Status Report: Recommendations from the Working Groups on a Regional Response to COVID-19

16 October 2020

Executive Summary

On 26 May, **Grow Asia** - in partnership with the **World Economic Forum (WEF)** and **the International Fund for Agricultural Development (IFAD)** - convened a virtual roundtable between 95 leaders from public sector, private sector, donor, civil society and farmer organizations operating in the agriculture space to brainstorm a regional response to COVID-19. This convening was the first step in encouraging Public-Private-Producer collaboration to develop solutions to the weaknesses that COVID-19 has revealed in the ASEAN food system.

Representatives present at this dialogue included the Philippine Secretary of Agriculture (Hon. William D. Dar, PhD), representatives from the Senior Officials Meeting of the ASEAN Ministers on Agriculture and Forestry (SOM-AMAF), key agribusiness leaders from the region, representatives from the wider ecosystem of businesses supporting farming (e.g., mobile money, digital marketing platforms and logistics providers), donors (including the Asian Development Bank, the Australian Department of Foreign Affairs and Trade, IFAD and the World Bank) and a range of civil society and farmer organizations across ASEAN.

From this process, four multi-stakeholder Working Groups (WGs) emerged, who are developing action plans to solve some of the key constraints COVID-19 has highlighted in the agriculture space. These four WGs are: **Rural Logistics**, **Mobile Money**, **Digital Marketing Platforms**, as well one focusing on the broader **Digital Enabling Environment**.

This report is a living document which provides a brief overview of the recommendations and action plans emerging from each WG. This report was last updated on 16 October 2020.

Turning to the individual WGs:

1. **Rural Logistics (RL)**: Failure of products reaching end markets due to hold up in the supply chains are generally seen as being the root cause of many problems in the food supply chain. It has resulted in products being thrown away and incomes not reaching farmers - disabling farmers to make the necessary investments in their next crop. Interest was particularly strong amongst the private sector partners on (i) improving the operations, execution, and trade in ASEAN, both across borders and internally, (ii) catalyzing innovation in rural logistics, particularly around first-mile connectivity, and (iii) strengthening the investment and operations in post-harvest infrastructures. The Rural Logistics Working Group (RL WG) has recommended establishing a challenge fund to incentivize the development of an application to facilitate an improvement in rural logistics, especially around first mile connectivity. In particular, this application would facilitate the use of backhauls, enable food consignment to be consolidated, predict demand and be able to set up competition between private truckers for carrying farmers' production. The WG has articulated that rural logistics would be further supported by benchmarking the post-harvest infrastructure of ASEAN Member States to help guide investment in rural logistics.
2. **Mobile Money (MM):** MM enables the unbanked - particularly those that are rurally-based - to participate in modernizing economies that are increasingly moving towards a “less cash” economy”. The technology better enables: payments to farmers, good and services to flow more freely into rural economies (e.g. seed, fertilizer, health care services and education), the purchase of these goods and services, and digital payments be converted into physical cash (generally through a network of rurally based agents). MM can also be used to increase efficiencies around delivering subsidies, credit services and insurance to rural communities, and is a critical requirement for access to digital marketing platforms. The recommendations put forward by the Mobile Money WG (MM WG) include enabling policy makers in the region to fully understand the benefits of MM and so they can recommend and write policies that enable the emergence of a thriving MM sector. The MM WG has also recommended the development and roll-out of supporting programs to raise digital and financial literacy.
3. **Digital Marketing Platforms (DMP)**: COVID-19 has increased the demand for products sold through DMPs which offer new, lower cost and more flexible marketing options for farmers while improving their returns. Often, DMPs are seen as a way for businesses to avoid the risks and difficulties associated with cash payments, as well as a way for producers and off-takers to better

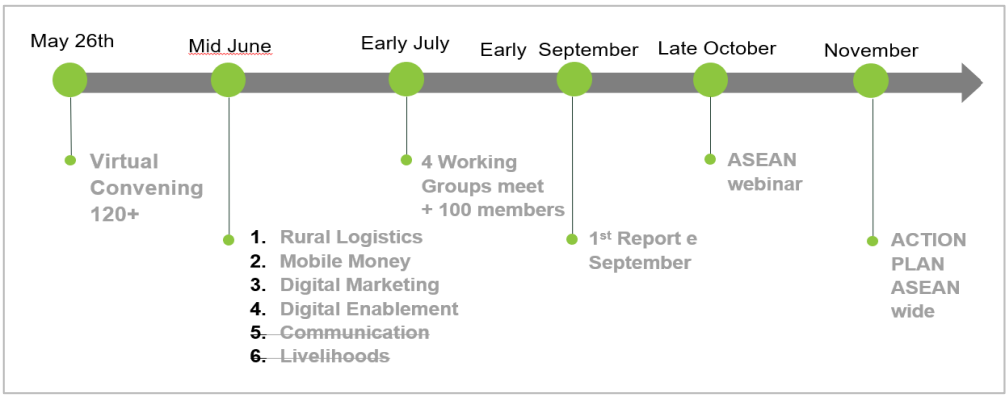
identify each other. While DMPs have mainly facilitated direct sales from farmers to consumers, the pandemic has promoted direct sales from farmers to processors and agribusinesses. For DMPs to thrive, however, the following enablers are needed: (i) a strong logistics network, with particular focus on first-mile connectivity, (ii) broad access to Wi-Fi, and (iii) widespread adoption of mobile money or e-wallets. The Digital Marketing Platforms Working Group (DMP WG) is looking at how DMPs could - through more efficient logistics, refined methods of payment and reduced transaction costs - be used to improve the urban poor's access to fair priced basic foods. To ground this work, the DMP WG recommends conducting a study of the market demand and opportunities around DMP, as well as to distill the important operational and organizational learnings from businesses in the agricultural DMP space.

4. **Digital Enabling Environment (DEE):** It is clear that almost all the longer-term solutions to the weaknesses the pandemic has revealed in Southeast Asia's food system would need to be underpinned by digital technologies. The Digital Enabling Environment WG's (DEE WGs) earliest conclusions are that (i) farming is a laggard in its use of data to manage the sector, (ii) the knowledge of the farming community in this area is particularly weak, and (iii) stronger cooperation between the public and private sectors would facilitate the emergence of a more modern, efficient and resilient food and farming sector. Amongst the Donors (especially the World Bank and IFAD) there is considerable interest in creating in each country a farmer registry to build a picture of who the farmers, landlords and tenants are, as well as their land areas and location. This would improve the efficiency and effectiveness of digital services, enable the better delivery of public services to farmers and enable multiple other benefits to enable the emergence of a more modern, professional, and better financed farming sector in ASEAN. This focus is grounded on the premise that (i) sharing data would result in the farming sector being better served by governments as well as the private sector and that (ii) issues on data privacy and ownership are solvable. Future WG meetings will also explore the potential of Governments drawing on Universal Access Funds to finance investments in rural digital infrastructure that would support rural populations' access to Wi-Fi, sufficient bandwidth and, as a result, more sophisticated digital solutions.

The four WGs contain partners from diverse sectors (see Appendix 4 for a breakdown by sector and WG). They have met four times to agree on their action plans and to take forward these specific ideas. The outcomes may include; specific actions by the public sector, actions by the private sector, policy development, partnership possibilities, webinar-based targeted learning programs or launching specific strategic activities.

We have had over 100 organizations signed up for the Working Groups. At present, the distributions is around 35% private sector, 35% public sector, 20% development agencies (i.e., the Asian Development Bank, the Australian Department of Foreign Affairs and Trade, International Finance Corporation, IFAD and the International Food Policy Research Institute) and 10% from civil society and farmer organizations.

Process for Establishing the WGs and Action Plans:



It is critical to note that Grow Asia and all four Working Groups are committed to understanding the specific needs, barriers, and opportunities for women in agri value chains in the face of COVID-19. This is especially as women are integral to agricultural production yet are more vulnerable to the pandemics' negative effects, being – even prior to COVID-19 – more disadvantaged in terms of income and access

to credit and new technologies than men. Women are also continually made to make difficult trade-off decisions between demands on their time (e.g., between caregiving, education and farm work), which has been exacerbated by the pandemic; 90% of women-owned SMEs are reporting significant decrease in Q1 sales as result of COVID-19; women-owned SMEs are less likely to re-open after the crisis; only 15% of women in ASEAN can access personal credit/loans[1], and; women are 20% less likely to own mobile phones than men.

It's in this context that this report makes the following recommendations for a response to COVID-19 that uses a gendered lens:

- Promote commitments to procuring from women-owned/led SMEs/farms;
- Utilize gender-sensitive surveys during market and impact analyses;
- Provide child and healthcare subsidies so women can continue to work;
- Establish guaranteed and pre-payment plans to prevent SME shut-downs;
- Support wage digitization to ensure payments are received on time;
- Provide digital and financial upskilling of women farmers and entrepreneurs, allowing them to pivot and meet changing market demands.

[1] Global Findex Database

Working Group 1 - Rural Logistics

The COVID-19 emergency has caused worldwide trade restrictions and severely disrupted food supply chains, endangered food production and availability. A Rural Logistics Working Group (RL WG) was established to identify solutions for the ASEAN region that could improve the resilience of food supply chains during times of pandemic.

RL WG members include leaders from agribusinesses, agricultural ministries, logistics companies, development agencies, fund managers, and legal service providers. Each meeting was approximately one hour each. The group was expected to share information and ideas and was facilitated by a consultant.

The Issues:

The goal of the RL WG meetings were to *improve rural logistics with technology and other best practices that enhance vehicle utilization and food preservation*. Solutions will aim to bring convenience to farmers and benefit consumers.

It was necessary to identify the areas of waste and inefficiency observed in rural logistics:

- Regulations that restricted the movement of human resources
- Regulations that restricted decision making and access to traditional shipping channels
- Some countries in ASEAN performed better than others. There is no readily available resource to show which areas need the most attention in each country
- some production was wasted because of little availability (of often inappropriate vehicles) for farms wanting transportation. Prices are high as a result.
- Some production was wasted due to lack of appropriate storage in rural areas. Prices are high as a result.

Recommendations:

The 5 areas outlined above were then focused on. There was consensus to start several initiatives, which have been summarized below. While no consensus was achieved for an initiative on the area of storage, this report does highlight some of the observations and ideas shared.

1. **Recommendation for Worker Safety:**

Supply chain resilience depends on efficient movement of food and a healthy workforce. Essential services for all nations in ASEAN should include workers involved with food and farming (planting, harvesting, processing, packing, storing) as well as the transportation necessary to physically move products from the farm to the table.

The RL WG reviewed information from the Food and Agriculture Organization (FAO) as well as some more policies which were based on World Health Organization (WHO) guidance. The RL WG felt these were very appropriate for ASEAN to take on as a block.

The recommendations can be seen in Annex 1: Policy Recommendations – Transport and Worker Safety. This is a seven-page document and it will list many recommendations for the following groups of food supply chain workers (both women and men):

- Workers on farms
- Workers at wholesale markets
- Workers in fresh markets
- Workers in processing units
- Workers in food service
- Workers that transport food

This distilled good global practice document provides excellent advice on the operation of efficient food lanes and keeping the food and agricultural workforce safe.

2. **Recommendations for Transport:**

Food security is critical. Delays, blockages and protectionism all lead to waste and, ultimately, less food and poor food security. If the ASEAN member states standardize their requirements and procedures within the block, this would facilitate inter-regional trade and also allow for greater flexibility in switching between suppliers.

The RL WG reviewed and looked at information from both the FAO as well as some more policies done in the European Union to create a unified policy which the RL WG believes is appropriate for ASEAN. Additionally, there are further referenced policies for ASEAN members to review provided by the International Development Law Organization (IDLO).

The recommendations can be seen in Annex 1: Policy Recommendations – Transport and Worker Safety. This is a seven-page document and it will list 15 recommendations for ASEAN members to standardize and agree to.

3. **Logistics Resilience Matrix:**

One initiative that the RL WG believes should be done is to create a Logistics Resilience Matrix. This matrix will provide an overall picture of how ASEAN countries' food supply chains are performing, and which areas can be improved. This would enable any interventions to be strategic.

The RL WG suggestion was that a survey be sent to people across ASEAN who are involved in each link of the food supply chain. The six logistics functions, selected as the key performance indicators of a food supply chain, are:

1. Safety: Can the country keep food supply chain workers safe and prevent them from spreading diseases so they can continue to do their work at the same level, whether there is a pandemic or not?

2. Market Flexibility: Can farmers sell to a variety of buyers and markets within their country?

3. Cold Storage: Do farmers have access to cold storage facilities for their perishable produce?

4. Grains Storage: Do farmers have access to dry storage facilities for their non-perishable produce such as staple crops?

   Transport Infrastructure: Does the country have a transportation infrastructure that supports the fast and efficient movement of food even in rural areas (e.g., paved roads, railroad access, ports with storage and communications structures to facilitate transport)?

6. Transport Timeliness: Can food shipments reach the customer on schedule?

It was not determined which company or organization should run the survey, but the questions should be made up by experts in the agricultural logistics industry in Southeast Asia. Advantages to the survey structure are that the data can be collected relatively quickly, and the answers should also reflect actual experience in the field.

Target Survey Participants[2]
It is particularly important for those working in the different segments of the food supply chain to share their experiences relevant to the ASEAN country that they are active in. Target survey participants should include:

[2] Special consideration should be paid to gender roles and responsibilities, given women's participation in agricultural production, distribution, and retail as well as their oversight in household and farm purchasing decisions.

- Farm cooperative managers
- Food transportation companies (e.g., trucking companies, freight brokers, train, and ferry operators)
- Seaport and airport managers involved in food shipments
- Agribusiness operators in ASEAN

Target Matrix Report Recipients

The ability to see where strengths and weaknesses are in the food supply chain should encourage investment and development in areas with needs. Over time, such development and investment should improve low-scoring functions and there should be corresponding changes in the matrix.

Target recipients of the Logistics Resilience Matrix should include (i) investment fund managers, (ii) ASEAN ministers of development and agriculture and (iii) development agencies.

Grading Scale

All questions in the survey should be in a multiple-choice format. Every question should have five answer options that correspond to a scaled score of 1 to 5 points. For every question, the lowest score is 1 point, which corresponds to "very low", and the highest score is 5 points, which corresponds to "very high".

The survey should include multiple questions for each of the six logistics functions to be measured, for which the average number of points should be used as the score for each function. The highest score of 5 represents the best resilience in one particular logistics function.

Presentation

Each ASEAN country's scores for all logistics functions measured should be presented alongside other member countries' scores. This allows comparison and quick identification of benchmarks and areas to improve on.

Sample matrix partially filled with 2018 World Bank scores:

	Safety	Market Flexibility	Cold Storage	Grains Storage	Transport Infrastructure	Transport Timeliness	Total
Brunei					?	?	
Cambodia					*2.14*	*3.16*	
Malaysia					*3.15*	*3.46*	
Indonesia					*2.89*	*3.67*	
Laos					?	?	
Thailand					*3.14*	*3.81*	
Vietnam					*3.01*	*3.67*	
Singapore					*4.06*	*4.32*	
Philippines					*2.73*	*2.98*	
Myanmar					*1.99*	*2.91*	

* above figures from : * above figures from 2018 LPI

The qualitative survey results could also be complimented by the quantitative comparators between countries to build a picture of the weaknesses and strength of each countries' rural logistics system (e.g., road density and % spent on maintenance).

4. **Technology to Improve for Rural Transportation**

Before COVID-19 there were instances of food losses, high costs[3] and poor access to appropriate transport vehicles (like refrigerated trucks). There is in general a lack of interest in the private large trucking sector to improve services for the rural market. In many areas the first link in the food supply chain is carried out by many individual small-scale trucking operations (1 or 2 vehicles).

The RL WG therefore agreed it may be best to open this up to new innovative approaches and business models. There are several advantages that can be gained by digitizing the logistics of rural Southeast Asia. A digital application would enable rurally based freight forwarders who are able to consolidate loads from multiple famers into sensible critical masses and put those out for bids from local truckers and attract business from empty backhauls. Additionally, the data gathered can lead to development in upstream agricultural processes too.

1. Data of when harvests will be ready to ship and from where: This would allow for planning of vehicle positioning and appropriate vehicle type. This information would help maximize loads coming out of the rural area, and better preserve produce.
2. Data of where the product is moving to, or near: There could be advantages to pull those vehicles into a larger pickup pool. Thus, increases competition and lowers cost.
3. Data on what is harvested and where: With this, modelling could be done for figuring out where to locate processing facilities or temporary storage facilities so that it can be closer to farms. This would lower spoilage. It can also add value to the crops assuming farming communities are involved.

The problem statement so far constructed for the innovation challenge looks like this:

"Picking up produce from rural areas is expensive and often causing too much spoilage. A solution is needed for truck companies/freight brokers/freight consolidators to use which would:

1. *Help anticipate demand in rural regions based on crop data with specific locations;*
2. *Suggest best fleet equipment to use to prevent spoilage based on crop data;*
3. *Build multiple pickup jobs for drivers by consolidating trucking demand from farmers;*
4. *Have a mechanism for putting out and accepting bids from truckers & logistics operators;*
5. *Have a post processing value added facility locator; and*
6. *Be a solution that is be viable, desirable, feasible, executable."*

Pilot Innovation Challenge in Indonesia

There was already data made available for running the innovation challenge by RL WG Member Hara Indonesia. They have farm data for parts of Java and Sulawesi available. Additional elements needed for the innovation challenge are the following:

- 3-4 Sponsors – each will invest from USD15K to USD 20K each. Sponsors will be able to judge and use the solutions developed. Ideally, they also invest to test and make the solutions come to life. (Grow Asia can assist with this)
- Mentors – these will be used to provide real world knowledge on the current rural transport system. (Grow Asia can assist with this)
- Organizer to run the challenge - Grow Asia can assist with this.

It is the RL WG's hope that this challenge can be piloted soon. If successfully innovated and tested, businesses around Southeast Asia could spread and create a more prosperous and resilient food supply chain for our growers and consumers.

[3] In rural Indonesia, for example, transport margins during the first step in rural transport, can have margins of 300% over cost.

Working Group 2 - Mobile Money

The thematic Working Group[4] on Mobile Money (MM) believes that COVID-19 is not the first or last pandemic we will face. The group's focus is on accelerating long-term access to and use of affordable and quality digital financial solutions for poor rural people in the ASEAN region. The aim is to prepare the regional market for MM services and digital financial products to function with a fast, universal response when future disasters strike and creating a conducive ecosystem with a sustainable infrastructure for providing communication and services.

Overall, the MM Working Group (MM WG) members believe MM is a key enabler for financial inclusion, access to markets, effective marketing platforms and value chains, resilient rural livelihoods, sustainable economic development, and closing the gender gap in mobile literacy and uptake.

Objectives

The objective of the Working Group (WG) - comprised of representatives from the private sector, policy makers and regulators, NGOs and development partners - is to develop sector-relevant recommendations and action plans. By doing so, the WG believes it will build regional partnerships for complementarity and synergistic effects, resulting in actionable points and thoughts that should inform strategic directions and lead to policy change.

Almost everywhere, MM solutions are demonstrating their potential positive impact as an enabler and as a key component to realizing digital transformation opportunities emerging from COVID-19. In particular, MM supports the delivery of reliable, affordable, and trustworthy financial services for the mass market in ASEAN. However, MM firms, banks, and non-bank financial service providers (FSPs) cannot achieve scale and provide every farmer, entrepreneur, or merchant with convenient access to MM services without complementary efforts by other private and public players. For instance, strengthening offtake support and contracts with agribusinesses reduces financial risks and improves farmers' access to credit and other financial services. This holistic frame will also resonate with policymakers who are looking at maximum impact along value chains.

Importantly, building digital skills at the level of customers of FSPs is the foundation for MM to be beneficial in the agricultural and rural sector and to help transform the ASEN market. The MM WG requested that Grow Asia advocate for digital & financial literacy and integrated entrepreneurship programs[5].

The Issues

The MM WG's recommendations are the result of brainstorming, drawing on practical experience and industry players' knowledge. The recommendation areas are (i) increasing access to financial literacy training, especially for women and youth, (ii) use cases for digital services and products, including savings, payments, remittances, payroll, and insurance, and (iii) improving quality of MM in terms of reliability, affordability, lower transaction costs and improved transparency.

Recommendations

1. Inform consumers about the advantages of MM service providers (e.g., Ongo, Wave Money, KBZ Pay, etc. in Myanmar) and continue building and marketing attractive lifestyle use cases for consumers. Schools and universities could support MM providers by more proactively

[4] The Working Group consists of Director General H.E. Madame Serey, Cambodia National Bank, mobile money providers Wing Money from Cambodia, Ongo, Wave Money and Yoma Bank from Myanmar, input providers Corteva and Bayer, and Global System for Mobile Communications Association (GSMA)

[5] An OECD global survey demonstrated that residents of ASEAN have relatively poor financial literacy levels compared to the rest of the world, reflect poor financial knowledge, poor budgeting, and proper financial attitudes

allowing them to market their services to students. Digital financial literacy should be an integral part of their education, particularly for women who are often responsible for farm and household-related finances in ASEAN. Include different stakeholders like ministries of education, MFIs, billers/merchants, insurance, UN/CSOs, literacy. Digital literacy includes learning about the benefits, namely security and convenience, monetary value of MM providers charging reasonable fees for the provision of that convenience.

2. Create an understanding amongst policy makers of the advantages of MM to the farming and rural economy, and its critical role in enabling those in the rural economy to fully participate in (and benefit from) the emergence of trading opportunities based on 'less cash'. This would help policy makers (i) weigh the benefits of digital economy against traditional banking more effectively and (ii) make policy recommendations to their respective governments that create the necessary policy environment for MM operators to thrive.

3. Consider new vocational education and training to integrate enterprising competency for farming as business and rural enterprises. Vocational training should address new opportunities of digital and financial literacy, and incorporate modes and structures for learning that ensure equitable access for men and women. Further, financial service providers must be trained in delivering training to women as farmers and business owners. Access to finance is broader than mobile money. For example, crop insurance is very important.

4. Address the different standards and licensing requirements by each country - the biggest challenge of internationalization of MM amongst ASEAN countries. Seeking economic opportunities in different countries are commonly practiced, but access to affordable payment platform to send money across borders is limited. When movement is restricted due to financial reasons or global crisis (like COVID-19), easing and improving international remittance through MM network will have a positive impact not only to migrant workers, but also to regional supply-chain in various sectors (including food/agriculture). A pilot project should be implemented to explore how to improve access, regulations and mitigate risks.

5. Expand access to digital payments infrastructure for customers who need to make low-value transactions. Constraints such as server downtime impede such access and create problems such as transaction failures, which are beyond the control of users. It is important to improve access to acceptance infrastructure such as micro-ATMs. This requires investments by FSPs and payment service providers which, in turn, will be financed by the Merchant Discount Rate (MDR). The MDR acts as an incentive for banks to push digital payments and for greater innovation within MM networks.

6. Leverage the agent banking model to facilitate access to cash and help cut down operating costs of FIs, FMCGs, insurance, MSMEs, and other entities. This will also expand concrete use cases for agent banking models such as: (i) loan collection services for MFIs, (ii) remittance for migrant workers, (iii) insurance premium collection and (iv) G2P transactions, payroll, and other transfers

Working Group 3 - Digital Marketing Platforms

The Issues:

In its State of Food Security and Nutrition in the World 2020 (SOFA 2020), the Food and Agriculture Organization of the United Nations (FAO) reported that its most recent projections for the aimed outcomes of SDG 2 - "No Hunger"- are not achievable. FAO's estimate is that 8.9% of the global population (690 million people) is undernourished. This number is likely to climb by an additional 83 to 132 million cases. While various reports on food and agriculture[6] have shown that agricultural activities have been largely resilient against COVID-19, access to affordable and nutritious food has been seriously affected. In sum the issue is not availability of food but getting nutritious, affordably food to consumers.

Digital Marketing Platforms (DMPs) are seen as carrying significant promise in bridging this "affordable nutrient gap" as they are being used to (i) enable direct sales between farmers and consumers (or between groupings of farmers, and groupings of consumers), (ii) enable disintermediation (i.e., significantly reducing the number of intermediaries between farmers and customers) and (iii) better enable trade between farmers (and farmer groups) and agribusinesses in need of raw materials for their food products – reaping positive benefits for growers in the process. Preliminary analysis of the change in farmers returns from participating in digital marketing have indicated a 10-15% increase in profit from farmers in China, selling garlic via PinoDuoDuo (PDD), and 28% increase in sales income from Indonesian farmers marketing through TaniHub.

The basic requirements for the operation of these DMPs include infrastructural elements (e.g., adequate roads, transport operations, Wi-Fi access and post-harvest storage facilities), mobile money (including mobile money and e-wallets), and - for direct sales to consumers - a sufficiency wealthy middle class.

Objectives:

It is in this space that the Digital Marketing Platforms Working Group (DMP WG) is proposing to work towards achieving (i) increased food access and (ii) increased consumption of nutritious food – both of which being key issues in contributing to the end goal of SGD2: No Hunger.

Digital Marketing Platforms are seen to will have the following features:

1. Driven primarily by the private sector**:** Various DMPs have already been established by the private sector - mainly in the last five years, with a high likelihood of further expansion in the coming years. COVID-19 has also sparked increased demand for DMPs. A key lesson from organizations operating DMPs is the need to have a proper business model to understand (i) the target customers, (ii) how recurring purchases will be achieved, (iii) reliability of supply, and (iv) guarantees of trust for on-line transactions.

2. Covering the mid-streams of food value chains. While most existing DMPs cover transactions from end-to-end, DMPs designed to increase access to food in low-income communities should (i) focus on mid-stream segments of food value chains, hence the emphasis on wholesale trade, (ii) support consolidation to achieve large volume food commodity transactions and leverage economics of scale and (iii) emphasize more efficient utilization of transport (e.g., maximize utilizations of backhauls and load consolidation) to reduce transport costs to almost half per delivery.

   Unlike existing online food delivery platforms, DMPs designed to increase food access may have to cater to traditional food retail channels (e.g., wet or fresh markets, eateries, and local government units). These local traditional food retail channels (i) have access to local market

[6] Such as the Australian Centre for International Agriculture's (ACIAR) 'Indo-Pacific Assessment of Food System Security, Resilience and Emerging Risks in the Indo-Pacific in the Context of COVID-19 (publication forthcoming)

demand information, (ii) will be more likely to be able to purchase food at wholesale volumes and (iii) are likely to have access to internet and online banking services, countering somewhat the inefficiencies of Southeast Asia's (largely) cash-based economies.

3. Moving high-demand, affordable staple food products. Developing effective business models for DMPs and optimizing mid-stream value chain processes require that these business models are built with the demands, needs, and requirements of the end-consumers in mind. Because DMP business models generate revenue through transaction volumes, the food products to be marketed should be high-demand and affordable. These are more likely to be food staples. Understanding the location of the demand too is crucial as demand will inform (i) the modes of transport needed, (ii) the food infrastructure that will have to be in place to ensure food safety and prolong food shelf life, and (iii) delivery timing.

Recommendations

Firstly, the DMPs WG recommends that policy makers keen to promote DMPs (as a mechanism to bring greater flexibility and competing options into the marketing of agricultural products) need to create an enabling environment, addressing the necessary infrastructural requirements (such as roads, Wi-Fi access, access to post-harvest facilities and, increasingly, specialized transport like refrigerated trucks) and ecosystem to support the development and update of mobile money and e-wallet services to facilitate cash flow and payments. These basics will better enable the emergence of stronger DMPs to serve direct farmer to consumer sales, as well as facilitate the level of business between farmers and agribusiness/food processors.

Given that the development of DMPs will be carried out by the private sector, the DMP WG suggested that what is really needed is demand studies that investigate the food consumption practices of low-income communities in Southeast Asia**.** Such demand studies would essentially (i) provide information as to what are locally consumed and for what reason (i.e., religious practices, food preferences, etc.), (ii) what are preferred and at what price point, and (iii) the volumes for food products demanded at specific times in the year. Particular attention will be paid to trends and barriers in consumption and purchasing behaviors among women, who are primarily responsible for household food purchases. From this information, business models can then be developed by the private sector, assessments of logistical systems that needed to be installed to efficiently move food products and identification of potential suppliers - whether within the locality of these food markets or even from other countries. This demand study would be most efficiently done in collaboration between food retail channels, community leaders and local government units, as well as organized farmer groups and consumer co-operatives.

A third element would be to create a report that distills the early lessons from existing DMPs operating in Southeast Asia to support the development of effective business models.

Working Group 4 - Digital Enabling Environment

The Issues:

COVID-19 has created a significant shock to the smallholder agricultural sector in Southeast Asia. The pandemic has had a range of negative implications for farmers, traders, input suppliers and other key actors in the region's agricultural industries. In particular, COVID-19 has highlighted a number of weaknesses in the current Southeast Asia food system - issues that have been present for many years are exacerbated by the virus. One of these issues is the lack of data which is available on smallholder farmers.

While other industries are using data to unlock growth, many actors in the smallholder sphere report a lack of data on farmers. This lack of data is a challenge for businesses and governments, but it is also a challenge for farmers. Because businesses and governments lack insights on farmers, they do not serve farmers as well as they could. A lack of data on farmers makes it difficult to provide the right advice, inputs, and access to market.

The smallholder industry is a global laggard in the effective use of data.

Objectives:

I. The Working Group: represents actors who are potential data users and includes input companies, governments, and buyers. Beyond these data users, the group included members of supporting institutions such as the World Bank, the Asian Farmers Association, and IFAD. Each member is keen to explore how to access and use data more effectively. A full membership list is included in the Appendix 3.

II. The Value of Data: The group began its work by establishing why data was important. A long list of uses was developed including:

   a. *Governments* need good data to set effective policies, provide targeted services and to design mechanisms such as subsidies that reflect the actual needs of farmers.

   b. *Input Companies* who produce fertilizers, seed and chemicals need better data to deliver the right products and advice to farmers based on need. Specifically, input companies are seeking real time data on how effective their products are, in order to improve their offering.

   c. *Insurance Companies* need data to calculate risks and provide insurance to farmers. This could help farmers better manage risk, including drought and flood risk.

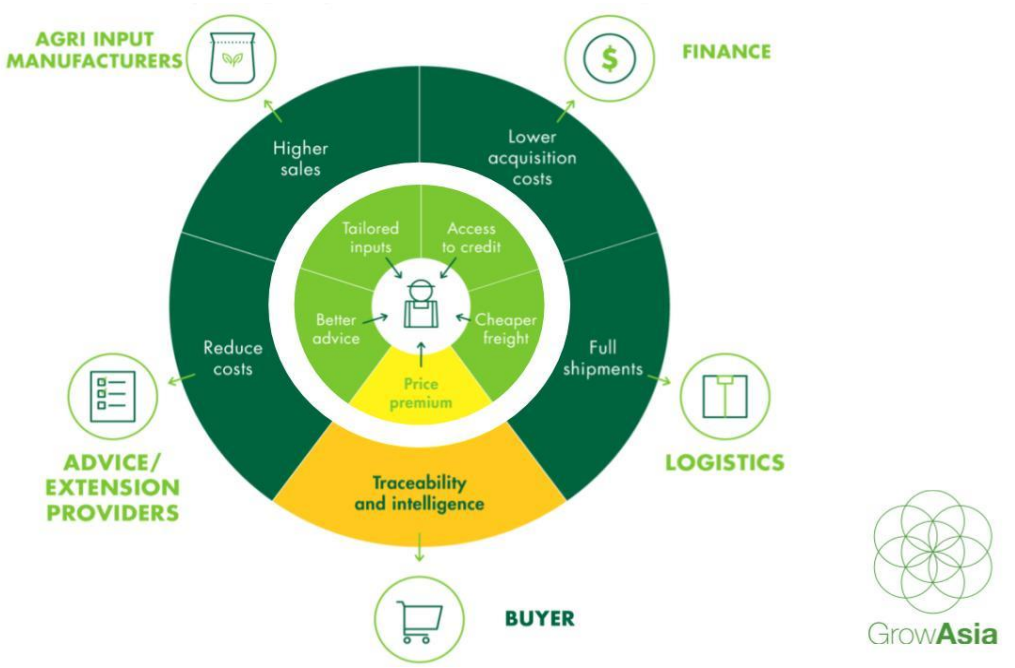
   d. *Lenders* need data on farmers to make lending decisions and provide loans so that farmers can buy inputs or expand their operation. Better data to lenders could reduce the interest farmers pay, and drive growth.

   e. *Logistics Operators* including truck drivers need better data to schedule pickups and make more effective use of their vehicles.

   f. *Buyers* such as rice mills and supermarkets lack the insights on their supplier farmers to plan to buy and provide price guidance to farmers. Buyers are also seeking data on growing techniques to support product claims, for certification record keeping and carbon footprint tracking.

   g. *Extension Workers* including government extension agencies lack the data they need to provide targeted advice to farmers. Specially, better data would help workers provide advice remotely over digital channels allowing them to reach more farmers.

Other use of data the group identified included allocating equipment such as tractors and the use of data directly by farmers themselves in planning and decision making.



Very quickly, the group saw that each data user required similar data but were not working together today. Government was collecting data for its own use, rice mills for their use and lenders also for their own purposes. This was very inefficient, as data collection was expensive, and much of the data governments and businesses collected was out of date.

The rise of a range of technologies including cloud computing and Application Programming Interfaces (APIs) make data sharing possible, however they are under-utilized in our sector.

III. Data Requirements: The WG set about identifying the overlaps in the types of data that each sector needed. Overlapping data needs included: farmer demographics (especially the needs of women farmers), plot sizes, yield and production, GPS location, crop variety, contact information, crop stage/progress, historical production and input usage.

It was clear that actors from all seven different types of data users need similar data. Not every user needed exactly the same data, but there was significant overlap.

Many members highlighted what can be achieved from just one data point is collected. For example, GPS data on a farm's location is a simple data point, but coupled with satellite data can establish productivity, weather, and live crop monitoring. Even small amounts of data can unlock a range of insights.

Challenges

Simply recognizing that these actors would benefit from data sharing is useful, but there are a range of challenges that make this difficult. These include:

- Privacy issues (moral and legal)
- Errors in data, particularly self-reported data.
- Lack of land titles
- Lack of national ID cards
- There is lag between the cost of collection, and realizing the data's value

One promising avenue to address the issues of privacy is to promote systems in which farmers own their own data and share this with data users (such as input providers, extension workers or lenders)

when they see value in doing so. This significantly restructures the relationship from governments and business collecting and owning data to farmers actively choosing to share it.

Potential Developments

In their final two meetings the WG will move to exploring how we might realize the opportunity of data sharing.

One subgroup is focused on piloting data sharing in a sample value chain. A pilot of data sharing is important because it allows government, companies and farmers to see the value of sharing in one place, at one time and creates learning on how sharing could add value at scale. The WG is exploring opportunities to share at both Myanmar and Indonesia.

The second group is drafting a policy paper for governments in ASEAN explore how they might encourage more sharing. The paper will highlight the value of sharing, but also explore potential solutions to challenges including data privacy, accuracy, and misuse. Governments have the potential not to only put in place policies that allow sharing, but to play a central role in collecting and maintaining databases.

Recommendations

The Digital Enabling Environment Working Group would encourage ASEAN Member States to:

- Work more closely with industry to collect and share farmer data
- Establish policies which enable farmers to own data, and share it with government and business
- Continue to promote clear land titling and ID cards.

Appendix 1 - Policy Recommendations: Transport of Food and Worker Safety

Rural Logistics Working Group
July-Aug 2020

The COVID-19 emergency has caused worldwide trade restrictions and severely disrupted food supply chains in a way that has endangered food production and availability. In this context, the Logistics Working Group ("RL WG") was formed to identify solutions for the ASEAN region that could improve the resilience of food supply chains during times of pandemic.

RL WG members were volunteers from private, public, non-governmental sectors. The members were all highly experienced in their fields. More details on the group make-up and members can be provided upon request to Grow Asia.

Supply chain resilience depends on efficient movement of food and a healthy workforce. Essential services for all nations in ASEAN should include workers involved with food (planting, harvesting, processing, packing, storing, transporting). All people needed to physically move products from the farm all the way to the table.

The RL WG reviewed information from both the FAO as well as policies done in the European Union to create a unified policy, which we feel is appropriate for ASEAN.

Additionally, there are further referenced policies for ASEAN members to review provided by the International Development Law Organization (IDLO).

Key General Points

There is no evidence that COVID-19 can be transmitted by food or its packaging. Therefore, growers, transporters, storage operators, processors, retailers, vendors and consumers can proceed with all operations without any apprehensions linked to food. While food does not transmit the virus, people do.

Recommendations:

I. The transport of food

Food security is critical for survival of the people. Delays, blockages, protectionism all lead to waste and ultimately less food and security. The RL WG therefore stresses that waste be held to as little as possible.

The following policies will be able to aid the movement of food from the farms to the tables and preserve as much as possible the food from being spoiled.

Movement of food would further be diversified (and therefore see greater security) if the ASEAN member states all worked together to standardize their requirements and procedures within the block. This would not only continue trade but also allow for greater trade when other areas of the global food chain are experiencing blockages and delays due to unforeseen circumstances.

For Member States within ASEAN:

1. The Government (national and provincial) should issue advisories to ensure that workers in the food supply chain face minimum limitations by exempting the following from lockdowns
    a. Agencies engaged in procurement of agriculture produce
    b. Wholesale and retail markets
    c. Shops selling fertilizers and pesticides
    d. Farming operations and farm workers in the field

e. Manufacturing and purchasing units of fertilizers, pesticides and seeds
f. Providers of harvesting and sowing related machines like combine / harvesters and other agriculture/horticulture implements
g. Veterinary services
h. Fodder operations
i. Food supply chain services including: transport, package manufacturing, food processing, warehousing

2. Government inspectors and officials should enforce health measures among workers and premises – physical distancing, mandatory use of masks, regular hand washing, regular temperature checks, disinfection, etc. - that are part of the food chain and in food businesses including SMEs and street food; no infected worker should be in the chain as producer, handler, storage operator, transporter or retailer. Regulations should not be "voluntary" and left to companies or individuals to interpret as they wish. Standard operating procedures (SOPs)/guidelines should be issues by Governments to streamline these health measures. Sensitization/training activities should, therefore, be aligned within the SOPs.

3. ASEAN States should add storage to help preserve food from spoilage. ASEAN member states, who are considering investments aimed at expanding the availability of adequate storage facilities (for both perishable and non-perishable goods), should adopt a Public-Private-Partnership (PPP) scheme, involving both cooperatives of producers as well as private sector partners.

4. Member States should open green lanes/corridors nationwide on roads and highways through which inputs and seed/plant delivery vehicles can pass unhindered, and are not subjected to roadblocks (if special placards are useful for this, then use these).

5. Where Member States impose restrictions to the transport of goods and passengers on grounds of public health, it should be done only if those restrictions are:
    a. Transparent, i.e. enshrined in public statements/documents;
    b. Duly motivated, i.e. they need to spell out the reasons and the link to Covid-19. Justifications must be science-based and supported by World Health Organization (WHO) or other regionally recognized health body;
    c. Proportionate, i.e. not going beyond what is strictly necessary;
    d. Relevant and mode-specific, i.e. restrictions on any of the different transport modes must be adapted to that mode; and
    e. Non-discriminatory.

6. Member States should preserve the free circulation of all goods. In particular, they should guarantee the supply chain of essential products such as essential and perishable food products and livestock. No restriction should be imposed on the circulation of goods in the ASEAN community unless duly justified.

7. ASEAN States should not add additional certifications on goods legally circulating within the ASEAN community.

8. Transport workers, especially but not only those delivering essential goods, should be able to circulate across borders as needed and their safety should in no way be compromised.

9. Alternative measures to a refusal of entry such as isolation or quarantine may be applied where they are considered to be more effective.

10. Any decision on refusal of entry needs to be proportionate and non-discriminatory. A measure is considered proportionate on condition that it has been taken following consultation of the health authorities and that it has been considered by them as suitable and necessary to attain the public health objective.

11. Internal border controls, if introduced at internal borders, should be organised in a way that prevents the emergence of large gatherings (e.g. queues), which risk increasing the spread of

the virus. ASEAN Member States should coordinate to carry out health screening on one side of the border only to avoid overlaps and waiting times.

12. ASEAN States should enable local government and civil society to use infrastructures (e.g. schools) for storage purposes after proper disinfection (these could also be made available for keeping produce of farmers on temporary basis in case of climatic events)

13. ASEAN States are permitted to stagger the sales in wholesale and retail markets by announcing a district/village-wise schedule for bringing the produce, along with providing support to farmers to cover the cost of local storage and safeguarding of grain during this period

14. ASEAN States are enabled to facilitate direct trades (including online) between private companies, individuals, corporates, etc. and farmers.

15. ASEAN States should allow home delivery of farm inputs (seeds, fertilizers, pesticides, etc.), by issuing special permits to local suppliers and their vehicles as needed.

II. Health and Safety

The following are recommendations for the preservation of health and safety of workers as well as food that they handle. As these are the basis for establishing standards within ASEAN, it is important that a committee of ASEAN members agree to what is required together.

Workers on farms

- Only laborers who are essential should be on the farm
- Always wear a face mask
- Maintain a distance of at least 3 hands or 2 meters from other people
- Ensure this distance especially during harvest operations including when produce is being loaded on to transport
- Workers are to Wash hands with soap for at least 20 seconds before going on the farm and then every 2 hours; avoid touching the face
- Wash clothes with warm water and detergent at the end of every day, allowing them to dry outside; sunlight helps to kill the virus
- Labourers on livestock farms should wear dedicated footwear within the farm and leave personal footwear outside
- Keep the livestock and poultry farm premises clean by regularly disinfecting with bleaching powder or similar agents
- Instruct labourers to stay at home if they are sick
- Conduct regular temperature checks with infrared thermometers (if available) of workers before they enter the workplace
- Withdraw any worker who is unwell immediately.

Workers at wholesale markets

- Extend hours with staff working on shifts to avoid overcrowding and orderly entry and exit of vehicles and produce
- Place signs at entry points to request people not to enter the area if they are unwell
- **Signage** - Paste notices for customers and staff to follow good respiratory hygiene (cover mouth and nose when coughing or sneezing; dispose of tissues and wash hands)
- Ensure a distance of at least 3 arms or 2 meters between workers
- Ensure sanitation facilities in the market are cleaned every two hours and clean water is available for hand washing
- Everyone in the area including vendors, buyers, staff and transporters must wear a mask
- Educate staff to regularly wash hands with soap for at least 20 seconds, every 2 hours
- Provide hand sanitizers, spray disinfectants, and disposable paper towels at entry, exit and other strategic points
- Ensure the separation of areas in the market that sell perishable (fruits, vegetables) and non-

perishable (such as rice, wheat, pulses)
- Ensure appropriate distancing between wholesaler units and/or heaped produce so that workers do not come in close contact during handling
- Using floor markings to facilitate compliance with the physical distancing, particularly in the most crowded areas
- Ensure orderly movement between wholesaler units
- Officials should ensure that no more than two or three customers are at one wholesale unit, depending on the space available
- Buyers should avoid loitering and move through the market as quickly as possible
- Encourage the use of contactless payments;
- COVID-19 is not transmitted by food, but the accumulation of fresh produce at various points can lead to spoilage which provides an entry point to food-borne pathogens that cause illness
- Introduce or ensure measures to inspect/monitor rotting and spoilage of perishable foods
- Ensure measures to keep waste covered, collected systematically and disposed of regularly
- Conduct regular temperature checks with infrared thermometers (if available) of all before they enter the market premises
- Withdraw any worker who is unwell immediately
- Keep doors/entrances open where possible to minimize contact
- Do not permit food service operators (restaurants, kitchens, street food) to operate inside the wholesale market.

Workers in fresh markets

- Form or activate local market committees to implement health and hygiene measures and make the market a safe place to conduct business.
- Ensure a distance of at least 3 arms or 2 meters between vendors
- Control flow of consumers to maintain a distance of at least 3 hands or 2 meters between vendors and consumers
- Ensure all vendors and consumers are wearing masks
- Ensure availability of hand sanitizers at various points in the market
- Ensure sanitation facilities in the market are cleaned every two hours and clean water is available for hand washing
- Conduct regular temperature checks (with infrared thermometers) of market workers before entering the workplace
- Regularly inspect/monitor the cleanliness of the market
- Disinfect the premises twice a day with bleaching powder or similar disinfectant
- Ensure proper disposal of waste; waste should be kept covered and be disposed of properly if the bin is full or after every 4 hours
- Shoppers should avoid loitering and move through the market as quickly as possible
- Ensure the separation of animal sections (meat, fish, poultry) from fruits, vegetables, and from dry staples (rice, wheat, pulses, millets)
- Keep live animals away from all other food items
- Do not permit food service operators (restaurants, kitchens, street food) to operate inside the fresh market.

Workers in processing units

- Provide PPE such as face masks, hair nets, disposable gloves, clean overalls and dedicated work shoes that remain on the premises
- Place signs at entry points to request people not to enter the area if they are unwell
- Paste notices for staff to follow good respiratory hygiene (cover mouth and nose when coughing or sneezing; dispose of tissues and wash hands)
- Conduct regular temperature checks (with infrared thermometers) of workers before they enter the workplace
- Ensure a distance of at least 3 arms or 2 meters between workers
- Ensure sanitation facilities in the market are cleaned every two hours and clean water is available for hand washing
- Everyone must wear a mask
- Educate staff to regularly wash hands with soap for at least 20 seconds, every 2 hours

- Withdraw any worker who is unwell immediately
- Regularly inspect/monitor the cleanliness of the premises
- Disinfect the premises twice a day with appropriate disinfectant.

Food service industry

- Regulate the flow of customers into the restaurant
- Ensure a distance of at least 3 arms or 2 meters between customers and staff
- Place signs at entry points to request customers not to enter the shop if they are unwell
- Providing hand sanitizers, spray disinfectants, and disposable paper towels at entry points
- Keep doors open where possible to minimize contact
- Staff should stay at home if you feel they feel sick or have a high temperature.
- Staff should wear a face mask at work at all times
- Staff should regularly wash your hands with soap for at least 20 seconds, every 2 hours. Only touch your face with clean hands
- Paste notices for customers and staff to follow good respiratory hygiene (cover mouth and nose when coughing or sneezing; dispose of tissues and wash hands)
- Conduct regular temperature checks (with infrared thermometers) of workers before they enter the workplace
- Withdraw any worker who is unwell immediately
- Regularly inspect/monitor the cleanliness of the premises
- Disinfect the premises twice a day with bleaching powder or similar disinfectant, and regularly clean the kitchen and the dining area.

Workers that transport

- Avoid overcrowding of people on inter-district/state transport trucks
- Keep surfaces clean - surfaces most likely contaminated with the virus include frequent touched surfaces such as steering wheels, door handles, mobile devices, etc.
- Hand hygiene, and physical distancing is of paramount importance
- To always keep a hand sanitizer, a disinfectant, and paper towels in the vehicle
- To use a hand sanitizer before passing on delivery or other documents
- To maintain a high degree of personal cleanliness and wear clean protective clothing and masks.
- To keep vehicles and food containers kept clean and frequently disinfected

What to do when a worker becomes unwell

- The market/food business should follow national/state guidelines for reporting cases/suspect cases of COVID-19
- While the patient waits for medical advice or to be sent home, any contact with other employees should be strictly avoided
- The worker should avoid touching people, surfaces, and objects
- to cover their mouth and nose with a disposable tissue when they cough or sneeze and put the tissue in a bag or pocket and then dispose of the tissue in a bin with a lid
- The worker should be advised to follow good respiratory hygiene (cover mouth and nose when coughing or sneezing; dispose of tissues and wash hands
- If needed, a separate bathroom, if available should be used by the patient.

Appendix 2 - Operations and Modalities of Mobile Money Companies

Wing Limited Specialized Bank has been working over the past 12 years in Cambodia to drive financial, gender and digital inclusion among the poor and unbanked at the bottom of the pyramid through its agent network in every single district and all major communes of Cambodia. From money transfer to payment solutions, Wing has led financial inclusion for the unbanked and underbanked, opening opportunities for them to be full participants in Cambodia's economic development and success through innovative products and services in Cambodia, as some are listed below, which could inspire the emergence of similar quality products and services in ASEAN countries.

- QR payments serving almost 40,000 merchant partners building confidence for both consumer and vendor through a secure and convenient payment transaction.
- Online Mastercard to allow youth, microbusinesses (some 60% of whom are estimated to be women), SMEs and the unbanked to participate in e-commerce activities, extending them reach to global merchants to take care of their needs and boosting SME's advertisement on social media (social commerce);
- Digital school fee payments.
- Payroll management process with cashless disbursement service.
- Agent banking network and innovative loan collection feature in the Mobile App allows financial institutions to expand access to loans and saving products to more customers by using their own credit scoring and underwriting, or by using Wing's data to serve customers who do not have acceptable data that would otherwise allow them access to financial products and services.
- For the Chinese community to seamlessly transact in Cambodia with AliPay and WeChat integration through QR for payments by SMEs and micro-merchants;
- Through 8,000 outlets of the agent banking network insurance service providers are allowed to have the opportunity to introduce insurance products and services to more Cambodians, in particular migrant workers, farmers and others, who may not otherwise have the opportunity to learn of insurance solutions for their families, and allow insurance companies to create new insurance products and services better tailored for the unbanked;
- Real time and secure money transfers for the unbanked with 100% coverage of districts in Cambodia, regulated and authorized by the NBC, through the Wing Cash Xpress network and 24/7 Mobile App service for family and friends to receive money.
- Enhanced digital transactions of supply chains and planning process between wholesalers, distributors, and their retailers that help to speed up market delivery of goods.
- Fast settlement performed through Wing Business for farmers and agricultural entrepreneurs, who do no longer need an intermediary to sell their products to their customers.

Focus on internal excellence produces positive results for both the FSP and for the customer. Examples of these positive results include:

- Wing E-KYC App enables employees to smoothly and quickly on-board new Wing customers.
- Wing MAP (Merchant Agent Point) App for sales agents allows them to easily record the geo location of each agent and updates their profile remotely while in the field.
- New Point of Sale Terminals provides an all in one tool to ensure increased efficiency with agents. This also opens a communication channel for Wing and agents, which allows for faster transfer of information.
- API integration with partners ensures a smoother process between Wing and Partners, which resulted in a more efficient and cost-effective process, and improved customer experience.
- Cost savings through payroll processing and bill collection.
- Efficiency improvements and convenience for employees, who would otherwise need to go out to withdraw money and then make another stop to send the home.
- Expanded agent network eliminates the need to go to an FSP branch or money transfer company.

Wave Money provides reliable, simple, affordable, and trustworthy financial services, which can be accessed via mobile phones and our extensive agent network. It supports the financial inclusion of those who lack access to formal banking or financial services at low transaction costs with improved transparency and reduced potential corruption. It encourages saving, empowers women by accessing formal financial services and provides access to affordable insurance and loans.

Expanding market access for farmers is done by providing beginner level entrepreneurship courses to learn what expenditure, opportunity cost are, etc

Appendix 3 - Digital Enabling Environment: Working Group Members

Name	Organization	Title
Agusnur Widodo	JNE/ Agusnur	COO and GM Express
Allan Oliver	World Bank	Senior Agricultural Specialist
Andri Hanindyo Wibowo	Min of Agri Indonesia	Directorate General of Livestock and Animal Health
Aniq Fadhillah	IFPRI /Aniq Fadillaha	Policy Facilitator
Bayu Krisnamurthi	Agribusiness Association of Indonesia (AAI)	Chairman
Bernadeth Angel Ayu Damayanti	PT Triputra Agro Persada	Managing Director
Biggy Nguyen	Swiss Re	Senior Client Manager, Public Sector Solutions
Carolina Figueroa-Geron	World Bank	Lead Rural Development Specialist
Christine Pahlman	DFAT	Assistant Director
Dan Pathomvanich	NR Instant produce PCl	CEO
Darwin Flores	Smart Telecoms	VP Community Partnerships
David Chen	Golden Sunland Rice	Chen
David Tanenbaum	International Development Law Organization / David	Commercial Law Advisor
Devesh Roy	IFPRI / Devesh Roy	senior Research Fellow
Dr. Dina M. Susilawati	Min of Agri Indonesia	Directorate General of Horticulture
Fabrizio Bresciani	IFAD/ Fabrisico	Lead Regional Economist
Gerard Sylvester	FAO / Gerard Sylvester	*Investment Officer (Digital Agriculture)*
Hernandez, Elizabeth	CORTEVA / Elizabeth	Head of Corporate Sustainability & Government Affairs
Lany Rebagay	Asian Farmers Association	Program Manager
Manu Rajan	Wing (Cambodia) Specialised Bank	CEO
Prelia Moenandar	CORTEVA	Head of Government & Industry Affairs, ASEAN
Nguyen Chi Hieu	MARD / Hieu	Manager PSAV
Panos Loukos	GSMA	
Pote Jarupanich	Charoen Pokphand Produce Company Limited	Vice President, International Fertilizer Purchasing and Grain Trading
Prasun Kumar Das	APRACA Prasun	Secretary General
Rakesh Dubey	BAYER	public affairs, science and sustainability team
Saran Song	Amru Rice (Cambodia) Co., Ltd	CEO
Shahidur Rashid	IFPRI / Shahidhur Rashid	Director for South Asia
Triyanto Fitriyardi	IFC	Operations Officer
Van Hoang Pham	World Bank/IFC	

Appendix 4 - Breakdown of the Sectors Involved in the Four COVID-19 Working Groups