



MODERN FOOD SYSTEMS IN MYANMAR

WORKSHOP COMPENDIUM
PART II
WORKSHOP PROCESS AND CONCLUSIONS



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Modern Food Systems in Myanmar

Workshop Compendium Part II. Workshop Process and Conclusions

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Modern Food Systems in Myanmar

Workshop Compendium Part II. Workshop Process and Conclusions

Workshop Background

Myanmar's long-standing food policy has centered on expanding rice output, to realize national food security. Noteworthy progress has been made and Myanmar now generates an exportable surplus of rice even though significant pockets of seasonal or more chronic household food insecurity remain in several regions and rural areas. Major efforts are being made to address this challenge. Yet, Myanmar's food landscape is shifting due to demographic, dietary, and economic changes. While these changes present considerable opportunities for farmers, food manufacturers, and service providers, they also bring with them important new challenges and risks—related to quality food affordability, nutrition, food safety, logistics, environmental management, etc.—and call for a broader and multi-sectoral set of policy and public investment measures. A shift in the agriculture agenda from a supply driven “food security” to a demand driven “food system” approach that is resilient, inclusive, competitive, and environmentally sustainable is called for. Such a shift is expected to bring significant opportunities for income generation, job opportunities, and poverty reduction, it is also faced with challenges that have implications for investment choices, policy, and institutional arrangements.

This workshop brought together various stakeholders and practitioners from the public and private sectors to,

- (i) Collectively brainstorm on the emerging challenges and opportunities in Myanmar's increasingly diversified ‘food system’,
- (ii) Summarize the ‘state of the art’ in our evidence base on critical demand and supply side dimensions of this evolving food system, and
- (iii) Identify areas warranting additional empirical work aiming to inform policy and programs.

PARTICIPANTS

The workshop gathered various agriculture sector stakeholders in Myanmar, including policy makers, international organizations, private sector representatives, research institutes, and academia.

Participants were asked to either share a broad perspective on the status or vision for the Myanmar food system or to briefly summarize recently completed, on-going, or planned analytical or assessment work which pertains to aspects of Myanmar's food system dynamics, performance, or constraints.

The event was jointly organized by the World Bank and Department of Planning and Department of Agriculture of the Ministry of Agriculture, Livestock and Irrigation.

VENUE:

Lotte Hotel, Yangon; *Jade Room*

DATE & TIME:

Thursday February 22, 2018; 8:30 am – 4:45 pm

Acknowledgement

The workshop on Modern Food Systems in Myanmar was jointly organized by the World Bank and the Department of Agriculture (DOA) of the Ministry of Agriculture, Livestock and Irrigation. The analytical work and the workshop was financed by the International Development Association (IDA) under the Advisory Services and Analytics (ASA) task, Foundations for a Modern Food Systems in Myanmar ASA (P165659). The core organizational team of this workshop consisted of Drs. Indira Janaki Ekanayake (Task Team Leader of P165659); Steven M. Jaffee, Lead Agriculture Economist; and Hanane Ahmed, Economist of the Agriculture Global Practice of the World Bank.

The team is grateful for the leadership of Ms. Ellen Goldstein, World Bank Country Director for Myanmar, Lao and Cambodia and to Mr. Gevorg Sargsyan, Head of Office and Manager Operations for delivering the opening remarks. The team is also grateful to Mr. Nathan Belete, Practice Manager, Agriculture Global Practice for helpful advice during the conduct of this analytical work leading to the workshop.

The workshop organization team gratefully acknowledge the logistical contributions of the following individuals from the World Bank Group Country Office for a successful workshop: Mr. Ye Thu Aung, Country officer; Ms. Daphne Aye, Consultant Agriculture Economist; Ms. Nay New Linn Maung, Operation Analyst; Ms. Aye Marlar Win, Program Assistant; Ms. Aye Me Me Htun, Executive Assistant; Mr. Aung Kyaw Phy, Consultant Operations Officer, IFC; and Ms. Thiri, Program Assistant for logistical support during and preceding to the workshop; for IT support Mr. Aung Htun Lynn, IT Analyst, Client Services and Mr. Sai Boon Watt Sai, Contractor, IT Client Services; and for communications support Mr. Kyaw Soe Lynn, Communications Officer.

Following individuals are acknowledged for ably moderating the various workshop sessions: Mr. Mark Austin, Program Leader Sustainable Development; Mr. Steven M. Jaffee; Ms. Hanane Ahmed; and Ms. Indira J. Ekanayake of the World Bank. The team also recognize the co-facilitators' contributions during each session: Dr Soe Myat Aye, Assistant Director from Animal Health and Development Section (LBVD), Ministry of Agriculture, Livestock and Irrigation (MOALI); Professor Duncan Boughton, Michigan State University (MSU, USA); Mr. Sjamsu Rahardja, Senior Economist, Macroeconomics, Investment and Trade, World Bank; and Dr. Aung Kyaw Phy, IFC; Mr. Donald Macrae, Food safety specialist, WB-FAO-TCI International Consultant; and Mr. Steven M. Jaffee, World Bank.

Front cover image: Hanane Ahmed/ World Bank

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Further the parts I and II of the Compendium will be shared with the workshop contributors, participants and other interested individuals in its entirety or in sections as long as full attribution to this work is given.

Executive Summary

What should a “Modern Food System” in a predominantly agricultural economy embarking on an ambitious transformation agenda, rapidly evolving food system, and co-existing within a rapidly shifting global landscape look like? This was the pivotal question at the event “Workshop on Modern Food Systems in Myanmar”, held on February 22, 2018, in Yangon.

The workshop was co-organized by the Ministry of Agriculture, Livestock, and Irrigation (MOALI), and the World Bank Country Office in Myanmar. The event was attended by representatives from four Ministries: MOALI, Ministry of Natural Resources and Environmental Protection, Ministry of Health and Sports, and Ministry of Commerce; and various other stakeholder representations from the International Finance Corporation (IFC), Food and Agriculture Organization (FAO), United States Agency for International Development (USAID), United Nations Industrial Development Organization (UNIDO), Embassy of the Netherlands, International Food and Policy Research Institute (IFPRI), International Rice Research Institute (IRRI), International Fertilizer Development Center (IFDC), Yoma Strategic Holdings, Ltd., Centre for the Economic and Social Development (CESD), Michigan State University (MSU), Cornell University, and Wageningen University & Research (WUR).

The full day workshop engaged participants by sharing knowledge, exchanging views, and suggesting future areas of engagement to understand the status of Myanmar’s food system, and what it will take to develop it as the country continues to embark on a path of transformation. Importantly, the resulting debates which emerged from presentations made about Myanmar’s rural economy posed the critical question about how Myanmar’s evolving rural economy could influence the current state of the food system, and potential implications on the rural poor.

The following were the key messages which emerged from the workshop:

- The Agriculture Development Strategy (ADS) is supportive of the development of Myanmar’s food system emphasizing enhanced productivity, diversification, food safety, nutrition, environmental sustainability, and private sector participation. However, the Government counterpart needs substantial analytical and investment support to operationalize its strategy;
- The evolving rural economy of Myanmar is featuring high rates on rural-to-rural, rural-to-urban, and external migration. This is profoundly impacting the agricultural labor market, and the flows of goods and financial resources. The detailed implications of these different processes need to be further investigated;
- The rapid uptake of farm mechanization points to emerging labor shortages in parts of rural Myanmar as well as the potentiality of increased private service provisioning to the agricultural sector;
- Farmers need access to improved knowledge as well as multiple services as they aim to improve their productivity, diversify their farm operations, and better meet market expectations for product quality/safety and environmental sustainability;

- Myanmar's 'downstream' segment of the food system is underdeveloped, including food manufacturing, modern retail and food services. An improved enabling environment can attract increased investment, both local and foreign, into these segments. Myanmar can learn from other countries on what policies can facilitate such investment; and
- Myanmar's transition to a modern food system will require effective measures to anticipate and mitigate emerging risks, especially those relating to climate change, biosecurity, environmental impact, and food safety.

Since Myanmar had its first democratically elected government in 2012, followed by subsequent ongoing reforms, it increasingly began to engage with the private sector and international community to support its transformation process on various dimensions, including its growth and development agenda. This was evident through the diverse and numerous stakeholders who attended the workshop with high interest on the topic.

Therefore, there was a sense of urgency by participants from the government, international community, academia, non-governmental organizations (NGO), etc. to coordinate future activities on issues related to Myanmar's food systems. By doing so, the participants envisaged that coordinated efforts will lead to best leverage of the comparative advantage of all by the Government counterparts to effectively receive support.

The participants expressed their appreciation to the workshop organizers for undertaking an inclusive approach in the dialogue on food systems by hosting a broad set of stakeholders under the Myanmar food systems agenda. One of the key messages that emerged from the workshop's closing session is the necessity to remain in an inclusive mode of dialogue given the importance of the food agenda for broad segments of society and the potential trade-offs (i.e., efficiency versus equity) which may come through major policy decisions. This was also emphasized in the closing remarks of Mr. Hla Myint Aung from MOALI, "Collectively we need an in-depth understanding of Myanmar's food systems".

All agreed that for farmers and the rural poor to be linked to the broader food system agenda, including specifically to the food value chains, they will require substantial support in terms of both "soft" and "hard" investments. The importance of maintaining a spotlight on farmers as food systems modernize was clearly highlighted by Mr. Hla Myint Aung's concluding remarks:

"But let us not forget agriculture and the rural economy. Food starts from the farm. How can changes in the agriculture systems and rural economy shape Myanmar's food systems, and how will all that impact the livelihood of the rural poor".

In Mr. Hla Myint Aung's concluding remarks the complexity of the emerging context and policy choices was emphasized:

"Today's workshop challenged us all. We saw that the food systems agenda is complex. It involves understanding the current economic, socio-demographic, and environmental contexts in Myanmar, and how each of these and their interaction could possibly evolve over time to impact the current and development of Myanmar's food systems."

The closing remarks from MOALI acknowledged the World Bank's support to its food and agriculture systems agenda through the ongoing preparation of the second World Bank financed project called "National Food and Agriculture Systems Project" (NFASP) in Myanmar".

The workshop was featured in the local media, see the link below.

<http://www.myanmarinternationaltv.com/news/food-systems-workshop-%E2%80%9Cmodern-food-systems-myanmar%E2%80%9D-organized>



Workshop Participants: First row (5th from left to right) – Mr. Hla Myint Aung (Deputy Director General, Department of Agriculture, Ministry of Agriculture, Livestock, and Irrigation); Gevorg Sargsyan (Manager, Operations); Indira Janaki Ekanayake (Senior Agriculture Economist); and Mark Austin (Sustainable Development Program Leader).

Photo: Moe Myint

Welcome Remarks

Mr. Gevorg Sargysan, Head of Office and Manager Operations, The World Bank

1) Acknowledge the Presence of Guests

Good morning, '*mingalabar*'.

I would like to acknowledge the presence of U Hla Myint Aung, Deputy Director General, Department of Agriculture, Ministry of Agriculture, Livestock, and Irrigation, and other Ministry delegates; the representative of the Ministry of Natural Resources and Environmental Conservation; the representative of the Ministry of Commerce; the representative of the Food and Drug Administration; Guests from the academia, research institutes, private sector, and various MFIs present; and the international community representatives.

I would also like to acknowledge those of you who travelled a great distance to attend this event in Yangon.

2) Importance of the Workshop

We are gathered today at this 'Modern food systems in Myanmar' workshop venue to collectively brainstorm on the emerging challenges and opportunities in Myanmar's "food system", i.e., all the activities that entail the production, processing, transport and consumption of food.

By the end of the day we hope to increase our knowledge on the state of the Myanmar's food system, identify the available empirical evidence on the subject, and identify areas with knowledge gaps warranting further empirical work to inform the public-sector policies and programs.

Over the decades, the food security agenda evolved from "how to produce sufficient food" to "how to produce sufficient, safe, nutritious food for everyone, everywhere, every day in a sustainable manner".

This change in the food security framework is due to several factors. Those are of three-fold. First, the global population is forecasted by year 2050 to reach 9 billion with the urban population forecasted to reach above 6 billion people by 2050. Also, according to the Food and Agriculture organization, global per-capita incomes are expected to increase at 2.2 percent per year between the years 2005 and 2050 contributing to the rise of the middle-class. Furthermore, the global greenhouse gas emissions (GHG) are expected to increase by 70% between 1970 and 2004 and continues to rise. In addition, globally 155 million children under 5 years of age are stunted, 52 million children are wasted while 41 million are overweight.

3) Relevance for Myanmar

Today, we are also here to understand these changes in the food system situation in the context of Myanmar and how it is impacting the country's current and potential evolution of its food system needs, potential for growth, and contribution to Myanmar's economy.

The Government of Myanmar recognized early on the need to re-frame its food security agenda. The current policies and continuing discussions reflect how to address the Myanmar's food security needs.

Specifically, the working draft of the **Myanmar Sustainable Development Plan** prioritizes and recognizes that “food security” is a broad agenda that is beyond making food available, and that for example, it entails the complex interactions of the evolving economic, social and environmental contexts. The Myanmar Sustainable Development Plan explicitly mentions those critical areas such as nutrition, food safety, and the role of the private sector.

Specifically, the **Agricultural Development Strategy (ADS)** of the Ministry of Agriculture, Livestock and Irrigation (MOALI) highlighted several opportunities that could potentially alter the way Myanmar’s food system will evolve.

These opportunities are:

First, the growing demand for safe, convenient, and processed food in urban Myanmar;

Second, the growing export demand for several products where Myanmar has comparative advantage

Third, the growing interest of domestic and international investors given the increasing regional integration with Greater Mekong Sub region (GMS) and Association of South East Asian Nations (ASEAN) and increasing ICT connectivity and economic corridors; and

Last, the high potential for competitive exports in several value chains, rice, pulses, fruit, vegetables, shrimp, cattle, maize, cassava, and rubber, to name a few of those value chains.

The Agricultural Development Strategy of MOALI also highlighted several challenges which needs to be taken into account in terms of modernizing Myanmar food systems. The key among them are,

First, the occurrence of land grabbing;

Second, the unsustainable use of natural resources which might result in environmental damage and land degradation;

Third, the natural disasters faced by Myanmar;

Fourth, the pace of Human Resource Development (HRD) is too slow to sustain rapid economic reforms;

Fifth, the slowing down of reform process and increasing social economic unrest; and

Lastly, little preparedness of Myanmar to face competition from more competitive ASEAN neighbors in the presence of ASEAN Economic Community (AEC).

4) Role of the World Bank

The World Bank Group recognizes the evolving global dynamics of the food security agenda. As a result, its support to countries extend beyond the production of sufficient food. Food quality, nutrition, food safety, and the sustainable use of natural resources to produce food are all top focus areas of Bank’s engagement in many countries in the East Asia and the Pacific. This is in addition to the job creation agenda of the World Bank within the evolving food systems framework.

In Myanmar, the World Bank's International Development Association (IDA) funded Agriculture Development Support Project, commonly known as ADSP, in implementation emphasizes on the use of sustainable climate smart agriculture practices.

Currently, the second World Bank financed lending project for agriculture under IDA financing and within the ADS Financing Plan is being prepared with the Ministry of Agriculture, Livestock and Irrigation. This national level project will focus on helping Myanmar to build the foundations for a sustainable food and agriculture system in Myanmar.

5) Conclusion

To sum up, I am very pleased to see the various stakeholders represented in this workshop. In the course of the discussion today, we hope we will understand better the “state of the art” of Myanmar's food systems.

Before I handover the mic to Indira Ekanayake, the World Bank's agriculture sector coordinator in Myanmar, to give us an overview of the workshop agenda, I want to take this opportunity to thank you all very much for accepting our invitation.

We look forward to exchanging thoughts and ideas on what is a complex subject to tackle as Myanmar continues to embark on its growth and development agenda.

Thank you.

Workshop Introduction

Ms. Indira Janaki Ekanayake, Senior Agriculture Economist (World Bank), iekanayake@worldbank.org

I am pleased to be here and welcome old friends and new. Thank you for sparing some time from your busy schedule for this important discussion.

The workshop objectives were presented earlier so I won't go deep in to that. The front page of the program includes the overall objectives of the Myanmar's modern food systems.

I wanted to walk you through today's workshop agenda first and have a conversation.

Workshop introduction session will cover three broad areas. First was to introduce the structure of the workshop sessions, tasks guidelines to the speakers (refer to details in Appendix 1) and moderators.

There are four sessions had included a plenary and an exciting panel discussion. Each session has a moderator who will walk you through the session objectives and introduce the speakers. Each session also has one or two co-facilitators who will energize the discussion based on their experience in the field. We also shared with the invitation email, 'specific guidance note' for the speakers but if you have need additional information please don't hesitate to contact us.

A clarification was also shared regarding the definition of food systems concept for the purpose of this workshop. FAO defines a food system as "one that gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes". There are three constituent elements of food systems, food supply chains; food environments; and consumer behavior. The food supply chain covers production chain and supply chain elements and all activities that move food from production to consumption, including production, storage, distribution, processing, packaging, retailing and marketing.

Secondly, we will go around the room to make introductions (name, designation and any other salient information) of all part participants.

Thirdly, the workshop task, a 'rapid expert perception survey' was described where each participant was requested to provide in writing about ten bullet points under the following four areas according to the individual understanding: (1) key challenges to implementing modern food system in Myanmar; (2) concrete actions proposed to modernize; (3) past experiences and (4) additional knowledge base.

The submissions were collated (about 23 detailed responses were received from participants – 45% response rate) and were summarized and was used to inform the food systems on-going research.

Closing Remarks

U Hla Mynit Aung, Deputy Director General, DOA, MOALI

On behalf of the workshop organizing committee, thank you for your attendance and proactive engagement on such a significant topic.

Today's workshop challenged us all. We saw that the food systems agenda is complex. It involves understanding the current economic, socio-demographic, and environmental contexts in Myanmar, and how each of these and their interaction could possibly evolve over time to impact the current and development of Myanmar's food system. But let us not forget agriculture and the rural economy. Food starts from the farm. How can changes in the agriculture systems and rural economy shape Myanmar's food systems, and how will all that impact the livelihood of the rural poor.

These are all difficult questions. Collectively we need an in-depth understanding of Myanmar's food systems. Today with your proactive participation, we managed to scratch the surface of the issues which seem to be the most important to understand. We need to continue building the knowledge so planning and decision making are evidence based.

As you know, Myanmar's growth and development agenda including that of the Ministry of Agriculture, Livestock, and Irrigation are ambitious and challenging. However, we are comforted by the many growth and development opportunities available to us. We are also aware that collective stakeholder engagement is necessary for bringing diverse expertise and options to the table. Today we are very pleased to see that.

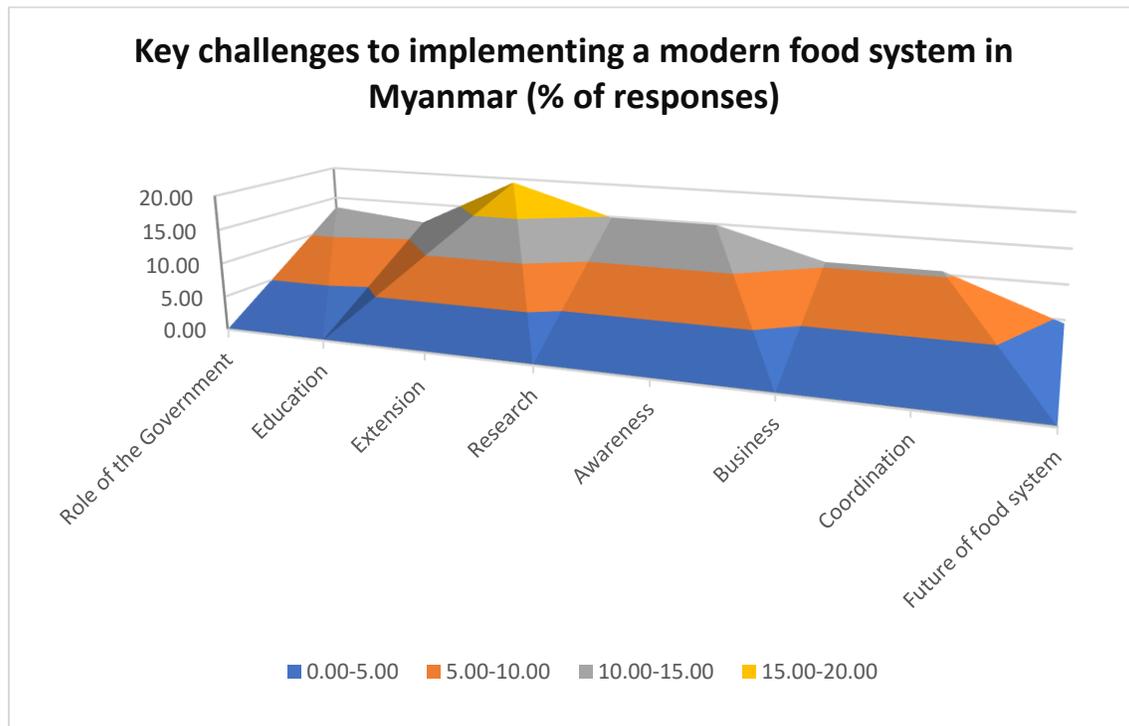
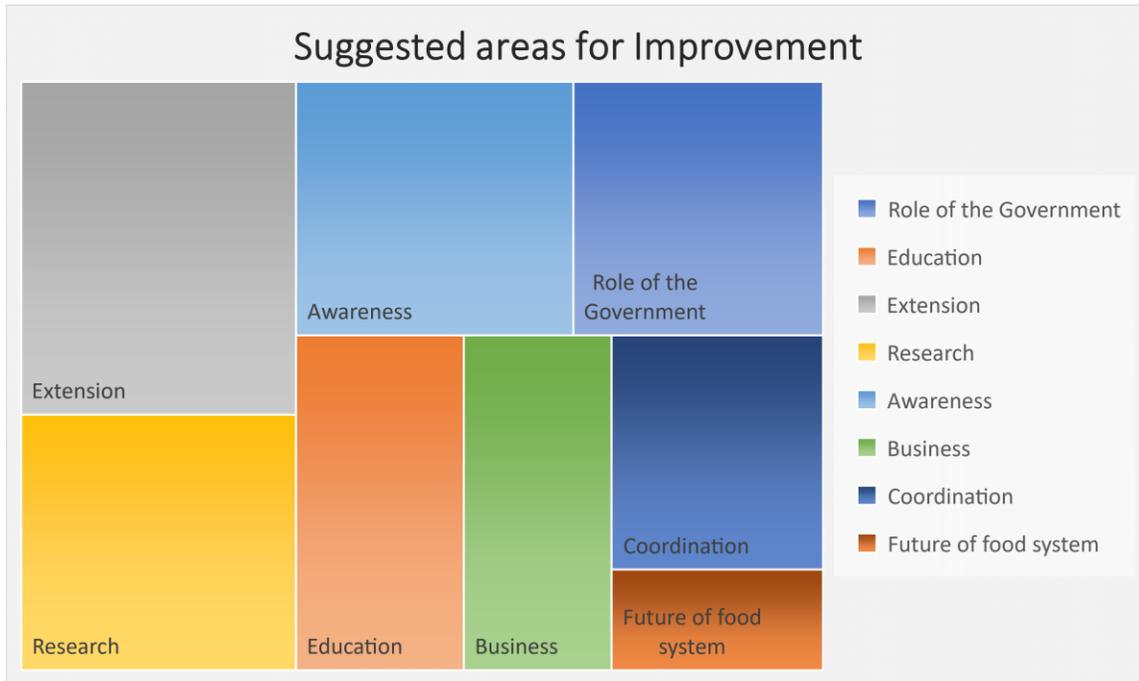
We look forward to our continued engagement on this important topic. Once again, on behalf of the Ministry of Agriculture, Livestock, and Irrigation, and the World Bank, thank you.

Summaries

Experts' Rapid Perception Survey Output slides

By Indira Janaki Ekanayake and Nay Nwe Linn Maung

(Based on 67 responses from the workshop participants).



Summary of Presentations and Session Discussions

By Donald McCrae, Indira Janaki Ekanayake, Nay Nwe Linn Maung, and Steven Jaffee

Introductory Session

Welcome Remarks - *Gevorg Sargsyan, Head of Office, Myanmar (World Bank)*

Mr. Gevorg Sargsyan acknowledged the presence of attendees and described the importance of this workshop, relevance for Myanmar in terms of ‘universal’ access to food and placed it within the context of the Myanmar Sustainable Development Plan and the Agricultural Development Strategy (ADS). He mentioned statistics on growing global population (9 billion by 2050), impact of climate change, and demand for safe and quality food. Myanmar has enormous potential for producing food but still 30% of children experience stunting. He also mentioned the prime importance that the World Bank Group (WBG) places on the food security agenda and global dynamics.

Workshop Introduction - *Indira Janaki Ekanayake, Senior Agriculture Economist (World Bank)*

Dr. Ekanayake introduced the three elements of the workshop. (a) structure of the program; (b) tasks and (c) getting to know each other. She also pointed out that we need a comprehensive understanding of the food system; and that we think of it as a chain but in reality, has many gaps and is incomplete. Also mentioned that we spent a lot of resources on the production chain side of the food system / food chain but much less so on the supply side of the chain. She opined that the linear model is misleading, although useful and that the Myanmar food system is much more complex. There may be complexities at each stage of the food system value chain. A linear progression of complex systems requires more sophisticated analysis and outlook. Lastly, informed that the organizers of this workshop expect greater discussion on the various levels of complexity within this overall food system.

Plenary Session: Framing the Issues

Presentation 1 - Myanmar Agriculture Development Strategy (ADS) and Pathways to Modern Food Systems, *Hla Myint Aung, Director General, Department of Agriculture (MOALI)*

Mr. Hla Myint Aung described the policy anchoring of agriculture and food systems in MOALI. He described in great detail the vision of Agriculture Development Strategy (ADS) and three pillars – Good Governance, Productivity and Competitiveness. Growing export demand for products where Myanmar has competitive advantage. The presentation included the ten principles of ADS, on implementation, on how ADS will guide MOALI on what to do for modern food system development, the pathways from activities to output to outcome and impact under each pillar, and the key challenges for its implementation. The key activities of the Departments of Agriculture are on food security, food productivity, food safety, crop diversification for nutrition, food and agriculture system while the impact side is on food safety and food security. This presentation was very rich with highly detailed slides (see Compendium Part 11 for more details).

Presentation 2 – Food System and Policy: Challenges & Dynamics from a Regional Perspective, *Steven Jaffee, Lead Agriculture Economist (World Bank)*,

Dr. Jaffee’s keynote presentation highlighted the food systems dynamics in emerging Asia, specifically on reframing the strategic and policy agenda. At the onset he recognized the changing food landscape in emerging Asian economies. There’s been very notable progress in reducing hunger in emerging Asia. However, low quality of the diet is contributing to a triple burden of malnutrition (under 5 stunting, micronutrient deficiencies and obesity) resulting in enormous short and long-term human and economic

consequences. Other threats such as biosecurity, competition for land and water resources, economic changes and environmental burden of food waste, agricultural intensification has resulted in pollution. Food waste is a new issue and is seen as mainly urban. Dietary patterns are shifting to higher consumption of animal products, processed foods and out of home eating. This leads to change in the distribution channels. Penetration of large supermarkets is slower than expected. But people still like the traditional channels, especially in Hanoi. Traditional markets are not going away but need to be made safer. Urban food systems are a complex web of formal and informal distribution channels with evolving interfaces with farmers. We have rising exposure to food safety hazards but a lagging capacity to manage. The food system is predominantly informal. Limited consumer voice, although picking up through social media, although reactive and not effective at managing risks.

He then presented a new concept for the changing food agenda that is emerging in Asia. It is identified as – from ‘Rice to RICE’ – Reliable, Inclusive, Competitive, and Environmentally Sensitive. It is a concept that will be applied to Myanmar. In setting policy on food systems, we should be explicit about what to avoid or minimize. Food policy is intrinsically multi sectoral and the food security policy space needs to be rebalanced or broadened. Move away from “cereals fundamentalism”. His message was very clear that there needs to be a different role for the government as the demand-led food systems undergo structural transformation. to lead less and facilitate more. We need to reinvent the traditional roles. We need Shared Responsibility for managing emerging risks and promoting an inclusive and sustainable food system.

Presentation 3– **Emerging Strategic, Policy, and Empirical Questions**, *Hanane Ahmed, Economist (World Bank)*

Dr. Ahmed described that there is a need to move away from ensuring producing sufficient food to producing much more complex outcome, that is to produce sufficient, safe and nutritious food for everyone, everywhere, every day in a sustainable manner. We need a system thinking of the food context. She also posed the question, is there a difference between a rural food strategy and an urban food strategy? And went on to point out several emerging questions which will be discussed or answered during this workshop.

Session 1: Current Status and Dynamics of the Rural Economy: Implications for Modern Food System in Myanmar

Presentation 1 – **Myanmar Migration in a Time of Transformation**, *Mateusz Filipski, Ben Belton, Sithu Kyaw and Eaindra Theint (IFPRI, USA)*

Dr. Filipski discussed the Myanmar Migration in a Time of Transformation based on recent data and information. Myanmar has one of the largest net emigration flows in South East Asia. Almost 1% have emigrated to Thailand but the cities are also growing. He described the survey modality where they collected data at household level, in Mons State, Central Dry Zone (CDZ), and Delta region. He noted that 40% of households have at least one migrant, either abroad or domestically. Nearly half of the migrants are women. Migration is prevalent at all levels of wealth. The primary motivation is to look for a higher salary. It was interesting to note that not enough land is a relatively low reason for migration. Migration in those areas is accelerating. Those leaving Mons State are overwhelmingly going to Thailand but in the Dry Zone they are migrating domestically. There is some rural to rural movement but less so. In Shan State offers more rurality than other States. One third of Mon State labor force is abroad. Migration is pushing up rural wages because of fewer people to employ. These challenges farmers leading to changes such as: (a) scale down production, (b) switch crops to less labor intensive, (c) switch workers, and (d) mechanization. So, some workers are coming into the region to fill the gap and get higher wages. Mechanization mirrors migration. Remittances contribute to growth back in the home region, including construction. What are the implications for agriculture? Mechanization doesn’t increase yields but just replaces workers. New practices learned abroad are brought home. Modern seeds are brought with rural to

rural migration. Remittances are increasing incomes. This is all changing consumption patterns as we know. The international migration has a higher impact on remittances, domestic or urbanization. Remittances leads to a growing non-agricultural sector. He also pointed out that international migrants intend to return home but less so with urban migration and that findings are from only three study areas so may not be nationally representative.

Presentation 2 – Status and Dynamics of Agricultural Mechanization in Myanmar: Implications for Food Systems Modernization, Benjamin Belton (MSU, USA)

Dr. Belton presented the recent historical context and data sources. There has been very little mechanization in Myanmar, with only 8% using two wheeled tractors (2010 data). But it is changing extremely rapidly. We carried out surveys, like the migration surveys. In the last ten years, mechanization has grown rapidly. The value of the purchases is also growing. In Delta, only 12% still use draught animals. Interestingly, about 50% now use combine harvesters. Over 90% use machines for land preparation. In the Dry Zone, 22% still use animals but that is partly due to the type of crops. Access to machines is driven by rental services. Virtually all access is through machinery rentals. There is also better road infrastructure and fewer restrictions on motor vehicle imports. There has been a significant increase in motorcycle ownership. So, there is improvement in access to markets. Transport costs are falling. Hire purchase finance has been a big driver, with transferrable land use titles used as collateral. The actual cost of machinery has fallen. There is a dynamic informal private rental market. About outcomes, he mentioned that they can harvest faster and re-plant faster. So far, little displacement of people has been observed. Implications for the modernization of food systems were summarized by the speaker. Smallholders can adopt modern technology very rapidly if incentives and enabling environment aligns. Water pumps for surface irrigation allow diversification into higher value crops. Fewer draught animals means less animal waste as fertilizers leading to growth in fertilizers. Attention or advisory services need to be provided to farmers since they may not use machinery properly or efficiently. They also need to think of other appropriate technologies such as the use of zero till.

Presentation 3 – Smallholder Farming in Myanmar: Are there Signs of Modernization? Ame Cho, (CESD, USA)

Ms. Cho presented survey data (same as previous two speakers) to analyze land access and tenure, technology change, and crop profitability and income composition in relation to the modernization of smallholder family. There are elevated levels of landlessness: 58% in Delta Region, 40% in CDZ and lower than in Delta or CDZ in Shan. Land security remains an issue. There is very limited land rental market. There are significant increases in the use of herbicides, fertilizers and pesticides but the increase in yields are low except for rice. Profitability is generally low. The average household annual income is \$1,785 in Delta, but \$780 in Dry Zone. There is limited yield response so smallholders need more support. Better seed varieties are needed. In conclusion, there is unequal land access where agricultural production is concentrated in the top-third of farms. Especially in CDZ, irrigation access is partial and inadequate and the yields for rainfed crops are highly variable. Profitability is low and variable. Evidence of modernization was left with a question mark since there is limited use of improved varieties with the exception of Shan, use of purchased inputs are increasing gradually but there is limited yield response, and except in Shan there is limited diversification into higher value crops and livestock.

Session 1: Current Status and Dynamics of the Rural Economy: Implications for Modern Food System in Myanmar -- Discussion Summary

The first two presentations were very optimistic but the third showed that the results for smallholders are not so encouraging. The discussion specific to food systems and changes mentioned in the plenary were not all fully supported. Nevertheless, some messages were arrived at. So, does that mean that agriculture

or food systems is becoming less important? Is there greater profitability in going to Thailand (in areas closer to the border) than be engaged in farming? Remittances to Mon allow subsistence paddy farming to survive. So, migration / remittances are to some extent subsidizing unsustainable agricultural practices.

So, it's getting more complicated, but we also know a lot more. Jaffee's point about what we want to avoid happening, because it's coming based on global and Asian economies for lack of time specific answers for Myanmar could not be arrived at. With the lack of data at national level, and the level of detail of knowledge we have, we perhaps know more about the possible future scenarios for Myanmar food systems than that of the past.

Workshop discussion agreed that the role of government needs to change. The changes in demography and mechanization show deep changes that are not brought about by government but by the people themselves. Strict government control has been tried in Myanmar and it has not delivered prosperity at the levels of some Asian neighbors. But these changes from the people were to some extent enabled by some changes in regulation, enabling these changes to happen. Mechanization is all about financial services. But there is also better road infrastructure and lower constraints on imported machinery and vehicles.

Session 2: Role of Trade and Private Sector in Modern Food System in Myanmar - Panel Discussion

Session 2 was opened with some introductory statements by Dr. Jaffee. He then posed several questions to the panelists to ponder and respond based on the Myanmar context within the overall objectives of the workshop and this session, in particular. First was on, 'What dynamics are there in the private sector in developing value chains, especially for higher value products?' Second, 'How does the private sector manage quality? And What are the constraints on companies investing in quality?'

Panelists:

Marleen Brouwer, Country Coordinator (Myanmar ICCO Cooperation)

Ms. Brouwer from Myanmar ICCO Cooperation, an NGO working on responsible business in the agrifoods sector described their specific engagement in Myanmar. She pointed out that they support 10,000 small farmers primarily engaged in mung beans cultivation in Magwe. Their engagement or the starting point is mainly from a markets perspective. There are five big exporters of mung beans in Myanmar. We're organizing the farmers on collective methods to respond to the exporters so that a market is assured for the involved farmers.

Alain Peyre, Chief Technical Advisor, Quality Infrastructure for Trade (UNIDO Yangon office)

Dr. Peyre mentioned that profitability is a complicated issue that a modern food system needs to address, to ensure that profits trickle back down to the primary producer. He has engaged with City Mart in a project. They have 500 suppliers and their ambition is to develop a high-quality supply chain. They train, encourage and support their suppliers, and at present are working with around 50 suppliers. Another example is a larger business in Shan State, 'PrimeAgri Myanmar', exporting to Singapore and Japan. They have a network of producers / contract farmers, but also give inputs such as seeds, irrigation material, pest management items, and then buy-back their produce. It is a decentralized model of production. Creating value is a partnership with the producer. It is a model that demonstrates what can be done but underscored that it is unlikely to cover more than 20% of the market.

Tin Htut Oo, Yoma Strategic Holdings Ltd

Mr. Oo of Yoma Strategic Holdings mentioned that since the change to a market economy in Myanmar, the first liberalized market was that of food. It is 100% in the hands of the private sector. What is needed is a mindset change in the government and private sector. Myanmar's food market is more liberal than Vietnam's for example. Before the Agriculture Development Strategy (ADS) there was not a clear agriculture policy in Myanmar. "From Rice Bowl to Food Basket" was a report from a policy group, urging

the move away from reliance on rice. Vietnam shows what can be exported successfully and most of these products can be grown in Myanmar. Its agriculture is twice the size of Vietnam. We are also much more diversified than our neighbors. We need however greater market access and technology. We have a changing lifestyle and changing diet. A food system is the agri-business supply chain. Myanmar is exporting raw material. We have no canning factories. There are some in the pipeline. The driver to change the agriculture industry will be how to add value through processing. Processing also offers employment and it must be located where the product is grown so it could have a great impact on the rural economy and demography. Metro is coming to Myanmar. Things are gradually happening. It must be a market-led change. From the government, research and extension is still weak and this hinders private sector led growth.

Swe Tint Kyu. Department of Consumer Affairs, Ministry of Commerce. The speaker mentioned that we are encouraging private sector development from the side of government and by the Ministry of Commerce in particular. Our trade volume is increasing each year, but our growth rate is very slow, as compared with other ASEAN countries. This is an area which urgently need to be tackled. We also have a trade deficit problem here in Myanmar, importing \$14bn but exporting \$11.5bn.

Aung Kyaw Phyo. IFC. We are working with several Ministries to develop the food system. We have the Agri-Input Reform Program supported by IFC and working closely with the Department of Agriculture (DOA) of the Ministry of Agriculture, Livestock and Irrigation. The objective of this IFC program is to improve productivity and quality. We need to remove legal and regulatory obstacles, especially in relation to seeds. We are working with the Seeds Committee of the DOA. We also need to strengthen the risk-based inspection. We need to improve food safety standards. We also need sector-specific solutions to develop skills.

Session 2 Panel Discussion Summary.

Session Chair was confident that Myanmar will improve its external trade but is less clear how the domestic market will evolve. The mechanization presentation showed what service providers can achieve but how do we support that in high value commodities such as horticulture or small livestock? UNIDO representative reiterated that the market is price driven and not quality driven, so the consumers are not demanding quality and nutrition. Consumer awareness is increasing, including using the social media in Myanmar. But there are also fundamental infrastructure needs for the food systems inputs side and the supply side. Vietnam for example has electricity and roads down to the smallest villages, which is lacking in Myanmar. The government needs to provide that infrastructure, including logistics support, with storage facilities as well as transport support.

The best way for the private sector to help the consumer is to make the consumer rich thereby generate dynamism to the food system. The products are there but the people can't afford them. There is also an issue of education; also, there are many myths that influence basic consumption.

Based on first discussants, contract farming is a key solution to many issues. It needs laws to facilitate its development.

Session 3: Special Topics

Mark Austin introduced the session on special topics that included food policy, food safety, nutrition perspective of food systems and climate change effects on food systems. He pointed out that these themes though presented as separate topics by different experts who are very familiar with the Myanmar situation are very much interlinked. They also illustrate the institutional complexities related to the food systems in Myanmar. Lastly, he also reminded the delegates of the three aims of the Workshop and that their views

on the questions posed at the beginning of the workshop are very important and invited them again to respond to the ‘Experts’ rapid perception survey’.

Presentation 1 – Food Policy, *Thu Zar Myint, Director of Land Use Division, Department of Agriculture (MOALI)*

Dr. Thu Zar Myint spoke about the adoption of ASEAN protocol for Good Agriculture Practices (GAP) as the way of improving the safety of food at the start. The GAP protocol has been introduced to 15 crops by MOALI. LUD is responsible for quality control of fertilizer, pesticides while different departments are responsible for implantation of food safety and are under various national legislations. He also presented different practices advocated to minimize risks for food safety from soil contamination, pesticide and fertilizer use, and post-harvest points. He also presented the future plans to address food safety in Myanmar as well as Myanmar GAP and organic agriculture development.

Presentation 2: Food Safety, *Ohnmar Soe Win, Deputy Director, (FDA – Yangon)*

Food and Drug Administration (FDA) of the Ministry of Health and Sports gave the background of FDA. Also mentioned that Myanmar Food and Drug Board of Authority chaired by the Minister of Health and Sports is the highest authority for food safety. The duties and responsibilities of FDA are to control: food related business, drugs related business, cosmetics related business, medical devices related business in order to control and monitor the safety, quality of food, medicine and cosmetics. It operates under different laws, acts, and notifications. He also pointed out the three key food safety areas where FDA is responsible. One is on the provision of GMP certificates for local food processors. Second is the provision of certificates for import and export. Third is that they also regulate labelling requirements. Distinct functions of FDA include pre-market and post-market assessments, risk assessment, training/ workshops, health education and collaboration with related NGO /INGO. For FDA work, food safety refers to the condition and practices that preserve the quality of food to prevent contamination and food-borne illness. The food safety control system in Myanmar is a multiagency approach along the food-chain.

Presentation 3 – Nutrition and Food Systems, *Khin Mar Cho, Country Director for Myanmar, Cornell University International Programs and Board member, Myanmar Institute for Integrated Development*

Dr. Khin Mar Cho described nutrition sensitive agriculture as a food-based approach to agricultural development that puts nutritionally rich foods, dietary diversity, and food fortification at the heart of overcoming malnutrition and micronutrient deficiencies. She emphasized that its objective is to make the local food system better equipped to produce good nutritional outcomes. She pointed out that the urban poor also suffer malnutrition, with lack of access to nutritious food. Myanmar’s nutrition security is very poor. To have nutritious food, we need nutritious soil at the start. Malnutrition can be from too little or too much food or just the wrong food. There are Global Nutrition targets for 2025. We have no data in Myanmar about nutrition. She underscored that the Dietary Diversity Score (DDS) is a measure of the number of individual foods or food groups consumed in a given time. Based on a series of food plate slides she illustrated the food diversity in Myanmar by State and region and from one locality to another and that it’s possible to achieve healthy eating habits on a budget of about 1 US dollar a day. A parting message is that we can feed our people more calories than they need, and we do.

Presentation 4: Climate Change, *Roberto Sandoval, FAO’s International DRR Expert (FAO)*

Dr. Sandoval spoke about climate change, disaster risk reduction (DRR) and resilience-related global policy processes; related national strategies and policy frameworks; Myanmar’s vulnerability to climate change and impacts of disasters on agriculture; global challenges related to climate change, natural disasters and food systems; recent analytical work on emerging food systems challenges in Myanmar viewed through a climate change and DRR lens; and areas needing additional empirical work. On climate change he

mentioned that Myanmar takes climate change and DRR seriously because of Myanmar's exceptional vulnerability. FAO found that agriculture absorbs 23% of all damage and losses caused by natural hazards. Disasters can wipe out much of the previous years' progress. In terms of emerging agriculture and food system challenges the key message was that at various institutional and operational levels, food system challenges as they relate to climate change and DRR are already recognized, and some are expressed in terms of priority actions in existing and upcoming instruments. But we still lack understanding on several key issues, which are laid out in the full presentation.

Session 4: Implications for Policy, Programs, and Research

The Chair (Dr. Ekanayake) introduced the session on the implications of the previous presentations and discussion on Myanmar's policies, programs and research related to agriculture and food systems. This session that had two interventions summarized the key discussion points of the workshop and then discussed potential areas of investment and research for modern food system development in Myanmar.

Presentation on **Synthesis of key Discussion Points**, *Donald Macrae (World Bank) with World Bank team* Mr. Macrae told that a 'food chain' used to be very simple and linear, unidirectional, reassuring and one step at a time. But now the food chain is no longer linear but is the most complicated graphic, and even more complicated. The crucial point is that now our understanding of how the food system works (or not) much higher and as we learn we are producing more complex diagrams. A second key point was that because we lack hard data, we may know more about the future of food systems than the past. The real issue for Myanmar is to set the path as to 'which future that is wanted' and how to choose. Key message of the session 1 is that demographic and technological changes are driven by people, not by government or donor programs. Deeper socio-economic trends will not wait for government to come up with a policy. Government needs to understand the changes to be able to see what and how to enable. Session 2 focused on private sector where there are forces driving food system beyond the government. Various models are being used by large companies in developing their own supply chains are good demonstrators. A vital task for development is to add value through processing, but we also need to ensure that profitability cascades down to small producer. A major challenge is raising levels across Myanmar and avoiding growing inequalities as well as raising exports. At present, market is price-driven and not quality-driven. Developing consumer awareness is a challenge for both private sector and government. The role of government is clearly as a n enabler rather than a controller. Session 3 showed a key challenge for governments in developing food systems is coordination of responses and responsibilities. The FDA chart for food safety showed the range of bodies involved in food systems. Elephant in the room was nutrition where emphasis is that supplying safe food is not enough. It must allow the humans function well. Lastly, answers on food systems need to come from partnerships working across all elements of the society, economy and the environment.

Facilitated discussion on "**Potential avenues for policy, programs and research on food system development in Myanmar**" was led by Dr. Jaffee. The key points arrived at were: (i) The Agriculture Development Strategy (ADS) is supportive of the development of Myanmar's food system emphasizing enhanced productivity, diversification, food safety, nutrition, environmental sustainability, and private sector participation. However, the Government counterpart needs substantial analytical and investment support to operationalize its strategy; (ii) The evolving rural economy of Myanmar is featuring high rates on rural-to-rural, rural-to-urban, and external migration. This is profoundly impacting the agricultural labor market, and the flows of goods and financial resources. The detailed implications of these different processes need to be further investigated; (iii) The rapid uptake of farm mechanization points to emerging labor shortages in parts of rural Myanmar as well as the potentiality of increased private service provisioning to the agricultural sector; (iv) Farmers need access to improved knowledge as well as multiple

services as they aim to improve their productivity, diversify their farm operations, and better meet market expectations for product quality/safety and environmental sustainability; (v) Myanmar's 'downstream' segment of the food system is underdeveloped, including food manufacturing, modern retail and food services. An improved enabling environment can attract increased investment, both local and foreign, into these segments. Myanmar can learn from other countries on what policies can facilitate such investment; and (vi) Myanmar's transition to a modern food system will require effective measures to anticipate and mitigate emerging risks, especially those relating the climate change, biosecurity, environmental impact, and food safety.

Closing Remarks, MOALI

In closing the workshop Mr. Hla Myint Aung mentioned that Myanmar's growth and development agenda including that of the Ministry of Agriculture, Livestock, and Irrigation are ambitious and challenging. Furthermore, this workshop challenged us all as to how complex the food system agenda is. It involves understanding the current economic, socio-demographic, and environmental contexts in Myanmar, and how each of these and their interaction could possibly evolve over time to impact the current and development of Myanmar's food system. It is important to not forget agriculture and the rural economy. Food starts from the farm. How can changes in the agriculture systems and rural economy shape Myanmar's food systems? and how will all that impact the livelihood of the rural poor? These are all difficult questions. Collectively we need an in-depth understanding of Myanmar's food systems. Today with your proactive participation, we managed to scratch the surface of the issues which seem to be the most important to understand. We need to continue building the knowledge so planning and decision making are evidence based. However, we are comforted by the many growth and development opportunities available to us. We are also aware that collective stakeholder engagement is necessary for bringing diverse expertise and options to the table. We look forward to our continued engagement on this important topic.

Appendix I. List of Workshop Participants

No.	Name	Affiliation & Position	Email
1	Mr. Gevorg Sargsyan	World Bank Head of Office	gsargsyan@worldbank.org
2	Mr. Mark Austin	World Bank, Program Leader	maustin@worldbank.org
3	Ms. Indira Ekanayake	World Bank Senior Agriculture Economist and TTL	iekanayake@worldbank.org
4	Mr. Steven Jaffee	World Bank Lead Agriculture Economist	sjaffee@worldbank.org
5	Ms. Hanane Ahmed	World Bank Economist	hahmed2@worldbank.org
6	Daw Khin Swe Swe Aye @ Daphne	World Bank	desdeaye@gmail.com
7	U Ye Thu Aung	World Bank, Country Officer	yaung@worldbank.org
8	Daw Nay Nwe Linn Maung,	World Bank Operations Analyst	nmaung@worldbank.org
9	Professor Duncan Boughton	Michigan State University	boughton@msu.edu
10	Mr. Mateusz Filipski	International Food Policy Research Institute (IFPRI)	M.Filipski@cgiar.org
11	Mr. Benjamin Belton	Michigan State University (MSU)	beltonbe@msu.edu
12	Dr. Ame Cho	Centre for Economic and Social Development	amecho.cesd@gmail.com
13	U Tin Htut Oo	Yoma Strategic Holdings	t.htut.oo@gmail.com
14	Mr. Daniel Swift	USAID Mission economist	dswift@usaid.gov
15	Mr. Pedro Campo Llopis,	EU Deputy Head of Cooperation	pedro.campo-llopis@eeas.europa.eu
16	Ms. Claudia Antonelli	EU Program Manager Food security and Rural development	Claudia.antonelli@eeas.europa.eu
17	Dr. Khin Mar Cho,	Cornell University Country director for Myanmar	kc458@cornell.edu
18	Mr. Sjamsu Rahardja	World Bank Senior Economist	srahardja@worldbank.org
19	Ms. Hnin Hnin Pyne	World Bank Senior Human Development Specialist	hpyne@worldbank.org
20	Mr. Hans Anand Beck	World Bank Lead Economist	hbeck@worldbank.org
21	Dr. Than Htut, DG Dr. Khin Chit, Deputy DG	FDA	drkhinchit@gmail.com
22	Dr. Tun Zaw,	FDA Head Nutrition and Food safety department, University of Public Health, / Director Food Safety	tunzawdr@gmail.com
23	U Myint Zin Htoo, Deputy DG	Dept. of Agriculture	myintzinhtoo@gmail.com
24	Daw Thu Zar Myint	Director Rice Division Dept. of Agriculture	zarmyint@gmail.com
25	Dr. Jongsoo Shin, Myanmar Representative	IRRI	j.shin@irri.org
26	Mr. Alain Peyre,	UNIDO Chief Technical Advisor, Quality Infrastructure for Trade	a.peyre@unido.org
27	Dr. Thet Myo	UNIDO Country Program Coordinator	t.myo@unido.org

28	Dr. David Hadrill	FAO Country Team Leader, ECTAD	david.hadrill@fao.org
29	Mr. Donald Macrae	FAO ITC Consultant	donald@dmacrae.co.uk
30	Mr. Frederik Heijink	Netherlands Embassy Agricultural Counsellor	g.f.c.hejink@minbuza.nl
31	U Tin Latt, Director,	Export / Import Division under the Department of Trade. Yangon., Ministry of Commerce	Contact:09254075814
32	Daw Thu Zar Myint	Director of Land Use Division, Department of Agriculture	
33	Daw Win Win Tint	Founder and CEO, City Mart Holding Ltd	
34	Mr. Tomek de Ponti	Wageningen University	tomek.deponti@wur.nl
35	Mr. Matt Curtis	USAID, Feed the Future Coordinator	
36	Dr. Aung Kyaw Phyo	IFC	aphyo@ifc.org
37	Mrs San San Myint,	Executive Manager Agriculture and Food Services International Myanmar Co, Ltd.	
38	Dr. Paul Dorosh	Director, Development Strategy and Governance Division, International Food Policy Research Institute	p.dorosh@cgiar.org
39	U Hla Myint Aung	Deputy Director General, Department of Agriculture, MOALI	
40	Mr. Grahame Hunter	Chief of Party, Fertilizer Sector Improvement Project, IFDC	
41	Dr. Soe Myat Aye	Assistant Director from Department of Livestock in Yangon	
42	Mr. Tun Win Myint / Mr. Hla Htay	Department of Fisheries in Yangon	
43	Mr. Swe Tint Kyu	Director from Consumer Affairs Division, Department of Consumer Affairs of the Ministry of Commerce	swetinkyu@gmail.com
44	Dr. Lei Lei Moe	Staff Officer, Commodity Testing and Quality Management Center, Department of Consumer Affairs of the Ministry of Commerce	
46	Dr. Khin Thein Nyunt	Deputy Director, Department of Agricultural Research (DAR)	
47	Daw Nyunt Nyunt Tin	Assistant Director, Department of Agricultural Research (DAR)	
48	Daw Win Win Kyi, President	Food Science and Technology Association	kyiwinwin@gmail.com
49	Dr. Ohnmar Soe Win	Deputy Director, FDA, Yangon	
50	Daw Thida Tin	Environmental Conservation Department, Yangon	Thidatin.env@gmail.com
51	Ms. Marleen Brouwer	Country coordinator Myanmar ICCO Cooperation	m.brouwer@icco.nl

Appendix II. Workshop Agenda

8:30 am – 9:00 am	Registration
9:00 am – 9:10 am	Welcome Remarks <i>Gevorg Sargsyan, Head of Office, Myanmar (World Bank)</i> gsargsyan@worldbank.org (tbc)
9:10 am – 9:20 am	Workshop Introduction <i>Ms. Indira Janaki Ekanayake, Senior Agriculture Economist (World Bank),</i> iekanayake@worldbank.org
	Plenary Session: Framing the Issues
9:20 am – 9:35 am	Presentation 1 - “Myanmar Agriculture Development Strategy (ADS) and Pathways to Modern Food Systems” <i>U Hla Myint Aung, Director General, Department of Agriculture, MOALI</i>
9:35 am – 9:50 am	Presentation 2 – “Food System and Policy: Challenges & Dynamics from a Regional Perspective” <i>Mr. Steven Jaffee, Lead Agriculture Economist (World Bank),</i> sjaffee@worldbank.org
9:50 am – 10:05 am	Presentation 3– “Emerging Strategic, Policy, and Empirical Questions” <i>Ms. Hanane Ahmed, Economist (World Bank)</i> hahmed2@worldbank.org
10:05 am – 10:15 am	Group Photograph
10:15 am – 10:25 am	<i>Coffee/Tea Break</i>

Session 1: Current Status and Dynamics of the Rural Economy: Implications for Modern Food System in Myanmar

Session Moderator – *Ms. Hanane Ahmed, Economist, World Bank*

This session will provide an overview of Myanmar’s current status and dynamics of the rural economy using household and community surveys in Mon State (2015), the Delta (2016) and the Central Dry Zone (2017). Each speaker will then discuss the implications of each of these topics for modern food system development in Myanmar.

10:30 am – 10:45 am	Presentation 1 – “Migration and Wages” <i>Mr. Mateusz Filipinski, International Food Policy Research Institute (IFPRI, USA)</i>
10:45 am – 11:00 am	Presentation 2 – “Mechanization”

- Mr. Benjamin Belton, Michigan State University (MSU, USA)*
11:00 am – 11:15 am Presentation 3 - “Land Access, Technology, and Crop Profitability”
Ms. Ame Cho, Centre for Economic and Social Development (CESD, USA)
- 11:15 am – 11:30 am Q&A
(with co-facilitation of *Dr Soe Myat Aye, Assistant Director from Animal Health and Development Section, LBVD and Professor Duncan Boughton, Michigan State University (MSU, USA), boughton@msu.edu*)
- 11:35 am – 12:25 pm Lunch

Session 2: Role of Trade and Private Sector in Modern Food System in Myanmar

Session Moderator: *Mr. Steven Jaffee, Lead Agriculture Economist, World Bank*

This session will cover availability of market opportunities and the role of the private sector for the development of a modern food system in Myanmar. Speakers bringing wealth of knowledge represents a variety of different private sector entities.

- 12:30 pm -1:30 pm *Panel Discussion*
Ms. Marleen Brouwer, Country coordinator Myanmar ICCO Cooperation m.brouwer@icco.nl
Mr. Tin Htut Oo, Yoma Strategic Holdings Ltd
Mr. Alain Peyre, Chief Technical Advisor, Quality Infrastructure for Trade, UNIDO Yangon office (a.peyre@unido.org)
- 1:30 pm -1:45 pm Q&A (with co-facilitation of *Sjamsu Rahardja, World Bank, srahardja@worldbank.org* and *Dr. Aung Kyaw Phyo, IFC, aphyo@ifc.org*)

Session 3: Special Topics

Session Moderator: *Mr. Mark Austin, Program Leader, Sustainable Development, World Bank, maustin@worldbank.org*

This session will cover key thematic areas relevant to food system development including food policy, food safety, nutrition and food systems, and climate change influence on food systems.

- 1:45 pm – 2:00 pm Presentation 1 – “Food Policy”
Daw Thu Zar Myint, Director of Land Use Division, Department of Agriculture, MOALI
- 2:00 pm – 2:15 pm Presentation 2: “Food Safety”
Dr. Ohnmar Soe Win, Deputy Director, FDA, Yangon
- 2:15 pm – 2:30 pm Presentation 3 – “Nutrition and Food Systems”

Dr. Khin Mar Cho, Country Director for Myanmar, Cornell University International Programs and Board member, Myanmar Institute for Integrated Development
(kc458@cornell.edu)

- 2:30 pm – 2:45 pm Presentation 4: “Climate Change”
Mr. Roberto Sandoval, FAO’s International DRR Expert
FAO
- 2:45 pm – 3:00 pm Q&A (with facilitation of *Mr. Donald Macrae, Food safety specialist, WB-FAO-TCI International Consultant, donald@dmacrae.co.uk*)
- 3:00 pm – 3:15 pm *Coffee/Tea Break*

Session 4: Implications for Policy, Programs, and Research

Session Moderator: *Ms. Indira Janaki Ekanayake, World Bank*

This session will summarize the key discussion points of the workshop and discuss potential areas of investment and research for modern food system development in Myanmar.

- 3:15 pm – 3:45 pm Presentation on “Synthesis of key Discussion Points”
Mr. Donald Macrae (World Bank) with World Bank team
- 3:45 pm – 4:30 pm Facilitated discussion on “Potential avenues for policy, programs and research on food system development in Myanmar”.
(with co-facilitation of Mr. Steven Jaffee, World Bank, and Mr. Donald Macrae, WB-FAO-TCI Program)
- 4:30 pm– 4:45 pm **Closing Remarks**
MOALI

Appendix III. Presentation Guidance Note

Presenters are kindly asked to keep the length of their PowerPoint slides to no more than 5-7 pages. Each presenter is allotted 15 minutes to speak.

Workshop organizers will appreciate if speakers may share their PowerPoint presentations at least a day in advance.

Please take the following into account in your presentation to the extent possible:

- (i) facts which we know about the subject,
- (ii) awareness we have on the subject but not based on hard evidence,
- (iii) important things on the subject for which we have very little understanding; and
- (iv) current or planned analytical work on the subject.

Panel presenters may also receive additional guidance on specific questions or areas of current interests, which need to be addressed in their respective presentations. [otherwise kindly follow the guidance above for all presenters].

Workshop will not have simultaneous translation and slides in English will help the discussion.

There will be time dedicated for Q&A once all the presentations in each session are completed. In addition, key points will be discussed at the last session.

Workshop Organizers aims to produce a Workshop Synthesis Report. It will contain unedited presentations plus summary discussions and a synthesis. Presenters are responsible for getting the required copyrights, if any.

Appendix IV. Acronyms and Abbreviations

ADS	Agriculture Development Strategy
AEC	ASEAN Economic Community
ASEAN	Association of South East Asian Nations
CESD	Centre for the Economic and Social Development
CU	Cornell University
DOA	Department of Agriculture
FAO	Food and Agriculture Organization
FDA	Food and drug Administration
GAP	Good Agriculture Practice
GMS	Greater Mekong Sub region
HRD	Human Resource Development
ICT	Information and Communication Technology
IFC	International Finance Corporation
IFDC	International Fertilizer Development Center
IFPRI	International Food and Policy Research Institute
IRRI	International Rice Research Institute
LIFT	Livelihoods and Food Security Trust Fund
MFI	Medium Financial Institutions
MSU	Michigan State University
ASA	Advisory Services and Analytics
MOALI	Ministry of Agriculture, Livestock and Irrigation
IDA	International Development Association
LBVD	Animal Health and Development Section, Department of Livestock, MOALI
GHG	Greenhouse Gases
ECTAD	Emergency Centre for Transboundary Animal Diseases, FAO
ICCO	Interchurch Organization for Development Cooperation
NFASP	National Food and Agriculture Systems Project
NGO	Non-governmental organizations
Q&A	Questions and answers
RICE	Reliable, Inclusive, Competitive, Environmentally Sensitive
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
WUR	Wageningen University & Research

**Modern Food Systems in Myanmar
Workshop Compendium Part I. Presentations Slide Deck and
Part II. Workshop Process and Conclusions**

September 2018

Report Prepared by: Indira Janaki Ekanayake, Steven M. Jaffee, and Hanane Ahmed



The World Bank with the Ministry of Agriculture, Livestock and Irrigation

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