ASEAN ON POINT

03 / 09 / 2020

ENSURING THE RESILIENCE AND SUSTAINABILITY OF THE AGRICULTURE AND FOOD SECTOR IN ASEAN IN THE CONTEXT OF COVID-19

ASEAN ON POINT PUBLIC FORUM SERIES

In response to the global coronavirus pandemic, the ASEAN Secretariat (ASEC) and the Economic Research Institute for ASEAN and East Asia (ERIA), will co-host a series of public forums – 'ASEAN on Point' - to address issues of importance to the advancement of ASEAN. The forums will provide a platform to bring together representatives of diverse stakeholders to share knowledge on the latest research and insights on relevant topics on post-pandemic recovery in order to inform the policy discourse. It is hoped that the insights and recommendations from the forums can contribute to different sectoral work in ASEAN towards recovery. The vision of these Forums is to 'Build Back Better' so that the region's recovery policies result in a more resilient, inclusive, and sustainable region.

SPEAKERS:

- Prof Dr Paul Teng
- Mr Grahame Dixie
- Prof Dr Sufian Jusoh

MODERATOR :

- Dr Orachos Napasintuwong

AGENDA

TIME	AGENDA
9:30 – 9:35 AM	Welcoming Remarks ASEAN Secretariat
9:35 – 9:50 AM 9:50 – 10:05AM 10:05- 10:20 AM 10:20-10:40 AM	• Prof Dr Paul Teng, Managing Director & Dean, NIE International Pte Ltd | National Institute of Education, Adjunct Senior Fellow, Centre for non-Traditional Security Studies, RSIS, Nanyang Technological University Singapore • Mr Grahame Dixie, Executive Director of Grow Asia • Prof Dr Sufian Jusoh, Director, Institute for Malaysian and International Studies (IKMAS), UKM. Moderate Panel: Dr Orachos Napasintuwong, Assistant Professor, Department of Agricultural and Resource Economics, Kasetsart University, Thailand.
10:40 – 10:55 AM	Q&A
10:55 – 11:00 AM	Closing Remarks ERIA

PANELISTS AND MODERATOR

PROFESSOR PAUL TENG is Managing Director and Dean, NIE International Pte. Ltd., and Adjunct Senior Fellow, Centre for Non-Traditional Security Studies, both of Nanyang Technological University, Singapore. He is also Senior Fellow, Southeast Asian Regional Center for Graduate Study and Research in Agriculture, Philippines. He specializes in food security, agritechnology innovations and sustainable bio-entrepreneurship. He previously held leadership positions in the International Rice Research Institute, the Worldfish Centre, and U.S. universities (Minnesota, Hawaii). Paul obtained his B.Agric.Sc. (Hons) and Ph.D. from the University of Canterbury, New Zealand. He has published over 12 books and 250 papers and visited over 40 countries for work. Among his awards are an Honorary D.Sc. from Murdoch University, and election as a Fellow of several scientific bodies. Paul's private sector experience includes a stint with Monsanto, being Non-Executive Chair of Asia BioBusiness Pte. Ltd., and as a Director of GTT ECOFARM. He has started and divested three agri enterprises.

GRAHAME DIXIE is the executive director of Grow Asia, a multi-stakeholder partnership that catalyses inclusive agricultural development in in five ASEAN countries: Cambodia, Myanmar, Philippines, Vietnam and Indonesia, plus Papua New Guinea. The platform mobilises 520 partners into 46 working groups. Collectively they some 50 projects under design piloting or implementation. They collectively solve pre-competitive issues in specific value chains, as well as at sectorial and policy levels. The key targets are focused on improving smallholder farmers' profitability and productivity as well as the environmental sustainability of agriculture. Grow Asia was recently accredited as an Entity Associated with the ASEAN. Mr Dixie has more than 35 years of professional experience as a practitioner in agricultural development. He has worked in over 78 countries, including an early career in the private sector. Prior to Grow Asia he served as the World Bank's agribusiness adviser.

PROFESSOR DR SUFIAN JUSOH is the Director and Professor of International Trade and Investment at the Institute of Malaysia and International Studies, Universiti Kebangsaan Malaysia. Sufian is also the Co-Founder of the ASEAN Economic Integration Forum. He is also the FDI Advisor at the Artnet, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Sufian is an External Fellow of the World Trade Institute, University of Bern, Switzerland and a Distinguished Fellow at the Institute of Diplomacy and Foreign Relations, Ministry of Foreign Affairs, Malaysia. Sufian is a Barrister-at-Law (England and Wales) of Lincoln's Inn, London. Sufian holds an LL.B from Cardiff Law School, an LL.M (Merit), University College London and a Doctor in Law (summa Cum Laude) from University of Bern, Switzerland.

DR ORACHOS NAPASINTUWONG received her Ph.D. in Food and Resource Economics from University of Florida in 2004. She currently is Assistant Professor at Department of Agricultural and Resource Economics, Kasetsart University, Thailand. Her teaching and research areas are economics of biotechnology and agricultural innovation, agricultural production economics, and consumer preferences for agricultural and food products. Her researches focus on economic analysis of varietal adoption and dissemination, seed industry, economic impact analysis of agricultural technology, and rice economy in Southeast Asia

EVENT OVERVIEW

With over a hundred million hectares of agricultural land, ASEAN is a major producer, supplier, and exporter of various crops and grains, particularly rice. ASEAN is the world's largest producer of palm oil and natural rubber and raises a considerable amount of livestock. The COVID-19 pandemic, which is disrupting every economy-supporting sector in the ASEAN region, is expected to pose challenges to trade, investment and economic growth. The agriculture and food sector is one of the most vulnerable sectors affected by the pandemic as it is heavily linked with key economic factors such as global agricultural commodities trade in the region (trade and regional integration), and more importantly, food supply and food security (trade and sustainable development).

While the supply of food has held up well to date, in many countries, the measures put in place to contain the spread of the virus are starting to disrupt the supply of agro-food products to markets and consumers, both within and across borders. How damaging these impacts will be for food security, nutrition and the livelihoods of farmers and others working along the food supply chain will depend in large part on policy responses over the short, medium and long term.

On 14 April 2020, the Statement of the ASEAN Ministers on Agriculture and Forestry (AMAF) in Response to the Outbreak of the Coronavirus Disease (COVID-19) to Ensure Food Security, Food Safety and Nutrition in ASEAN was issued to contribute to overcoming the challenges posed by the COVID-19 outbreak, and to ensure the sustainable supply of sufficient, affordable, safe and nutritious foods that meet the dietary requirements of the ASEAN populations. One of the commitments from the AMAF is to further exchange views and collaboration in food, agriculture and forestry development with other sectors and partners to address the adverse impacts of COVID-19. The AMAF will strive to keep ASEAN food, agriculture and forestry strong during the COVID-19 outbreak by continuously maintaining production, supporting value chains and ensuring access to workforce.

The first Forum focused on the opportunity to reset towards more sustainable growth, highlighting the challenges faced by the agriculture and food sector as well as discussing policy options for the agriculture and food sector in ASEAN to overcome the adverse impact of COVID-19.

OPENING REMARKS

Dr Pham Quang Minh, Head of the Food, Agriculture and Forestry Division (FAFD) from the ASEAN Secretariat (ASEC) began his opening remarks by pointing out that the United Nations estimates that nearly 132 million people may go hungry in 2020 as a result of the economic recession triggered by the COVID-19 pandemic. The World Bank's findings indicate a similar trend in which the pandemic will push around 100 million people into extreme poverty. Developing countries including ASEAN Member States (AMS), are especially at risk from the COVID-19 crisis where the rapid virus transmission has forced a reduction in the labor force thus affecting household income levels and people's livelihoods.

Southeast Asia's workers in the food and agriculture sector have also been impacted due to the disruption to production and in producing food and agriculture. The first 'ASEAN on Point' Public Forum was, therefore, significant in addressing the issues on food security, safety and sustainability for the region.

The pandemic has shown ASEAN's vulnerability with its food and agriculture supply chain when a massive disturbance occurs. Similar to other parts of the world, Southeast Asia finds itself in unchartered territory in the wake of Covid-19. Ultimately, there are many unknowns as ASEAN navigates past this unprecedented moment in history. In his closing statement, Dr Minh asserted that the spread of the novel virus indicates that the pandemic is a global problem that requires a global response.

PRESENTATIONS

In addressing the topic of the public forum, ASEC and ERIA invited three speakers to share their wealth of experience and research findings on how to promote food security and food sustainability during and post-pandemic. Moderated by Dr Orachos Napasintuwong, Assistant Professor at Department of Agricultural and Resource Economics, Kasetsart University, Thailand, the speakers were additionally tasked with offering policy recommendations that would enable ASEAN to strengthen its food and agriculture sector.

The first speaker was Dr Paul Teng, the Managing Director & Dean, NIE International Pte Ltd | National Institute of Education, Adjunct Senior Fellow, Centre for non-Traditional Security Studies, RSIS, Nanyang Technological University Singapore. In his presentation, Dr Teng emphasized the importance of understanding the different interpretations of the term 'resilience' at three levels: sector level, household level, and country level. The varied meanings of food 'resilient' at all three levels gives ASEAN governments the chance to reassess their goals to improve how they are tackling problems concerning the region's food and agriculture sector.

Based on his assessment, the ability to understand the meaning of 'resilience' would allow ASEAN Member States (AMS) to better achieve the sustainability of its food and agriculture sector. His key recommendation was calling for a paradigm shift to overcome future disruptions to ASEAN's supply chain, namely from reacting to preparing. Dr Teng underlined

the need to harness modern technology in propping up Southeast Asia's agriculture sector. Dr Teng's presentation

Executive Director of Grow Asia, Mr Grahame Dixie, stressed the necessity of incorporating digital technology into the food and agriculture sector in ASEAN for the region to better prepare itself in the short- and long-term. Mr Dixie assessed how the pandemic revealed the weakness and fragility of ASEAN's food systems and as such, the region must think about long-term solutions including investing in rural logistics.

The use of technology offers the opportunity of improving in efficiency, lowering of transaction costs, opening new, and more flexible marketing channels for Southeast Asia's farmers. As well as providing new methods of payment that will enable farmers to engage in a 'less cash' economy whilst at the same time facilitating the flow of income into the rural economy. Given that the pandemic bolstered the demand for fresh products and the use of online marketing platforms, now is the ideal moment for AMS to invest in their agriculture sector and especially digital technologies and infrastructure to drive innovation and more resilient food systems. Mr Dixie's presentation

As the final speaker of the event, Dr Sufian Jusoh, Director, Institute for Malaysian and International Studies (IKMAS), discussed how ASEAN must evaluate its food systems and supply chain as a whole, which is a step ahead of the commonly segmented view the region's policymakers generally uphold. For Southeast Asia to weather future shocks to its food and agriculture sector, governments are required to boost investment levels and more importantly, invest in their farmers – the core entity of agriculture.

Dr Jusoh's studies have shown that the myriad of challenges ASEAN's agriculture sector is facing is not only caused by the pandemic; rather the negative impact is further accelerated by it. Thus, Dr Jusoh heightened the urgency to prioritize investments beyond the financial sense, but also in terms of physical infrastructure, research and development, and upskilling. Dr Jusoh's presentation

SUMMARY OF QUESTIONS AND ANSWERS

How can an efficient transportation process of goods be achieved in a country that has an inadequate logistics network or lacks infrastructure?

Dr Jusoh suggested that governments investigate ways they can support and connect the rural communities with markets in urban areas. One option he offered was operating a cooperative that focuses on logistics as a form of government and rural community intervention. Relying on one farmer to provide logistics for the shipment of their goods is inefficient and not cost-effective. However, with some form of communal ownership and digital technology, an efficient arrangement can be set up that would link a farmer with an urban logistics provider.

Dr Teng recommended that a mindset change is needed, particularly among supermarkets in ASEAN that uphold a 'just in time' mentality in implementing their supply chain network. Moreover, a country with an underdeveloped logistics network must focus on investing in their rural logistics because this is crucial for transporting goods from the production source to the wholesale source.

Combining the two answers provided by Dr Jusoh and Dr Teng, Mr Dixie is confident that a technological solution can significantly improve rural logistics. Farmers in Southeast Asia spend a significant amount on transportation costs, especially for their first mile market connectivity, which Mr Dixie attributes to the lack of transparency and competition in the informal rural tracking sector. Large-scale trucking companies are not interested in entering the rural space because of high cost and the existing opportunities in urban logistics, so the rural space is dominated by small, private trucking companies. A solution that would drive down the cost of transportation fees for farmers and in turn, lower the delivery cost of food, is through the use of digital technology. (e.g. open source applications to enable rural freight forwarders to emerge who can consolidate the loads from multiple clustered farmers into sensible critical masses, and be able to put those consignments out to competitive bidding between local truckers, and passing empty backhauls) .

Are there any digital gaps among AMS and how would you address this problem?

Event Moderator, Dr Orachos Napasintuwong, selected this question due to the immense potential of digital technology in the agri-food sector. Dr Napasintuwong particularly witnessed the benefits of technology during the pandemic in Thailand for the exchange of commodities, online sale of agricultural and food products, and for overseeing sites of

oversupply or undersupply of commodities. Based on her observations, there are limitations on how technology can be harnessed for the agri-food sector players namely, the older-aged consumers and farmers with limited skills and/or internet access.

In response, Mr Dixie shared that investments in digital marketing and channels have surged in the past two years reaching nearly $124 million. Nonetheless, internet access differs on a country-to-country basis in ASEAN. For example, while 75% of Myanmar's residents own smartphones, the Philippines has a shortage of telecommunications infrastructure. What AMS can do is utilize the Universal Access Fund (UAF) that was created so that a portion of the telecommunications companies turn-over was mandated to be transferred into the Government controlled UAF. Specifically invest in strengthening rural infrastructure. Concerning the rural economy and the role of digital technology, Mr Dixie shared that for ASEAN to attract a newer generation of tech-savvy farmers, it has to initiate change by ensuring that this generation of younger between farmers can earn a sensible livelihood for themselves and their families. This will need to be achieved by improving links to the market and enabling access to a large land area.

The pandemic raised the issue of food safety, particularly on biosafety and biosecurity. Is the trend of SPS (Sanitary and Phytosanitary) and TBT (Technical Barriers to Trade) to persist in the long-term?

Dr Jusoh explained that compliance with SPS and TBT standards will contribute to sustainable agricultural practices on the domestic level. Meeting these standards will enhance food safety measures since there are limitations on the level of pesticides and the usage of herbicides. Dr Teng pointed out that many AMS have already established guidelines and regulations on food safety standards, but implementation and compliance with such standards are the main barriers.

For farmers in the region, fulfilling SPS and TBT standards may not be feasible. As an example, complying with TBT standards for farmers will require extra costs for issues such as testing and auditing to earn a Good Agricultural Practices certification. Farmers must be better informed so they understand that consumer safety must be taken into consideration in their agricultural practices as it is not strictly about exports.

Consumers can also participate in pressuring food producers to adequately implement and comply with biosafety and biosecurity standards by demanding that the product for sale is safe for consumption. By holding farmers, especially smallholder farmers, to a certain standard, they will have to find the means to ensure they deliver products that are not contaminated by wrong agrochemicals or a high bacterial count. This demand for accountability from food producers has slowly taken shape in places with an increasingly sophisticated market demand including Jakarta, Singapore, and Ho Chi Minh City.

What is 'food sovereignty' and how is it significant?

Dr Teng defined 'food sovereignty' as a right to food which depends on various factors such as having the ability to buy food. Governments and individual households are responsible for ensuring food sovereignty or that the right to food is available for everyone.

The government's responsibility is on a national level in which food that is imported or self-produced is transported from the source of production to the consumers in a safe manner and without much waste. Individual households' responsibility for ensuring food sovereignty is dependent on governments that assure there are multiple sources where food can be purchased or bartered.

Will urban farming become increasingly common in the future?

Dr Napasintuwong shared that in Thailand, urban farming has become increasingly popular. Supermarkets practice vertical farming and as the pandemic places more Thai residents indoors, they have begun growing their own crops at home. Despite these positive observations, Dr Napasintuwong is not confident that urban farming trends will continue.

A strong proponent of urban farming, Dr Teng is confident that the trend will continue to rise, and that Asia will spearhead advancements in this farming method in the coming years. Asia is home to over 400 plant factories using artificial light that can produce 10 times more than what conventional farms produce. Japan and South Korea respectively have over 100 plant factories while Singapore is home to five.

With the frequency of disturbances expected to increase in the future, urban farming is likely to continue its upward trajectory. Dr Teng emphasized that urban farming is to complement rural farming by making use of untapped opportunities of urban spaces. It also paves the way for 'alternative food' including plant-based protein products. Turning to urban farming allows ASEAN to build a more inclusive future and aids in shortening the supply chain by growing food at home.

Offering a different view, Mr Dixie believes that urban farming is a niche market and that the emergence of medium-scale farms is where the bulk of food will be sourced in the future. As a growing number of younger, more professional farmers enter the agriculture sector, they are establishing medium-scale farms that operate more professionally and maximizing productivity with the available land space they have. Improving farming systems can bring about positive change to the rural economy as increasing amounts of money from urban consumers flow into rural areas, which are where poverty is between 2 and 4 times that of the urban areas.

How can we control the use of chemicals in the food and agriculture sector? Will land reform laws happen in the future?

Dr Jusoh calls for more educational and capacity building initiatives in rural areas to encourage farmers to adopt safer standards concerning pesticide and herbicide use. On the ground, there can be a contradiction between the need to make a profit and the need to make safe-for-consumption food. Developing an understanding of this matter is not always straightforward for most farmers thus government authorities will be required to provide more education and support to the farming community.

Regarding land reform, Dr Jusoh asserts that land reform is an extremely slow process in Southeast Asia as there are several bureaucratic hurdles on land reform regulations that make the reformation aspect slow to realize. As such, ASEAN must undertake immense effort to assist AMS in conducting reforms at the local levels if it seeks to increase productivity.

POLICY RECOMMENDATIONS

Issue: Regional Food Supply Chain Vulnerable to Disruptions

Recommendation: Diversify the source of ASEAN's food supply chain, balance self-sufficiency with self-reliance, expand intra-regional food production, develop common ASEAN food standards to promote intra-regional trade, and increase investments in the agri-food sector through research and development, and entrepreneurship.

Rationale: The exposed vulnerability to ASEAN's food supply chain should prompt the region to shorten its existing food supply chain and strengthen its food system. Shortening its existing food supply chain will make ASEAN less vulnerable to any future shocks which will become more frequent in the future.

As mentioned during the Question & Answer session, Dr Teng explained how urban farming serves as a possible solution in shortening the food supply chain given that people are growing their own crops. Opportunities to create a shorter food supply chain in ASEAN stemming from the pandemic are abundant where there has been an uptick in demand for fresh produce as demand for F&B and restaurants collapsed.

Issue: Underinvestment in the Agri-food Sector

Recommendation: ASEAN must reverse the trend of underinvesting in its food and agriculture sector to become food resilient and sustainable. Regional authorities must invest in rural logistics, upskilling, research and development in addition to harnessing the use of digital technology to benefit the farming community.

Rationale: Boosting the amount of national investment increases the resilience and sustainability of ASEAN's food and agriculture sector. Harnessing Industry 3.0 and Industry 4.0 technologies and taking advantage of e-commerce channels can strengthen the agriculture sector. Proper adoption of digital technology in the region's agriculture sector will make the sector more attractive to a newer, younger generation of more tech-savvy farmers. With unequal access to the internet, AMS should consider accessing the Universal Access Fund set up by telecommunications companies. Accessing the fund allows ASEAN to expand broadband and WiFi coverage thereby propelling access to digital marketing and mobile money in addition to improving rural logistics.

Issue: High Margins in Transportation Costs of Goods

Recommendations: Improve rural logistics such as roads, cold storage, packhouses, stores, and refrigerated transport as they are interlinked with high logistics costs. ASEAN can implement digital technology measures to cut the costs of transportation fees for farmers such as by creating a digital source app that would enable people in the countryside to form a critical mass before issuing a bid to the local trucking sector thereby saving costs.

Rationale: Farmers pay the margin's charge when linking with truckers which according to Grow Asia's data stands at a 300% margin for transportation fees. The rural space is dominated by small, private trucking companies that are also informal businesses hence resulting in high transportation fees to the farmers. Using digital technology can create better transparency in the prices offered by the informal trucking companies dominating rural spaces in ASEAN which in turn, helps to lower the delivery cost of food – a key aspect of food access.

Issue: Regional Farmers Have Limited Cashflow

Recommendations: Introduce mobile money to ASEAN's farming community to expand the source of their cash flow as well as expand digital marketing access.

Rationale: Farmers are poised to become increasingly marginalized if they are unable to participate in the increasingly digital and cashless economy. Assisting unbanked communities, which farmers fall under, to participate in the cashless economy is dependent on the infrastructure network, middle class, and mobile money. The feasibility of these plans relies heavily on the region's digital infrastructure.

Through digital marketing platforms, farmers can directly sell their products to customers, chipping away at the number of intermediaries thus reducing the cost of food. Grow Asia's research findings in China and Indonesia show that digital marketing improves farmers' income, but external factors such as logistics, local infrastructure, mobile money, and e-wallets are needed to fully benefit from these digital channels. Mobile money allows farmers to receive cashless payments that they would take to a local agent to convert it into cash. It also presents opportunities for ASEAN's banking sector to offer smart subsidies/ credit to the farming community.

Issue: Lack of Data on ASEAN's Farmers

Recommendation: Push for data-sharing programs to identify who the farmers are in each AMS to better serve them.

Rationale: Without knowing who the region's farmers are, it would be difficult for AMS governments to serve the needs of the agri-food sector players. The World Bank, IFAD, and Asia Development Bank have expressed their readiness to fund programs for farmer registries.

Issue: Uncertainty Over Safe Agricultural Practices

Recommendation: Enforce compliance with SPS and TBT standards to contribute to sustainable agricultural practices at the domestic level of each AMS. Educate the region's farmers in understanding that the aim is not merely to make a profit or push for exports, but also about consumer safety.

Rationale: Holding farmers up to professional standards will encourage accountability if food safety is not guaranteed in the food or product that reaches consumers. Compliance with SPS and TBT standards enhances food safety given that farmers must control the level of pesticides and usage of herbicides to ensure the food is safe for human consumption. Adopting SPS or TBT standards is not straightforward for all farmers in the region thus authorities must provide educational and capacity building tools in rural areas to have the farming community understand the equal importance of consumer safety and making a profit. While AMS have established guidelines and regulations on aspects included in the Good Agricultural Practices certification system, the dilemma is the implementation and compliance which ASEAN must improve on since it is not uniform in every AMS.

Issue: Bottlenecks on Land Reforms

Recommendation: Reduce the number of bureaucratic procedures attributed to land reform laws and reform at the local levels.

Rationale: Land reforms are one of the slowest proceedings to be realized in many Southeast Asian nations. Although many governments mention reforming land law, the practice is often terribly slow. ASEAN will require a lot of effort to ensure that regional cooperation is beyond what has already been offered if the region seeks to boost productivity in the agri-food sector.

Ensuring the resilience and sustainability of the agriculture and food sector in ASEAN in the context of COVID-19

RSiS S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Nanyang Technological University, Singapore

Professor Paul Teng

03 September 2020

COVID-19 has upended the thinking, AND PLANNING for Resilience and Sustainability in the agrifood sector

"In the past, we have always dealt with either a demand-side crisis, or a supply-side crisis. But this is both — a supply and a demand crisis at the same time, and at a global level," says Arif Husain, chief economist at the UN's World Food Program. "This makes it unprecedented and uncharted."

What does ensuring resilience mean?
What does ensuring sustainability mean?

Empty shelves in supermarkets

What is food system resilience?

SECTOR LEVEL

Resilience is the ability to prepare for, withstand, and recover from a crisis or disruption. A *resilient food system* is able to withstand and recover from disruptions in a way that ensures a sufficient supply of acceptable and accessible food for all.

-- Johns Hopkins Center for a Liveable Future --https://clf.jhsph.edu/projects/food-system-resilience

HOUSEHOLD LEVEL

In a **food** security context, **resilience** is "….the ability …….to keep with a certain level of well-being (i.e. being **food** secure) by withstanding shocks and stresses."

-- FAO, UN. (Undated). Measuring Resilience: A Concept Note on the Resilience Tool. http://www.fao.org/3/al920e/al920e00.pdf

COUNTRY LEVEL

…… a country's ability to withstand any perturbations to its food security system by: having a balanced capacity to make food available; ensure that production is sustainable; provide the necessary infrastructure and policies to support domestic production, and promote trade and manage food demand and affordability.

……Paul Teng and Maria C.S. Morales, 'A new paradigm for food security: Robustness as an end goal', NTS Policy Brief, no. PO13-04 (Singapore: RSIS Centre for Non-Traditional Security (NTS) Studies, 2013).

What is sustainability of Agriculture and Food systems?

- **A sustainable agricultural system is one that can indefinitely meet the requirements for food and fibre at socially acceptable, economical and environmental costs.** Crossen (1992)

Sustainable Agriculture Indicators

- Environmentally-friendly
  - *Conserves Natural resource base*
  - *Minimizes external inputs (pesticides, etc)*
- Economically viable
  - *Enables farmer livelihood*
- Socially just
  - *Benefits small and large farms*
  - *Benefits producers and consumers*
- Governance
  - *Transparency, Meritocracy*
  - *Gender neutrality*

Teng, Paul P.S. 2012. Linking Education to Socially-Relevant Bioentrepreneurship for Sustainable Development, In Biology Education for Social and Sustainable Development, Ed. Mijung Kim and C H Diong, pp. 1-11. Sense Publishers, Rotterdam, The Netherlands.

ASEAN Agriculture and Food Sectors Before COVID-19

- Agriculture in ASEAN has been declining in its contribution to national GDP, but still an important source of employment, especially in lower income AMSs; Over 100 Million Smallholder farmers (MANY SUBSISTENCE), but more along supply chain.
- ASEAN agriculture responsible for many food items and among top 2-3 producers in world – rice, cassava, vegetable oil, shrimps, coconuts
- Only four AMSs net food trade surplus (FAO); ASEAN food trade mainly extra-ASEAN.
- Many AMSs import food and feed with long supply chains, esp. wheat, soybean – vulnerability to disruptions in supply chains.
- Diet diversity is increasing in AMS; Urban sector driving demand for animal protein
- In 2018, FAO estimated ASEAN to have 9.2% undernourished (2018), 20.4% people in moderate to severe food insecurity
- Many households are potentially food insecure if daily employment stops or if sectors like tourism ARE disrupted.

What has COVID-19 done to our agrifood situation in ASEAN?

SUPPLY SIDE

- Shortage of inputs (fertilizer, seed, feed, pesticides) for agriculture and aquaculture, which will affect the replenishment of food stocks in the exporting countries and in local farms;
- Shortage of labour for farming and food processing due to measures to limit spread of the virus;
- Agrifood enterprises going out of business;
- Price hikes because of general increases in commodity prices fueled by countries competing for the reduced production, delayed distribution and hoarding, e.g. rice;

DEMAND SIDE

- Reduced demand of agri-products -- Close-down of all non-essential services and enterprises, Increased unemployment (workers deprived of livelihood and purchasing power for food), and consequently increased hunger and under-nutrition especially among the vulnerable sectors of society such as daily-waged workers and children;
- Close-down of Food & Beverage outlets, resulting in high potential food wastes, and "giveaways" to food banks.
- Hoarding (panic buying @ national & household levels)

SUPPLY CHAIN

- Supply chains being interrupted because of shortages caused by export restriction or hoarding in exporting countries; and reduced or delayed planting of new crops leading to unreplenished stocks;
- At the macro-level, transporting food between exporting and importing countries has been reduced due to reduction of cargo movements by air freight, by ships and by food trucks.

Resilient, Sustainable agri-food sectors are needed to provide food security!

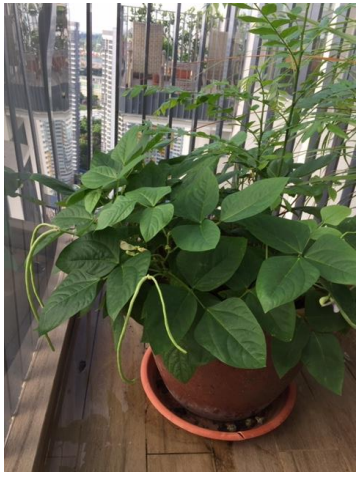
AMSs should pay attention to both….

- Household Food Security
  - Balance between self-production and purchases
  - Balance between spending on food versus non-food
  - Household income
- National Level Food Security
  - Balance between self-production and imports
  - Balance between different types of farms

HOUSEHOLD LEVEL:
Ways to make food available

1.Purchases

2.Self Production



3. Community Gardening

4.Food Donations

5.Foraging

NATIONAL LEVEL:
Four “Food Taps” to make food available

2.Self Production

1.Imports

E.g. Food Resilience Strategy

4. Contract (Overseas) Farming

3.Reserves/ Stockpiles

Recommendations

NTS Insight, no. IN20-03, June 2020

COVID-19 and Food Security in Asia: How Prepared are We?

Paradigm Shift -- From Reacting to Preparing

- *Ensuring food trade between and within regions through diverse supply chains with geographically distributed origins*
  - *Maintain open trade and supply-chain connectivity; "Bubbles"*
- *Improving food system resilience and food security robustness*
  - *Balance self-sufficiency with self-reliance*
- *Expanding intra-regional food production*
  - *Shorten food supply chains; Ensure the availability of agricultural inputs to farmers; Strengthen land tenure security; Facilitate better risk management for smallholders*
- *Increasing investments in the agrifood sector through R&D and entrepreneurship*
  - *New AGTECH, FOODTECH, FINTECH using 3IR, 4IR technologies*
  - *New E-commerce platforms*

To increase resilience and sustainability: NATIONAL LEVEL INVESTMENT *RECOMMENDATIONS*

Food Availability
Production, Imports, Stockpiles

Food Access (Physical)
Logistics & Infrastructure, Trade (Supply chains) , Storage & processing facilities

Food Access (Economic)
Food pricing, GDP per capita, Safety nets

Food Utilization
Nutrition & Health, Food Safety, Sanitation & Hygiene

- **Digital tools for smart farming**
- **Biotechnology – derived crops**
- **New farming modalities**

- **Supply chain logistics – risk management technologies**
- **E-Commerce**
- **Traceability, identity preservation**

- **Novel , Alternative food**
- **Food fraud prevention**
- **Nutrition enhanced food**

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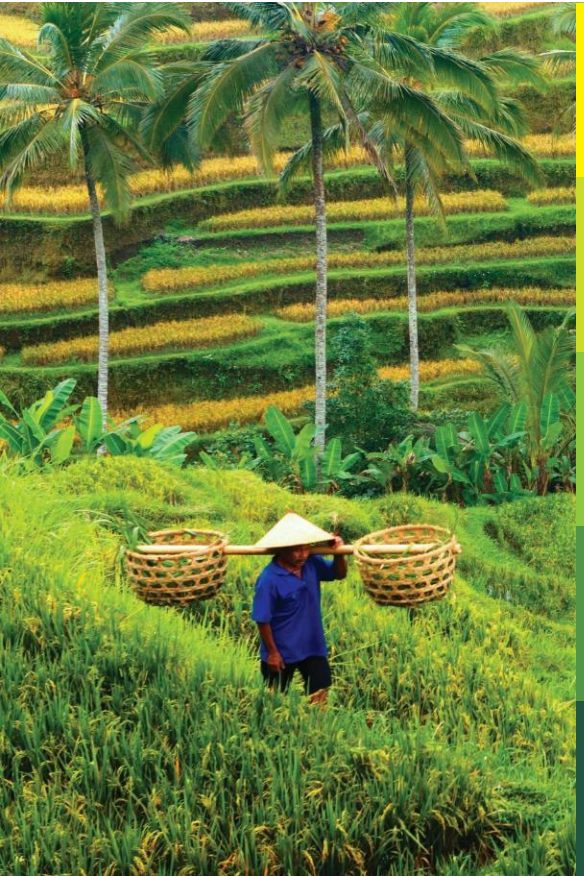

GrowAsia

Private Sector Insights and Responses to COVID-19

Grahame Dixie
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Impact of Covid on Markets for Food & Agriculture

- Sales to **Food & Beverages sectors collapsed**
- Increased **demand for fresh products** for home preparation
- Increased interest in **products from local supply chains**
- Increased sales via **internet marketing platforms**
- Some **export markets closed off**
- Initial **problems with food logistics**

Longer Term – **Springback**

Likely to **return to similar demand pattern,** but with some of the **new characteristics embedded**

Sources: PWC/FIA studies + Country Reports from Grow Asia's Country Partnerships

Impact of Covid on ASEAN farmers

- Small changes in farming practices – 11-14%
- Significant (27%) **change in market** – 40% price down, 34% demand down
- Some **reduction access to inputs** – 29% fertilizer, seed/agro-chem +/- 15%
- Some **difficulty to pay loans** - 8%
- Difficulties mobilizing labour
- Mostly understood basic health message

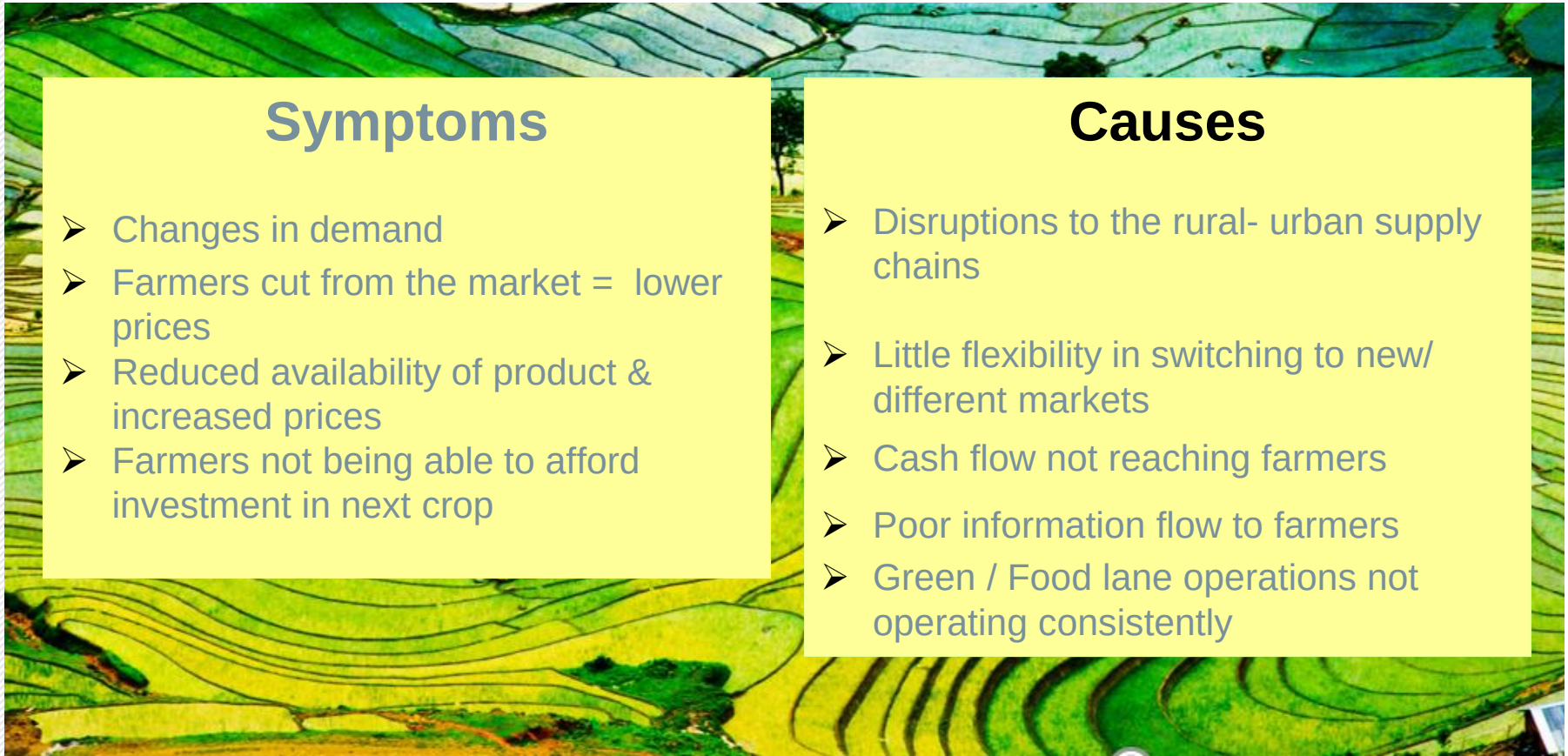
Overall View

After some initial difficulties, **ASEAN has responded well** - but has **highlighted weaknesses in the regional food systems.**

Worry that some cannot afford to invest in next crop

Sources: PRIMSA survey in Indonesia plus Country Partnership feed back

Distinguishing between Symptoms & Causes



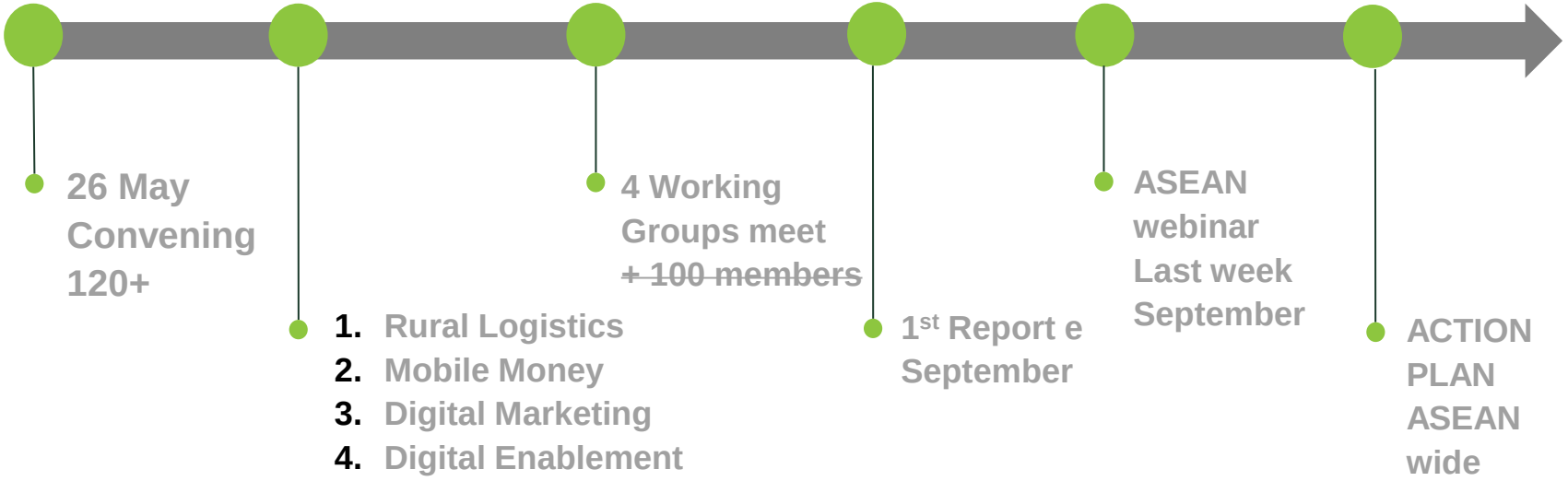
Symptoms

- Changes in demand
- Farmers cut from the market = lower prices
- Reduced availability of product & increased prices
- Farmers not being able to afford investment in next crop

Causes

- Disruptions to the rural- urban supply chains
- Little flexibility in switching to new/ different markets
- Cash flow not reaching farmers
- Poor information flow to farmers
- Green / Food lane operations not operating consistently

COVID-19 Convening



WG 1 - Rural Logistic – 2 solutions & 2 issues

GrowAsia

Solutions

Policy: Best global practices on operations of Food/Green lanes

Best advice to keep those working in supply chains healthy

Rural Logistics:

Technology; Create an open source digital application to; consolidate loads, attract bids from local truckers / backhauls

Outstanding Issues

Need to benchmark rural logistics across regional for strategic investment

Need for make up for deficiencies in post-harvest infrastructure, i.e. Roads, stores, packhouses, cold storage, refrigerated transport

WG 2 - Improving cashflow through mobile money

GrowAsia

Solutions

Digital payments converted into cash through network of local agents
Provides opportunities for the unbanked to participate into modernising (less cash) food systems
Vital enabler for digital marketing
Facilitates flow of cash into rural economy

Outstanding Issues

Policies restraints
Resistance by established banking sector
Standardization for cross boarder payment
Use for credit / smart subsidies

WG 3 - Digital Marketing Platforms, new opportunities

GrowAsia

Solutions

Enables disintermediation
Increases farmer income
Opens new and competing market opportunities
Provides more flexibility in agricultural marketing
Responding to consumers new demands

Outstanding Issues

Needs – infrastructure, effective (rural) logistics**,** Wi-Fi access, mobile money,
Use in Farmer to Consumer, Farmer to AgBiz,
To meet nutritional food access needs of the poor needs study

WG 4 - Broader Digital Investment & Policy Environment Needed to underpin Covid-19 solutions

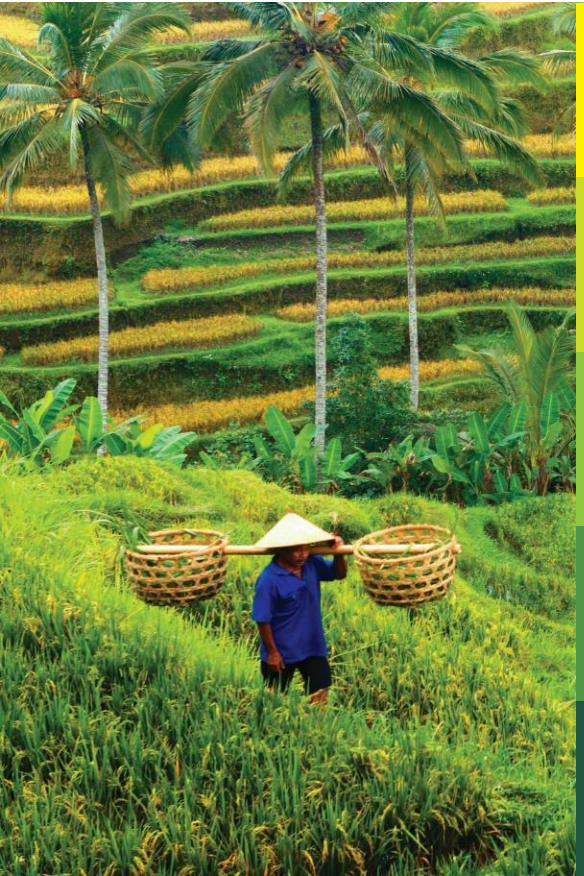
GrowAsia

Solutions

Better serving farming sectors needs & opportunities
Sharing data will synergise progress, across Public & Private sectors
Consolidation of data from different sources, creating farmer registries, unique identifier #
Donors supportive WB, IFAD etc.
Greater investment in rural Wi-Fi infrastructure
Utilization of 'Universal Access Funds'

Outstanding Issues

Needs to tackle data ownership privacy issues
Focus on mobilising 'Universal Access Funds'
Aligning Public & Private Sector needs & requirements



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Thank You

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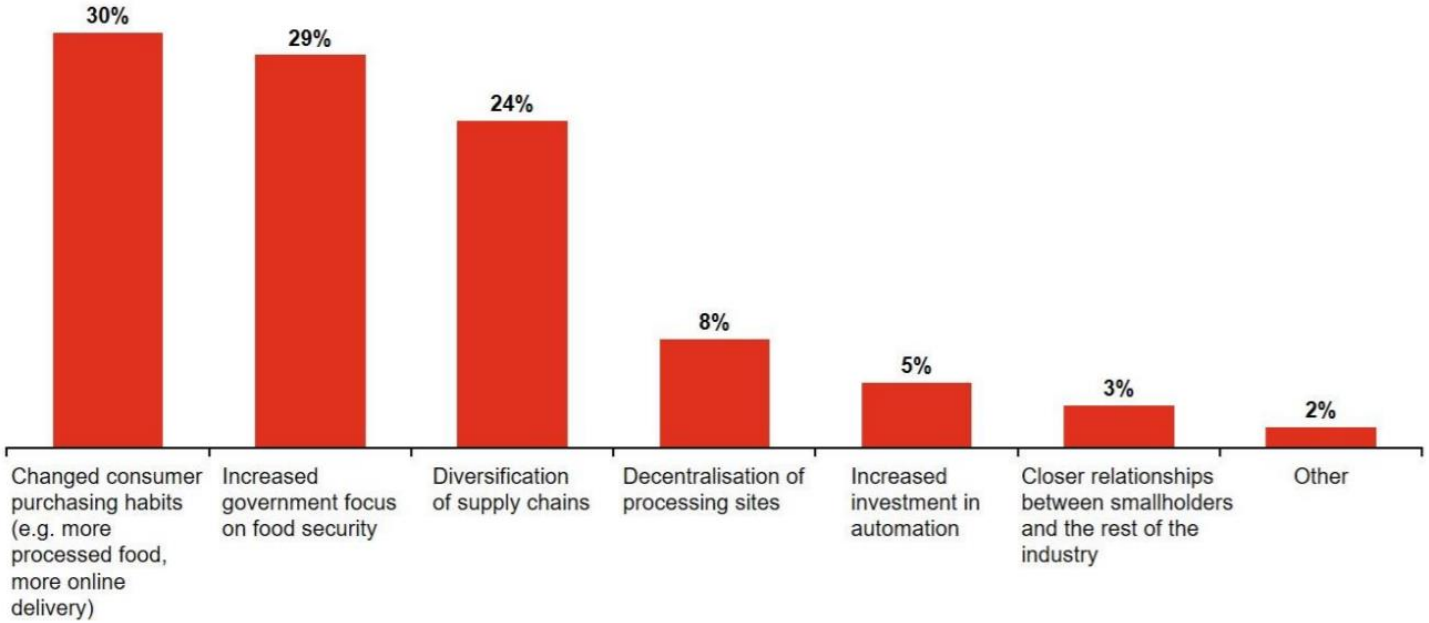
Short-Term Action and Long-Term Vision

GrowAsia

	Short-Term	Long-Term
Rural Logistics	Green lanes, harmonization of rules on movements of goods	Digital solutions for consolidating loads, utilizing back hauls, working with independent truckers
Cash Flow	Government / Donors / Input suppliers provide inputs for next season's crop	E-wallets/mobile money with network of local agents
New Marketing Channels	Identification and redistribution to alternative markets	Farmers / farmer organization selling directly to Agribusiness & Consumers
Digital Enabling & Investment Environment		Sharing Data, Farmer Registry , Unique identifiers, better access / utilization of Unversal Access funds

Looking to the Future

Figure 10 – PwC/ FIA survey: Which of the following do you believe are the most likely long-term impacts of the COVID-19 crisis on the food and beverage industry in ASEAN (i.e. 5 years plus)?



Source: https://foodindustry.asia/documentdownload.axd?documentresourceid=32471

Ensuring the resilience and sustainability of the agriculture and food sector in ASEAN in the context of COVID-19

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03.09.2020

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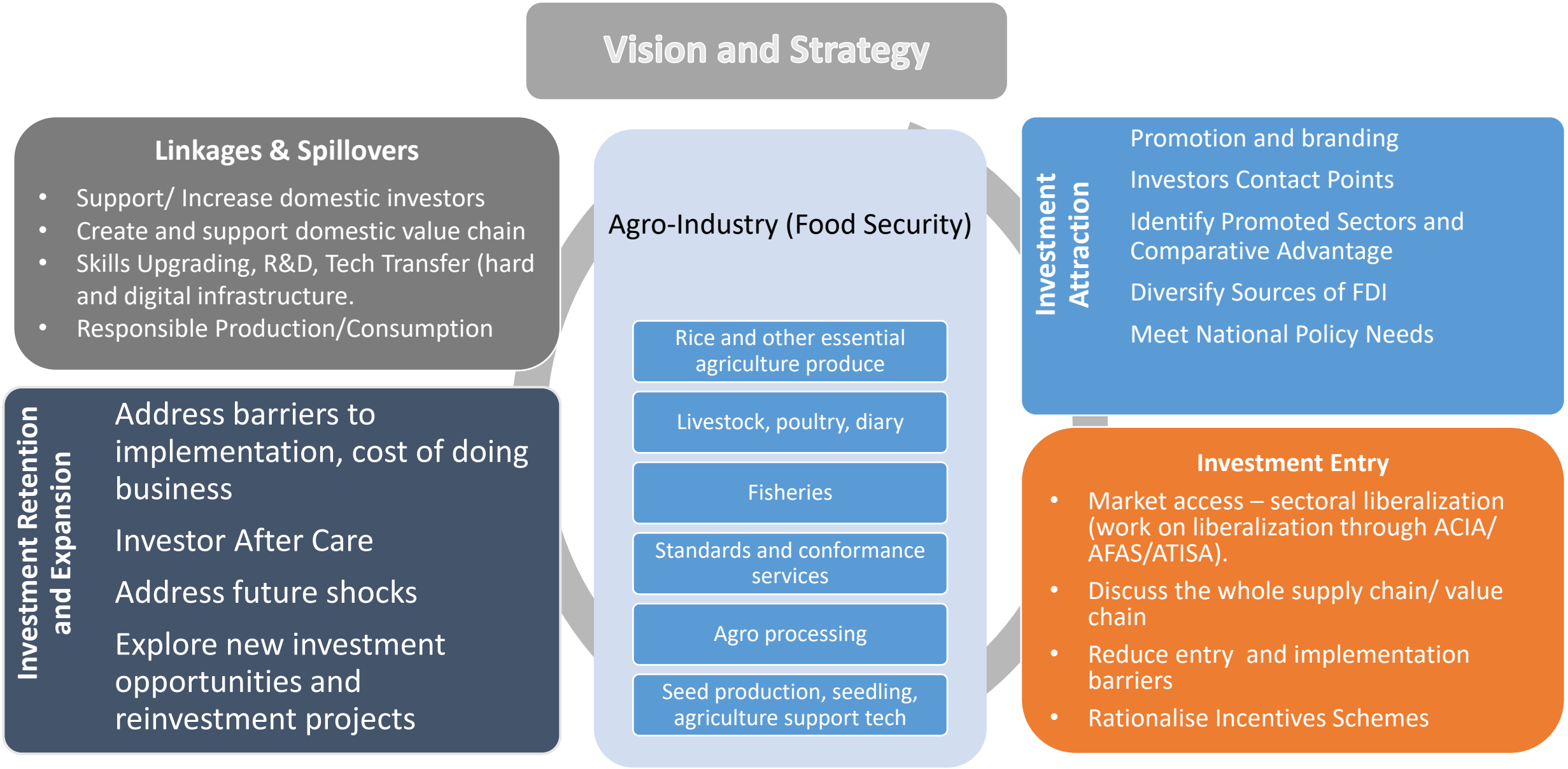
Global Food Security Index, Selected ASEAN economies (2019,EIU)

OVERALL 2019			
RANK	ECONOMIES	SCORE/100	Δ
1	Singapore	87.4	0.0
3	United States	83.7	+0.6
8	Canada	82.4	+0.7
12	Australia	81.4	+0.9
19	New Zealand	78.8	+0.1
=21	Japan	76.5	+0.3
=25	Chile	75.5	+0.9
28	Malaysia	73.8	+1.7
29	South Korea	73.6	+0.5
35	China	71.0	+0.4
42	Russia	69.7	+0.7
=43	Mexico	69.4	+0.1
52	Thailand	65.1	+1.9
54	Vietnam	64.6	+0.5
58	Peru	63.3	+0.7
62	Indonesia	62.6	+0.6
=64	Philippines	61.0	+1.7

AFFORDABILITY			
RANK	ECONOMIES	SCORE/100	Δ
2	Singapore	95.4	+0.6
6	United States	87.4	+0.3
7	Australia	86.6	+0.2
14	New Zealand	84.6	0.0
20	Canada	83.3	+0.1
24	Japan	82.4	-0.3
28	Malaysia	81.7	+0.5
32	Chile	80.5	+0.3
33	Russia	79.8	+0.1
42	Thailand	77.1	+1.5
45	South Korea	75.8	+0.4
48	Vietnam	75.1	+0.3
49	Mexico	74.9	+0.3
50	China	74.8	+0.4
58	Indonesia	70.4	+0.4
61	Peru	69.1	0.0
62	Philippines	68.9	+3.5

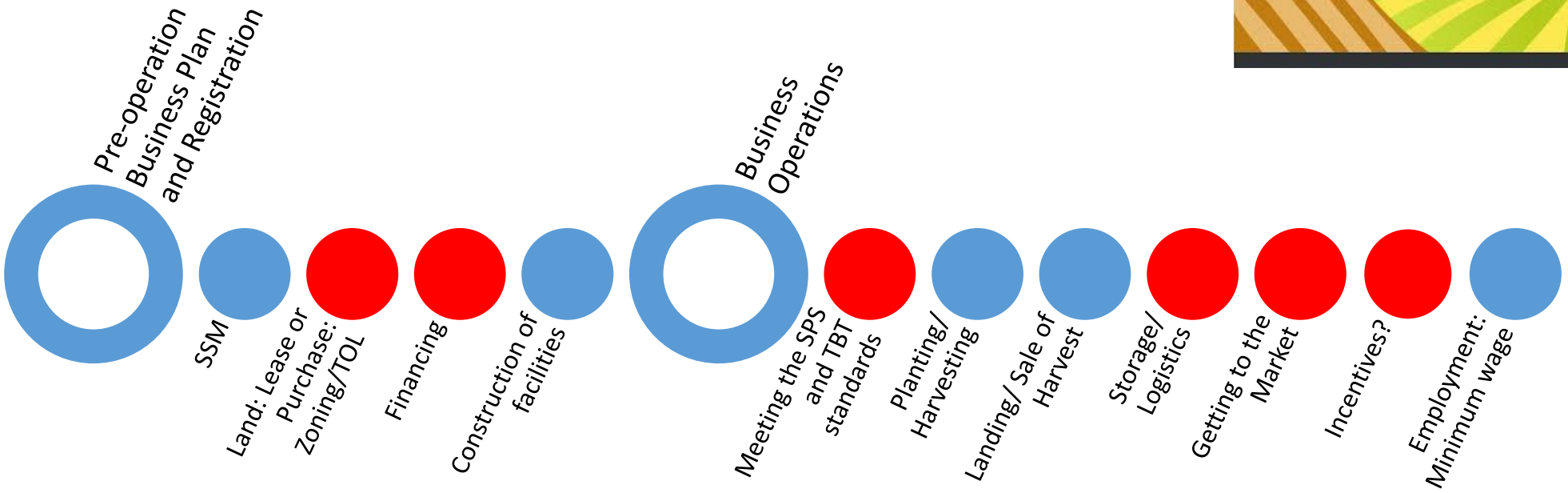
AFFORDABILITY			
RANK	ECONOMIES	SCORE/100	Δ
2	Singapore	83.0	-0.5
4	Canada	80.0	+1.4
8	United States	78.3	+1.1
10	Australia	77.1	+1.9
14	New Zealand	75.5	+0.3
19	Chile	71.3	+1.8
20	South Korea	71.2	+0.8
21	Japan	71.0	+0.9
26	Malaysia	67.7	+3.3
27	China	66.9	+0.6
=48	Indonesia	61.3	+1.1
=52	Russia	60.1	+1.5
55	Vietnam	59.7	+0.8
57	Peru	59.0	+1.3
59	Thailand	58.7	+2.9
=65	Philippines	57.7	+0.5

THE MYRIAD OF CHALLENGES IN THE POST-PANDEMIC AGRICULTURE INVESTMENT POLICY MAKING



Source: S Jusoh, 2020

Barriers to Investment Implementation and Potential Bottlenecks: Example 2: Agriculture



Areas for improvement:

- Access to Finance - Non-supportive Conservative and non-innovative bankers – avoidance of risky/high tech commercial agriculture. The non-bank financings are either too small or too cumbersome. To encourage innovative financing mechanism/ reduce banking procedures & risk-taking approach.
- Access to land – Issues due to land-use either administrative or political bottlenecks at the state and district levels.
- Food production, food technology and food value chain to be top priority. Land uses to accommodate for commodity/ cash crops.
- Storage of produce – community storage e.g. to store short term produce e.g. vegetables. Collection centre must be re-looked and reactivated. Price to be competitive.
- Eliminate middle persons and cartels - Competition policy applied when necessary. AP system to be reviewed
- Agriculture supports to the farmers like meeting biosafety, biosecurity and SPS and TBT standards need to be provided.
- Retraining or upskilling of farmers in usage of digital technology.

Thank You