.7. (see above) and; 2.4.3. Facilitate Exportation Processes (b) Facilitate rice exports to maintain incentives for farmers to plant this planting season
10. Market actors are challenged by increasing uncertainty of supply and demand due to information asymmetry - leading them to implement various measures to reduce their costs	<ul style="list-style-type: none"> Improving linkages between farmers and market actors through ICT (i.e. online marketplace). This could also be used to improve access to information for farmers and market actors, especially pricing, improving their agency overall and building their resilience to cope with this Crisis as well as potentially future shocks 	✓	✓	2.1.7 (c) Complement support with advice on productivity enhancement and market connectivity
11. The use of cash advances and credit terms typically extended in trading are reduced, with a high risk of anticipated default - scaling down established social capital across market systems	<ul style="list-style-type: none"> Leverage the smart subsidy activity (mentioned above) that support demand creation (through vouchers for farmers to increase their purchasing power), to reestablish advance and credit systems use in trading of agro-inputs 	✓		
12. It is anticipated that food insecurity and malnutrition will be exacerbated among poor farming households (including the landless, female headed	<ul style="list-style-type: none"> Cash transfer programming targeting the most vulnerable. This may include cash-based support linked with activities related to reestablishment of the rural labour markets (#6 and 7 above) and cash-for-work⁸⁶ for the most vulnerable to be employed for infrastructure development (irrigation channels, embankments, 	✓		2.1.7 (b) Cash or lending support to smallholder farmers who have lost sales revenue or remittance income to

⁸⁶ Using mobile cash for work payment systems such as Wave payment.

Key findings	Recommendations	M ⁷⁸	L ⁷⁹	Alignment with CERP
households and returning migrants) in the wake of increased debt, rising costs, and eventual default on loans, if the Crisis is prolonged	arehouse, access roads etc.) on government seed farms or private seed growers and companies. This would also directly contribute to an increase in RS production needed for improving the agricultural productivity of the seed sector.			support input purchases in time for monsoon planting; (d) Following the lifting of movement restrictions, establish rural cash-for work programs
13. Government imposed restrictions have significantly affected agricultural trade and market systems across all levels - critical relief measures are needed to reduce the severity of this impact	<ul style="list-style-type: none"> • Connect farmers and market actors with CERP stimulus. Including providing assistance to MSMEs to have access to affordable loans covered by CERP. • Monitor the implementation of CERP. 	<p>✓</p> <p>✓</p>	<p>✓</p>	<p>2.1.7 (see above) and;</p> <p>2.1.2. Credit Guarantee Schemes (a) Government guarantees 50% of any new loans made by banks to Myanmar enterprises (up to a turnover <MMK 1 billion) for working capital, that are not beneficiaries of Action Plan 2.1.1., and conditional upon maintenance or rehire of staff as employed on February 1, 2020</p>

Key findings	Recommendations	M ⁷⁸	L ⁷⁹	Alignment with CERP
<p>14. While the COVID-19 Crisis exposes fragilities in our food systems, it also provides an excellent opportunity to revisit and shift agricultural growth via rural - urban development paradigms (beyond CERP)</p>	<ul style="list-style-type: none"> Promote urban-rural development dialogue, engaging stakeholders, including the Yangon and Ayeyarwady regional governments, as well as union-level governments, development partners, representatives of private sector actors and civil society groups built on evidence-based solutions. This will build upon existing platforms like the Regional Seed Platform and National Seed Platform, in which all mentioned actors will participate in. 		✓	N/A
<p>15. Address cross-cutting challenges around WASH, Gender and Migration</p>	<ul style="list-style-type: none"> Ensure WASH, Gender and Decent Work are an integral part of all program design and implementation. This will include continuing COVID-19 prevention awareness raising through messaging, digital platforms, billboards. This should also be done at the community level when engaging with farmers and seed producers. Ensure hygiene is maintained and support the provisioning of handwashing facilities where needed 	✓	✓	<p>6.1.3. Improve Preventive Measures (a) Establish hand-washing stations at convenient and accessible locations</p>

REFERENCES

1. Centre for Development Innovation, Wageningen UR (CDI) Agribusiness and Rural Development Consultants (ARDC): Pathways for Developing the Seed Sector of Myanmar: A Scoping Study, 2015.
2. GRET: Land Tenure in Rural Lowland Myanmar, 2017.
3. LIFT: Baseline Survey Results, July 2012.
4. Knowledge Base Collections: Food Systems. Retrieved from: <https://www.planning.org/knowledgebase/food/>
5. MoC, MRF set rice export quota of 150,000 tonnes in May 2020. (2020, April 30). Retrieved from: <https://www.globalnewlightofmyanmar.com/moc-mrf-set-rice-export-quota-of-150000-tonnes-in-may-2020/>
6. Mon, Ye. (2020, May 16). 'Nobody wants to stay at home': Yangon poised to ease COVID-19 eatery restrictions. Retrieved from <https://frontiermyanmar.net/en/nobody-wants-to-stay-at-home-yangon-poised-to-ease-covid-19-eatery-restrictions>
7. MRF: Rising with Rice; Responsible Contract Farming Program, Smart Supply Chains and Rice Buffer Stock Scheme as Key Enablers, 2020.
8. Myanmar Agricultural Development Bank: Initial Assessment and Restructuring Options, 2014.
9. Myanmar Agriculture in 2011: Old Problems and New Challenges. Ash Center; Harvard Kennedy School, 2011
10. Myanmar Food Inflation. Retrieved from: <https://tradingeconomics.com/myanmar/food-inflation>
11. Myanmar: Government and Institution Measures in response to COVID-19. Retrieved from: <https://home.kpmg/xx/en/home/insights/2020/04/myanmar-government-and-institution-measures-in-response-to-covid.html>
12. Myanmar Rice and Pulses: Farm Production Economics and Value Chain Dynamics, June 2019
13. Oo, Zaw. (2020, March 29). Migrant workers must be included in Myanmar's COVID-19 response. Retrieved from: <https://www.mmtimes.com/news/migrant-workers-must-be-included-myanmars-covid-19-response.html>
14. Republic of the Union of Myanmar Ministry of Labour, Immigration and Population Statement on Coronavirus Disease 2019 (COVID-19) concerning factories and businesses. (2020, May 4). Retrieved from: <https://www.globalnewlightofmyanmar.com/republic-of-the-union-of-myanmar-ministry-of-labour-immigration-and-population-statement-on-coronavirus-disease-2019-covid-19-concerning-factories-and-businesses/>
15. Rescuing Myanmar's farmers from the debt trap. (2017, April 17). Retrieved from: <https://www.economist.com/finance-and-economics/2017/04/12/rescuing-myanmars-farmers-from-the-debt-trap>
16. Rice export price surges amid Covid-19. (2020, April 1). Retrieved from: <https://www.globalnewlightofmyanmar.com/rice-export-price-surges-amid-covid-19/>
17. The COVID-19 Outbreak and Gender: Key Advocacy Points from Asia and the Pacific. (2020). Retrieved from: <https://www2.unwomen.org/-/media/field%20office%20eseasia/docs/publications/2020/03/ap-giha-wg-advocacy.pdf?la=en&vs=2145>
18. Toth, Russel. (April 2020). IFPRI: Sustaining Myanmar's Microfinance Sector during the COVID-19 Economic Crisis to Support Food Security, Resilience, and Economic Recovery.
19. USDA Foreign Agricultural Services: Burma - Rice Export Policy Updates during COVID-19. (2020, May 17). Retrieved from: <https://agenparl.eu/burma-burma-rice-export-policy-updates-during-covid-19/>
20. Wai, Kyaw San. (2020, May 1). Myanmar and COVID-19. Retrieved from <https://thediplomat.com/2020/05/myanmar-and-covid-19/>

ANNEXES:

ANNEX I: List of stakeholders interviewed

Type of market actor	Total# Respondents	#Male	%Male	#Female	%Female
Farmers	454	337	74%	117	26%
Input suppliers/ distributors	26	22	85%	4	15%
Extension Officers (private, NGO and government)	26	22	85%	4	15%
Local Traders	26	24	92%	2	8%
Millers	6	4	67%	2	33%
Seed Producers	79	58	73%	21	27%
Seed Companies	5	5	100%	0	0%
Myanmar Rice Federation and MAPCO	2	2	100%	0	0%
Other Market Actors (Wholesaler, retailers, processors, importers/exporters, transporters - majority of which are rice producers)	19	14	74%	5	26%
Ministry of Ag, Trade, and Commerce, MOHSS	3	6	75%	2	25%
DoA/DAR Seed Farm	5	3	60%	2	40%
Financial Institutions (MFIs and Banks)	3	3	100%	0	0%
Implementing agencies / NGOs (GRET and Metta)	2	0	0%	2	100%
TOTAL	661	500	76%	161	24%

Farmer Respondents by Township

TOWNSHIP	#FARMER RESPONDENT	#MALE	%MALE	#FEMALE	%FEMALE
Bogalay	28	18	64%	10	36%
Danubyu	9	6	67%	3	33%
Dedaye	11	8	73%	3	27%
Einme	16	12	75%	4	25%
Hinthada	40	26	65%	14	35%
Ingapu	9	6	67%	3	33%
Kangyidant	31	21	68%	10	32%
Kyaiklat	7	6	86%	1	14%
Kyaingin	9	9	100%	0	0%
Kyaunggon	28	24	86%	4	14%
Kyonpyaw	7	4	57%	4	57%
Labutta	19	17	89%	2	11%
Lemyethna	6	5	83%	1	17%
Maubin	11	10	91%	1	9%
Mawlamyinegyum	10	8	80%	2	20%
Myanaung	16	14	88%	2	13%
Myaungmya	31	26	84%	5	16%
Nagpudaw	5	4	80%	1	20%
Nyaungdon	20	16	80%	4	20%
Pantanaw	13	10	77%	3	23%
Pathein	48	35	73%	13	27%
Pyapon	29	22	76%	7	24%
Thabaung	26	14	54%	12	46%
Wakema	18	10	56%	8	44%
Yegyi	2	2	100%	0	0%
Zalun	5	4	80%	1	20%
TOTAL	454	337	74%	118	26%

ANNEX II: Sample Quantitative Questionnaire Used to Survey Farmers (428) via Village Links' Htwet Toe Application

Questionnaire A- Questions for Farmers (Online Survey)	Options (if relevant) or Answer
1. Basic information	
1.1. Name of respondent: 1.2. Age: 1.3. Sex: Male or Female 1.4. Address (Village, VT, Township): 1.5. Phone number (if any):	
1.6. Higher level of formal school completed	<ul style="list-style-type: none"> • No formal schooling • Primary • Junior high school • Senior high school • University and more
1.7. Household size:	<ul style="list-style-type: none"> • 2 or less • 3 • 4 • 5 • 6 • 7 or more
1.8. What are the main sources of income of your households? Select all that apply	<ul style="list-style-type: none"> • Farming/agriculture • Fishing • Animal husbandry • Trading/small-business • Salary/wages from job • Remittance • Others, specify_____
2. COVID-19 Awareness and Access to WASH	
2.1. Are you aware of COVID-19 and necessary preventive measures?	YES/NO
2.2. Where do you get updated information on COVID-19?	<ul style="list-style-type: none"> • TV • Radio • Mobile phone/social media • Village leaders • Community Health Personnel • Neighbors • NGO staff • Others, specify_____

Questionnaire A- Questions for Farmers (Online Survey)	Options (if relevant) or Answer
2.3. What preventive measures are you doing? Select all that apply	<ul style="list-style-type: none"> • Not practicing any measure • Wash hands frequently • Physical distancing • Stay home • Other/s, specify_____
2.4. Do you frequently wash your hands to prevent COVID-19?	<ul style="list-style-type: none"> • YES/NO
2.5. Are public hand washing facilities available in your village?	<ul style="list-style-type: none"> • YES/NO
2.6. Can you buy soaps as well as female hygiene in your village?	<ul style="list-style-type: none"> • YES/NO
2.7. If yes, is there any difference regarding the availability of soaps and hygiene pads in your village before and after the COVID-19 Crisis? Select all that apply	<ul style="list-style-type: none"> • The same / no difference • It is now more difficult to get • It is now more expensive • Others, specify_____
2.8. What source/s of clean water for drinking are available in your village? Select all that apply	<ul style="list-style-type: none"> • No source of clean water • Ground sources (i.e. groundwater, springs) • Surface water such as rivers, streams • Water supply network • Others, specify _____
3. Impact of COVID-19 Crisis to Food Security and Livelihoods	
3.1. How has the COVID-19 Crisis affected your and family life? Select all that apply	<ul style="list-style-type: none"> • No impact at all • Reduced income • Reduced spending • Reduced mobility and access (to go to market, health service, etc.) • Reduced savings / stored food • Reduced crop production / animal husbandry • Feeling unsafe (physically/mentally) • Using more of telephone or online application for communications • Others, specify_____

Questionnaire A- Questions for Farmers (Online Survey)	Options (if relevant) or Answer
3.2. If the Crisis continues for more than 3 months, how would it impact your income and food security? Select all that apply	<ul style="list-style-type: none"> • The same / no impact at all • Need to consume less items of food • Need to lower quality of food • Need to reduce frequency of meals • Need to borrow food • Need to borrow money • Need to sale assets • Others, specify_____
3.2. If the Crisis continues for more than 3 months, how would it impact your income and food security? Select all that apply	<ul style="list-style-type: none"> • The same / no impact at all • Need to consume less items of food • Need to lower quality of food • Need to reduce frequency of meals • Need to borrow food • Need to borrow money • Need to sale assets • Others, specify_____
3.4. Who is in the family being the most affected? Select all that apply	<ul style="list-style-type: none"> • None • Husband • Wife • Children • Grandparents • All
3.5. Have you received any help from anyone since the COVID-19 Crisis? Select all that apply	<ul style="list-style-type: none"> • Not at all • Yes, from relative / neighbour • Yes, from government • Yes, from NGO • Yes, from Religious Organization • Yes, from local business / patron
3.6. What kind of help did you get? Select all that apply	<ul style="list-style-type: none"> • Not at all • Information • In-kind materials / hygiene kits / non food items • Food items • Loan • Cash donation
3.7. How are your neighbours coping compared to you?	<ul style="list-style-type: none"> • The same • Better • Worse

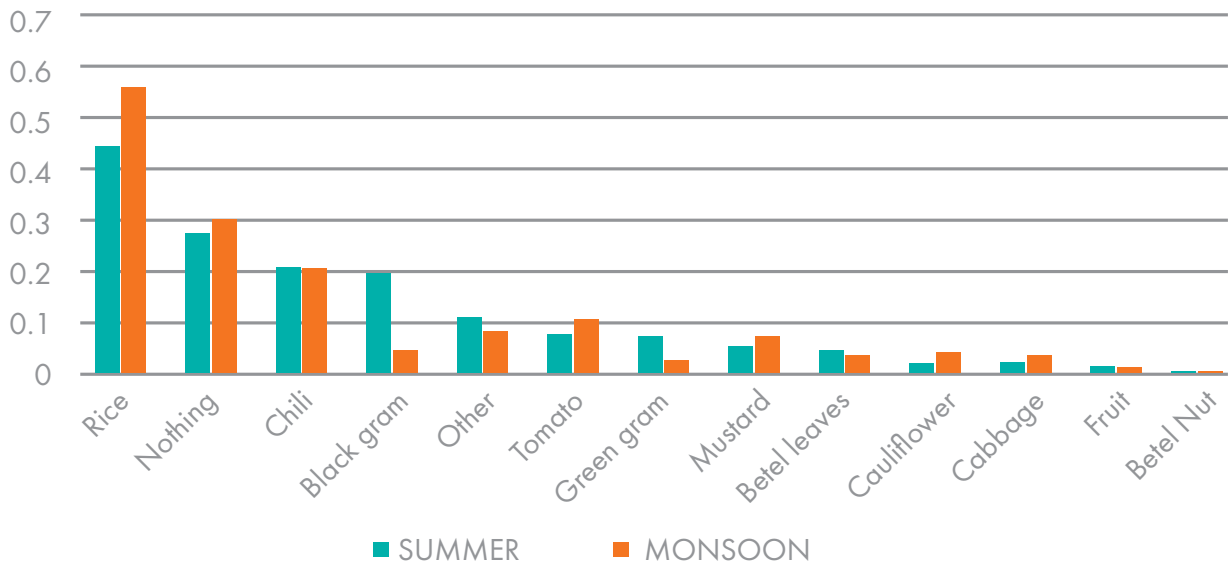
Questionnaire A- Questions for Farmers (Online Survey)	Options (if relevant) or Answer
4. Impact on Farming	
4.1. What agricultural products did/do you grow during the last/ongoing Summer season 2019/2020? Select all that apply	<ul style="list-style-type: none"> • Nothing • Rice • Black gram • Green beans • Vegetables, specify_____ • Betel leaves • Fruits, specify_____ • Others, specifcy_____
4.2. How many acres of total production?	
4.3. What agricultural products will you grow during the incoming Monsoon season 2020? Select all that apply	<ul style="list-style-type: none"> • Nothing • Rice • Black gram • Green beans • Vegetables, specify_____ • Betel leaves • Fruits, specify_____ • Others, specifcy_____
4.4. How many acres of total production will you do?	
4.5. Please let us know if you are agree/disagree with the following statements:	n/a
4.5.1. COVID-19 Crisis will affect the way you do land preparation for your farm during the incoming Monsoon season	AGREE/DISAGREE
4.5.2. COVID-19 Crisis will reduce the yields of your farm production during the incoming Monsoon season	AGREE/DISAGREE
4.5.3. COVID-19 Crisis will reduce the demand of your agricultural products during the incoming Monsoon season	AGREE/DISAGREE
4.5.4. COVID-19 Crisis will reduce your ability to get labour for land preparation, harvesting, etc. during the incoming Monsoon season	AGREE/DISAGREE

Questionnaire A- Questions for Farmers (Online Survey)	Options (if relevant) or Answer
4.5.5. COVID-19 Crisis will reduce your ability to transport or market your agricultural product from the incoming Monsoon season	AGREE/DISAGREE
4.5.6. COVID-19 Crisis will reduce your ability to get fertilizers and other key inputs for your farming in the incoming Monsoon season	AGREE/DISAGREE
4.5.6. COVID-19 Crisis will reduce your ability to ensure cash flow for working capital for your farming in the incoming Monsoon season	AGREE/DISAGREE
4.5.7. COVID-19 Crisis will reduce your ability to get loans for for your farming in the incoming Monsoon season	AGREE/DISAGREE
5. Specific Impacts on Income, Expenses and Others	
5.1. In your opinion, will the COVID-19 Crisis increase or reduce your household monthly average expenses compared to the normal time before the Crisis?	<ul style="list-style-type: none"> • No effect • Reduce • Increase
5.1.a. If reduce or increase: estimated how many percent? In between 0 to 100%	
5.2. In your opinion, will the COVID-19 Crisis increase or reduce your household monthly average income compared to the normal time before the Crisis?	<ul style="list-style-type: none"> • No effect • Reduce • Increase
5.2.a. If reduce or increase: estimated how many percent? In between 0 to 100%	
5.3. In your opinion, will the COVID-19 Crisis increase or reduce your household level of debt (if any) compared to the normal time before the Crisis?	<ul style="list-style-type: none"> • No effect • Reduce • Increase
5.3.a. If reduce or increase: estimated how many percent? In between 0 to 100%	
5.4. In your opinion, shall the price of agricultural products increase or reduce due to the COVID-19 Crisis in comparison to the normal time before the Crisis?	<ul style="list-style-type: none"> • The same • Reduce • Increase

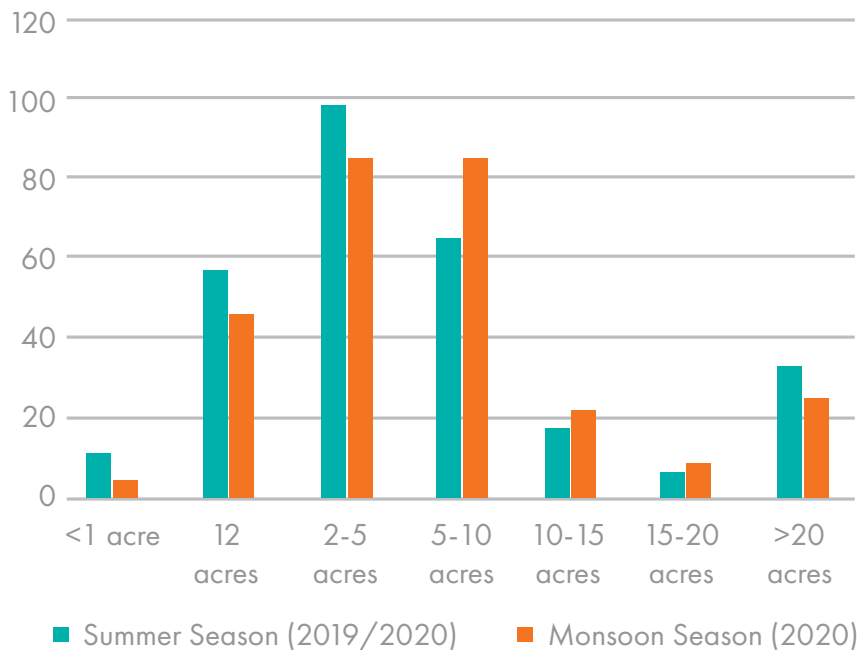
Questionnaire A- Questions for Farmers (Online Survey)	Options (if relevant) or Answer
5.4.a. If reduce or increase: estimated how many percent? In between 0 to 100%	
4.5. Do you face any other constraints resulting from the COVID-19 Crisis that will impact your farming production in the coming Monsoon season?	YES/NO
4.5.a. If YES: What are they?	
4.6. Do you face or anticipate any other shocks beyond the COVID-19 Crisis that will impact your seed production?	YES/NO
4.6.a1. If YES: what are they?	
4.6.a.2. Did these shocks happen also before the COVID-19 Crisis?	YES/NO
4.7. How can the Government, NGO and other agencies/ institutions support your farming to reduce the impact of COVID-19?	
4.8. Do you have any other things you want to say?	

ANNEX III: Additional Tables and Graphs













Comparison of Agricultural Products (Summer vs. Monsoon)

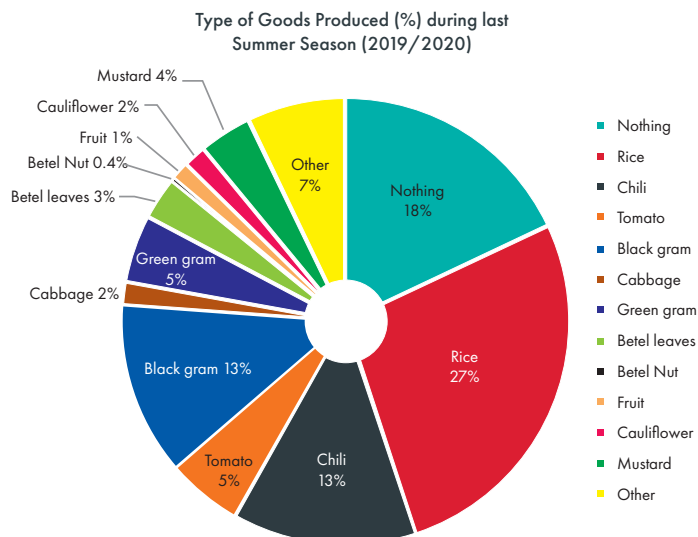
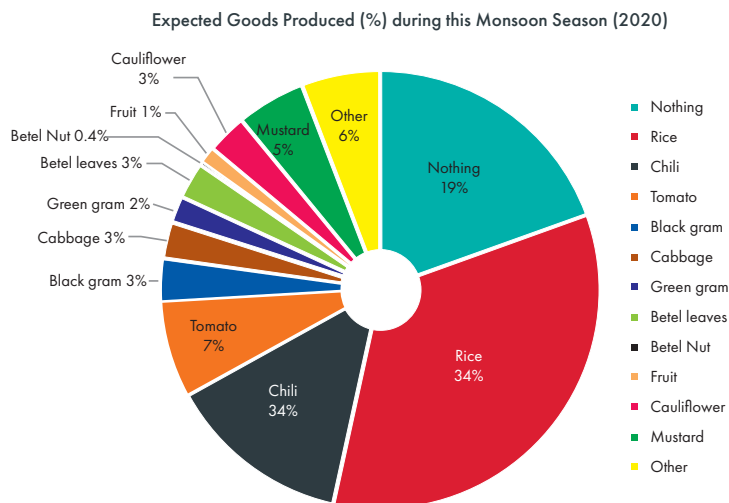


Acres of Total Production (Summer vs. Monsoon Season 2019/2020)



SUMMER MONSOON % DIFFERENCE

 Rice	45%	57%	12%
 Nothing	28%	30%	2%
 Chili	21%	21%	0%
 Black gram	20%	5%	-15%
Other	12%	9%	-3%
 Tomato	9%	11%	2%
 Green gram	8%	3%	-5%
 Mustard	6%	8%	2%
 Betel leaves	5%	4%	-1%
 Cauliflower	3%	5%	2%
 Cabbage	3%	4%	2%
 Fruit	2%	2%	0%
 Betel Nut	0.4%	0.4%	0%



	<1 acre	1-2 acres	2-5 acres	5-10 acres	10-15 acres	15-20 acres	>20 acres	TTL
Summer Season (2019/2020)	12	57	102	67	18	7	34	297
Monsoon Season (2020)	5	47	88	88	22	9	26	285

COPING MECHANISMS: IMMEDIATE IMPACT OF COVID-19

DISTRICT	TOTAL COUNT DISTRICT	# NO IMPACT	% NO IMPACT	# NEED TO CONSUME LESS FOOD	% NEED TO CONSUME LESS FOOD	# NEED TO LOWER QUALITY OF FOOD	% NEED TO LOWER QUALITY OF FOOD	# REDUCE FREQUENCY OF MEAL	% REDUCE FREQUENCY OF MEAL	# NEED TO BORROW FOOD	% NEED TO BORROW FOOD	# NEED TO BORROW MONEY	% NEED TO BORROW MONEY	# NEED TO SELL ASSETS	% NEED TO SELL ASSETS	# OTHER	% OTHER
Hinthada	79	10	13%	48	61%	13	16%	28	35%	16	20%	8	10%	6	8%	27	34%
Labutta	27	4	15%	17	63%	7	26%	7	26%	11	41%	5	19%		0%	7	26%
Maubin	48	6	13%	23	48%	20	42%	21	44%	12	25%	9	19%	5	10%	14	29%
Myaungmya	62	10	16%	37	60%	3	5%	14	23%	25	40%	22	35%	6	10%	15	24%
Pathein	141	12	9%	65	46%	22	16%	61	43%	25	18%	29	21%	8	6%	52	37%
Pyapon	71	10	14%	36	51%	10	14%	35	49%	14	20%	14	20%	7	10%	22	31%
Grand Total	428	52	12%	226	53%	75	18%	166	39%	103	24%	87	20%	32	7%	137	32%

COPING MECHANISMS: ANTICIPATED IMPACT OF COVID-19 OVER 3 MONTHS

DISTRICT	TOTAL COUNT DISTRICT	# NO IMPACT	% NO IMPACT	# NEED TO CONSUME LESS FOOD	% NEED TO CONSUME LESS FOOD	# NEED TO LOWER QUALITY OF FOOD	% NEED TO LOWER QUALITY OF FOOD	# REDUCE FREQUENCY OF MEAL	% REDUCE FREQUENCY OF MEAL	# NEED TO BORROW FOOD	% NEED TO BORROW FOOD	# NEED TO BORROW MONEY	% NEED TO BORROW MONEY	# NEED TO SELL ASSETS	% NEED TO SELL ASSETS	# OTHER	% OTHER
Hinthada	79	20	25%	25	32%	12	15%	29	37%	3	4%	10	13%	13	16%		0%
Labutta	27	8	30%	9	33%	3	11%	6	22%	4	15%	3	11%	7	26%		0%
Maubin	48	20	42%	10	21%	7	15%	10	21%	3	6%	10	21%	3	6%		0%
Myaungmya	62	34	55%	13	21%	9	15%	10	15%	2	3%	9	15%	4	6%		0%
Pathein	141	38	27%	40	28%	26	18%	39	28%	6	4%	22	16%	24	17%	1	1%
Pyapon	71	21	30%	21	30%	17	24%	12	17%	5	7%	22	31%	16	23%	2	3%
Grand Total	428	141	33%	118	28%	74	17%	105	25%	23	5%	76	18%	67	16%	3	1%

COPING MECHANISMS: ANTICIPATED IMPACT OF COVID-19 OVER 6 MONTHS

DISTRICT	TOTAL COUNT DISTRICT	# NO IMPACT	% NO IMPACT	# NEED TO CONSUME LESS FOOD	% NEED TO CONSUME LESS FOOD	# NEED TO LOWER QUALITY OF FOOD	% NEED TO LOWER QUALITY OF FOOD	# REDUCE FREQUENCY OF MEAL	% REDUCE FREQUENCY OF MEAL	# NEED TO BORROW FOOD	% NEED TO BORROW FOOD	# NEED TO BORROW MONEY	% NEED TO BORROW MONEY	# NEED TO SELL ASSETS	% NEED TO SELL ASSETS	# OTHER	% OTHER
Hinthada	79	9	11%	36	46%	25	32%	26	33%	6	8%	25	32%	28	35%		0%
Labutta	27	1	4%	11	41%	9	33%	12	44%	4	15%	8	30%	12	44%		0%
Maubin	48	11	23%	17	35%	19	40%	15	31%	4	8%	21	44%	9	19%	2	4%
Myaungmya	62	26	42%	17	27%	15	24%	15	24%	5	8%	19	31%	11	18%	1	2%
Pathein	141	16	11%	54	38%	45	32%	50	35%	20	14%	57	40%	48	34%	1	1%
Pyapon	71	8	11%	33	46%	25	35%	25	35%	12	17%	34	48%	29	41%	2	3%
Grand Total	428	71	17%	168	39%	138	32%	143	33%	51	12%	164	38%	137	32%	6	1%

PRODUCTIVITY: GOODS GROWN LAST SUMMER SEASON (2019/2020)

DISTRICT	TOTAL COUNT DISTRICT	# NOTHING	% NOTHING	# RICE	% RICE	# BLACK GRAM	% BLACK GRAM	# GREEN GRAM	% GREEN GRAM	# BETEL	% BETEL	# CHILI	% CHILI	# TOMATO	% TOMATO	# CABBAGE	% CABBAGE	# CAULIFLOWER	% CAULIFLOWER	# MUSTARD	% MUSTARD	# BETEL NUT	% BETEL NUT	# MANGO	% MANGO	# JACKFRUIT	% JACKFRUIT	# OTHERS	% OTHERS
Hinthada	79	23	29%	33	42%	14	18%	5	6%	3	4%	21	27%	11	14%	2	3%	4	5%	5	6%		0%	3	4%	1	1%	10	1%
Labutta	27	8	30%	14	52%	3	11%		0%		0%	7	26%	3	11%		0%		0%	1	4%		0%	1	4%	1	4%	3	4%
Maubin	48	14	29%	23	48%	10	21%	3	6%	3	6%	8	17%	1	2%		0%	2	4%	2	4%	1	2%			0%	4	0%	
Myaungmya	62	9	15%	37	60%	12	19%	5	8%	3	5%	18	29%	6	10%	2	3%	2	3%	3	5%		0%		0%	0%	10	0%	
Pathein	141	49	35%	61	43%	38	27%	16	11%	10	7%	28	20%	11	8%	4	3%	2	1%	12	9%	1	1%	1	1%	1	1%	19	1%
Pyapon	71	25	35%	24	34%	12	17%	6	8%	3	4%	13	18%	7	10%	4	6%	2	3%	4	6%		0%	1	1%	0%	5	0%	
Grand Total	428	128	30%	192	45%	89	21%	35	8%	22	5%	95	22%	39	9%	12	3%	12	3%	27	6%	2	0%	6	1%	3	1%	51	1%

PRODUCTIVITY: ANTICIPATED GOODS GROWN THIS MONSOON SEASON (2020)

DISTRICT	TOTAL COUNT DISTRICT	# NOTHING	% NOTHING	# RICE	% RICE	# BLACK GRAM	% BLACK GRAM	# GREEN GRAM	% GREEN GRAM	# BETEL	% BETEL	# CHILI	% CHILI	# TOMATO	% TOMATO	# CABBAGE	% CABBAGE	# CAULIFLOWER	% CAULIFLOWER	# MUSTARD	% MUSTARD	# BETEL NUT	% BETEL NUT	# MANGO	% MANGO	# JACKFRUIT	% JACKFRUIT	# OTHERS
Hinthada	79	25	32%	42	53%	1	1%	2	3%	6	8%	17	22%	13	16%	7	9%	7	9%	9	11%	1	1%	1	1%	1	1%	7
Labutta	27	8	30%	15	56%	1	4%		0%		0%	10	37%	5	19%	3	11%	2	7%	4	15%		0%		0%	0%	2	
Maubin	48	17	35%	25	52%	7	15%	2	4%	3	6%	11	23%	2	4%		0%		0%	2	4%		0%	1	2%	0%	5	
Myaungmya	62	11	18%	45	73%	1	2%	1	2%	1	2%	16	26%	5	8%	2	3%	2	3%	7	11%		0%	1	2%	1	2%	6
Pathein	141	48	34%	81	57%	11	8%	7	5%	7	5%	29	21%	16	11%	4	3%	8	6%	10	7%	1	1%	1	1%	1	1%	15
Pyapon	71	28	39%	30	42%	1	1%	2	3%	2	3%	12	17%	9	13%	3	4%	2	3%	4	6%		0%	1	1%	0%	6	
Grand Total	428	137	32%	238	56%	22	5%	14	3%	19	4%	95	22%	50	12%	19	4%	21	5%	36	8%	2	0%	5	1%	3	1%	41

PRODUCTIVITY: ACRES PRODUCED LAST SUMMER SEASON (2019/2020)

DISTRICT	COUNT	# <1 acre	% <1 acre	# 1-2 acres	% 1-2 acres	# 2-5 acres	% 2-5 acres	# 5-10 acres	% 5-10 acres	# 10-15 acres	% 10-15 acres	# 15-20 acres	% 15-20 acres	# 15-20 acres	% 15-20 acres	# >20 acres
Hinthada	56	3	5%	20	36%	16	29%	9	16%	5	9%	1	2%	2	4%	
Labutta	19	-	-	2	11%	5	26%	5	26%	2	11%	3	16%	2	11%	
Maubin	34	4	12%	5	15%	11	32%	6	18%	2	6%	1	3%	5	15%	
Myaungmya	53	1	2%	6	11%	25	47%	14	26%	2	4%	1	2%	4	8%	
Pathein	90	2	2%	17	19%	28	31%	24	27%	6	7%	-	-	13	14%	
Pyapon	45	2	4%	7	16%	17	38%	9	20%	1	2%	1	2%	8	18%	
Grand Total	297	12	4%	57	19%	102	34%	67	23%	18	6%	7	2%	34	11%	

FARMERS PRODUCTIVITY: ANTICIPATED ACRES PRODUCED THIS MONSOON SEASON (2020) - BY FARMERS WHO INTEND ON GROWING

DISTRICT	COUNT	# <1acre	% <1acre	# 1-2 acres	% 1-2 acres	# 2-5 acres	% 2-5 acres	# 5-10 acres	% 5-10 acres	# 10-15 acres	% 10-15 acres	# 15-20 acres	% 15-20 acres	# >20 acres	% >20 acres
Hinthada	54	1	2%	11	20%	22	41%	15	28%	2	4%	1	2%	2	4%
Labutta	18	-	-	3	17%	4	22%	4	22%	2	11%	2	11%	3	17%
Maubin	31	-	-	6	19%	8	26%	9	29%	3	10%	2	6%	3	10%
Myaungmya	51	-	-	6	12%	18	35%	20	39%	3	6%	1	2%	3	6%
Pathein	89	2	2%	18	20%	25	28%	26	29%	8	9%	3	3%	7	8%
Pyapon	40	2	5%	3	8%	11	28%	14	35%	4	10%	-	-	6	15%
Grand Total	283	5	2%	47	17%	88	31%	88	31%	22	8%	9	3%	24	8%

FARMERS: IMPACT OF COVID ON FINANCIAL SITUATION

DISTRICT	TOTAL COUNT	AVERAGE MONTHLY INCOME						AVERAGE MONTHLY EXPENSES						HOUSEHOLD DEBT						PRICE OF AGRICULTURAL PRODUCTS							
		# INCREASE	% INCREASE	# NO EFFECT	% NO EFFECT	# REDUCE	% REDUCE	# INCREASE	% INCREASE	# NO EFFECT	% NO EFFECT	# REDUCE	% REDUCE	# INCREASE	% INCREASE	# NO DEBT	% NO DEBT	# NO EFFECT	% NO EFFECT	# REDUCE	% REDUCE	# INCREASE	% INCREASE	# NO EFFECT	% NO EFFECT	# REDUCE	% REDUCE
Hinthada	79	4	5%	26	33%	49	62%	12	15%	37	47%	30	38%	29	37%	30	38%	20	25%	-	-	23	29%	54	68%	2	3%
Labutta	27	1	4%	4	15%	22	81%	5	19%	7	26%	15	56%	10	37%	7	26%	10	37%	-	-	9	33%	18	67%	-	0%
Maubin	48	4	8%	19	40%	25	52%	4	8%	24	50%	20	42%	11	23%	11	23%	25	52%	1	2%	12	25%	36	75%	-	0%
Myaungmya	62	22	35%	13	21%	27	44%	30	48%	23	37%	9	15%	29	47%	15	24%	16	26%	2	3%	35	56%	27	44%	-	0%
Pathein	141	10	7%	58	41%	73	52%	41	29%	60	43%	40	28%	34	24%	50	35%	56	40%	1	1%	31	22%	110	78%	-	0%
Pyapon	71	7	10%	24	34%	40	56%	19	27%	29	41%	23	32%	22	31%	25	35%	21	30%	3	4%	20	28%	50	70%	1	1%
Grand Total	428	48	11%	144	34%	236	55%	111	26%	180	42%	137	32%	135	32%	138	32%	148	35%	7	2%	130	30%	295	69%	3	1%

FARMERS: IMPACT OF COVID ON AGRICULTURAL FACTORS AND INCOME

DISTRICT	TOTAL COUNT	LAND PREPARATION				REDUCE YIELDS OF FARM PRODUCTION				REDUCE DEMAND FOR AGRICULTURAL PRODUCTS				REDUCE ABILITY TO GET LABOUR				REDUCE ABILITY TO MARKET OR TRANSPORT AGRICULTURAL PRODUCTS				REDUCE ABILITY TO GET FERTILIZER OR OTHER KEY INPUTS				ABILITY TO ENSURE CASH FLOW FOR WORKING CAPITAL				REDUCE YOUR ABILITY TO GET LOANS				FACE ANY OTHER CONSTRAINTS THAT WILL IMPACT PRODUCTION			
		# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE	# AGREE	% AGREE	# DISAGREE	% DISAGREE
Hinthada	79	13%	69	69	87%	6	8%	73	92%	25	32%	54	68%	10	13%	69	87%	18	23%	61	77%	8	10%	71	90%	13	16%	66	84%	6	8%	73	92%	1	1%	78	99%
Labutta	27	19%	22	22	81%	4	15%	23	85%	14	52%	13	48%	6	22%	21	78%	8	30%	19	70%	3	11%	24	89%	4	15%	23	85%	2	7%	25	93%	2	7%	25	93%
Maubin	48	8%	44	44	92%	6	13%	42	88%	21	44%	27	56%	14	29%	34	71%	18	38%	30	63%	4	8%	44	92%	10	21%	38	79%	4	8%	44	92%	0%	0%	48	100%
Myaungmya	62	2%	61	61	98%	4	6%	58	94%	37	60%	25	40%	13	21%	49	79%	29	47%	33	53%	24	39%	38	61%	10	16%	52	84%	12	19%	50	81%	0%	0%	62	100%
Pathein	141	16%	119	119	84%	12	9%	129	91%	42	30%	99	70%	27	19%	114	81%	32	23%	109	77%	19	13%	122	87%	17	12%	124	88%	17	12%	124	88%	1	1%	140	99%
Pyapon	71	13%	62	62	87%	3	4%	68	96%	20	28%	51	72%	14	20%	57	80%	17	24%	54	76%	11	15%	60	85%	12	17%	59	83%	10	14%	61	86%	3	4%	68	96%
Grand Total	428	12%	377	377	88%	35	8%	393	92%	159	37%	269	63%	84	20%	344	80%	122	29%	306	71%	69	16%	359	84%	66	15%	362	85%	51	12%	377	88%	7	2%	421	98%

FARMERS : COVID-19 AWARENESS AND ACCESS TO WASH



ANNEX IV: Income and Expense Dynamics

Farmer's Anticipated Impact of COVID-19 on Incomes and Livelihoods Over 3 and 6 Months

	No Effect		Consume less items of food		Reduce frequency of meals		Borrow money		Lower quality of food		Sell Assets		Borrow food		Other*	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
3 Months	144	33%	118	28%	105	25%	76	18%	74	17%	67	16%	23	5%	3	1%
6 Months	71	17%	168	39%	143	33%	165	39%	138	32%	138	32%	51	12%	6	1%

*Other responses include using money more efficiently, depleting savings and reduced spending

Experienced and Anticipated Changes in Income and Expenses across Stakeholders

	No Effect			Consume less items of food		Reduce frequency of meals			Borrow money		Lower quality of food			Sell Assets		
	D ⁸⁷	N ⁸⁸	I ⁸⁹	Yes	No	D	N	I	Yes	No	D	N	I	D	N	I
Farmers ⁹⁰	-	-	-	-	-	-	-	-	-	-	55%	34%	11%	32%	42%	26%
Farmers ⁹¹	69%	8%	23%	73%	27%	38%	58%	4%	42%	58%	65%	23%	12%	15%	58%	27%
Seed Producers	49%	39%	9%	57%	43%	16%	27%	57%	67%	33%	90%	4%	4%	87%	11%	1%
Seed Farms	-	40%	60%	-	100%	-	80%	20%	40%	60%	20%	80%	-	20%	80%	
Seed Companies	100%	-	-	100%	-	-	40	60	60	40	100%	-	-	-		100%
Input Suppliers	85%	15%	-	85%	15%	19%	19%	62%	81%	19%	65%	19%	15%	8%	38%	54%
Millers	67% ⁹²	-	-	100%	-	50%	33%	17%	67%	33%	100%	-	-	50%	-	50%
Local Traders	69%	23%	8%	77%	23%	15%	54%	31%	42%	58%	58%	38%	4%	27%	35%	31%
Market Actors	100%	-	-	100%	-	58%	32%	-	58%	42%	89%	11%	-	26%	37%	32%

⁸⁷ D = Decrease

⁸⁸ N = No Effect

⁸⁹ I = Increase

⁹⁰ Quantitative only

⁹¹ 26 Qualitative only

⁹² 2 respondents did not answer

ANNEX V: MRF's Recommendations to the Government

All (3) interviewed public health officials state the impacts of COVID have and will severely affect their organizations. Typically, during this time of year, health officials provide vaccines for infants and children in villages across the Delta and projects on immunization and non-communicable diseases, which have had to stop. Mobile clinics no longer operate due to transportation restrictions and physical distancing regulations. Prior to the rainy season, is the peak time to perform demonstrations on flu and dengue prevention measures, which can no longer be done. MOHS has been providing COVID guidelines over speakers in villages, however one MOHS representative states she is unsure of the effectiveness of this method. One respondent states that COVID has also severely affected their human resources, with staff suffering from psychological distress due to long working hours, fatigue and overwhelming workload.

Interviewed health officials are concerned that with flu season approaching combined with individuals' potentially low awareness of preventative measures, symptoms such as fever may be mistaken for COVID, causing undue anxiety. One MOHS respondent is concerned about the re-opening of factories and workplaces. Although they are required to undergo inspections from the MOHS, many still do not practice prevention measures such as hand washing or social distancing. Alternatives to typical transportation to and from workplaces, such as overcrowded ferries, will continue to pose a challenge for these workers.

MOHS workers continue to support farmers and other agricultural workers, both directly and indirectly through distributing pamphlets and other materials on COVID-19 awareness and prevention. Working in quarantine camps, where they are also assisting migrant returnees so they can be re-integrated into their communities. MOHS believes that these returning migrants will impact farming households, as remittances will dry up and/or other job opportunities will be limited. In addition, farmers incomes will decline due to disruptions in the supply chain, and additional household members will place further strain on their income.

All health officials are seeking additional support from both the government and development actors to raise COVID awareness and preventive measures across rural communities. they also desperately require PPE and other critical materials such as face masks, gloves, hand sanitizer, etc.

NGOs state they are currently exploring different channels, to reach farmers and other agricultural actors with COVID awareness and preventative measures

ANNEX VI: Views of Public Health Officials

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