Executive Summary

Symposium on Sustainable Food System & Diets - Implication & Relevance for Nutrition Security

October 16, 2018, in conjunction with International Rice Congress 2018, Singapore.

Feeding a growing population, while ensuring the food is nutritious, has emerged as a major challenge faced by governments and health authorities of many developing countries. It is recognized that agri-food production and food supply systems need to be more productive and efficient, as well as sustainable with minimal negative impact on the environment. Establishing key metrics and appropriate indicators to assess status, such as resilience of the food system, nutrition adequacy, dietary quality, and diversity, will help to identify and fill gaps, as well as measure progress towards attaining nutrition security.

This symposium highlighted the challenges in achieving sustainable food systems and nutrition security in Asia; examined the utilization of metrics for intervention; discussed the harnessing of innovation and new technologies; and explored strategies to transform nutrition security challenges into opportunities for the future.

The symposium commenced with a presentation by Dr. Regina Moench-Pfanner the CEO and founder of ibn360 Pte. Ltd. on the topic of ‘Nutrition Security - Dimensions and Challenges in Asia’. In 2013, the Asia Development Bank pointed out that Asia Pacific’s drive for food security has focused too narrowly on quantity. The level of malnutrition is high in some Asia Pacific countries. In addition, FAO and UNICEF had published a report on food security and nutrition in the world for the first time in year 2018. The report noted that the undernourishment situation is stable in most Asian countries, but ironically, food security is contributing to overweight and obesity. This partly explained the coexistence of both forms of malnutrition, namely under- and over-nutrition, in many countries. Malnutrition in Asia is not due to inadequacy in food supply, but the food quality or diet quality. Dr. Moench-Pfanner emphasized that achieving food security does not necessarily result in nutrition security. She also highlighted several challenges in achieving nutrition security: 1) the diversity of crops has declined by 75% since the 20th century, narrowing the ability to supply diverse food products; 2) nutrient-rich foods are more expensive than the energy-dense foods; and 3) populations in less developed countries tend to surge faster than those in more developed countries. Thus, parallel efforts are needed in making nutrient-dense, fresh foods as affordable as energy-dense foods. Initiatives that acknowledge and address the complexity of food security and nutrition security are also needed.
Dr. Jessica Bogard, the Accredited Practicing Dietitian (APD) and Nutrition Systems Scientist from CSIRO-Australia’s National Research Institute then gave a presentation on Food System Metrics and Indicators - Approaches and Application in Assessing Nutrition Security. Dr. Bogard said that food systems are inherently complex, involving numerous domains, sectors, and actors interacting throughout and across time and space. The High Level Panel of Experts on Food Security and Nutrition incorporates biophysical, technical, political, economic, socio-cultural, and demographic drivers into the conceptual framework and food systems; interacting with food supply chains, food environmental impacts; and diet, nutrition, and health outcomes. However, she pointed out that there are gaps in our understanding, and a clear need for a coherent framework. She provided an overview of several existing frameworks, such as the FAO Sustainability Assessment of Food and Agricultural Systems; FAO Nutrition Sensitive Agriculture compendium of indicators; Data4Diets; International Network for Food and Obesity/NCDs Research, Monitoring and Action Support; and the ILSI - 7 Food System Metrics for Sustainable Nutrition Security. Dr. Bogard said that each framework has its own strengths and limitations. While one of the key challenges in applying such frameworks is the lack of quality data, especially in low and middle-income countries, available and appropriate data sources should still be utilized. The science community has a crucial role in ensuring that sustainable food system indicators are interpreted appropriately according to the contexts in which they are applied. This includes an understanding of trade-offs and synergies across multiple food system functions. The application of indicator frameworks is an essential tool for guiding decision-making in the transition towards healthy and sustainable food systems.

Dr. Felipe Dizon from the World Bank shared about the Food Prices, Diet Quality & Nutrition in South Asia. Food affordability has been one of the major issues that affect food accessibility in South Asia, where the price of nutritious foods is higher than less nutritious foods. A previous study shows that nutritious foods (e.g., dairy, poultry, and seafood) in calorie price per ratios could be 6 times more expensive in low-income countries (LIC) than high-income countries (HIC). Thus, the South Asian Food and Nutrition Security Initiative (SAFANSI) initiates research to measure the cost of nutritious foods in South Asia, and links food prices to diet quality in Bangladesh. The food-based dietary guidelines (FBDGs, the recommended diet designed to provide both nutrient adequacy and prevention of diet-related non-communicable disease within a culturally-acceptable diet) of 8 countries were reviewed. Dr. Dizon and the research team discovered that the cost of nutritious diets (meeting FBDGs) is more prohibitive than the cost of meeting only calorie-based food needs. The cost of recommended diets (CoRD) varies substantially within the country. Besides that, the cost of nutritious food basket is rising faster and is more seasonal than the cost of a typical food basket. In the second part of this study, the focus was on Bangladesh food prices and diet quality. Research shows that the diet quality in Bangladesh improved from 2011 to 2015. Bangladeshis are consuming foods from more food groups, although intake of several recommended food groups (e.g. vegetables, fruits, dairy, meats, etc) is still below the recommendations of the
dietary guidelines. Also, higher cereal and vegetable prices are negatively correlated with various measures of diet quality.

The fourth presenter, Prof. Paul Teng from National Institute Education International of Nanyang Technological University, Singapore shared a presentation on *Harnessing Agricultural Innovation and Technology for Sustainable Food System & Nutrition Security*. Agriculture for nutrition has become more meaningful than agriculture for food security. The sustainable food system is a food system that delivers food and nutrition security for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised. Technological innovation and changes in agriculture started with the Green Revolution in the 1960s, which consisted of improved seeds, fertilizers, pesticides, irrigation and mechanization to increase the production yield. Subsequently, biotechnology was deemed to be the second wave, followed by integrated digital technologies (Agtech, Fintech, and food without agriculture). Prof. Teng explained how technology is being harnessed in the food supply chain, and how the digital revolution of agriculture is facilitating the change from physical-based farming to knowledge-based farming. Coupled with innovations in robotics and food technology, more diverse food is becoming available to meet the nutrition needs of an urbanizing world. Yet, the challenge remains to ensure that the benefits of innovation equally benefit all sectors of society, from rich to poor.

Mr. Peter Sprang from International Rice Research Institute (IRRI) and Sustainable Rice Platform (SRP) then presented on *The Sustainable Rice Platform Opportunities as a Strategy towards Nutrition Security*. SRP was founded by IRRI and the United Nation (UN) Environment (the leading global environmental authority) to promote resource efficiency and sustainability in trade flows, production and consumption operations, and supply chains in the global rice sector. The SRP pursues public policy development and voluntary market transformation initiatives to provide private, non-profit and public actors in the global rice sector with sustainable production standards and outreach mechanisms that contribute to increasing the global supply of affordable rice, improve livelihoods for rice producers and reduce the environmental impact of rice production. Mr. Sprang highlighted some examples of efforts by SRP, such as the Standard on Sustainable Rice Cultivation, Performance Indicators for Sustainable Rice Cultivation and the SRP Food Safety/ Nutrition Indicator Table.

An exciting Panel Discussion was held at the end of the symposium. It was highlighted that nutrition security and food security face extremely complex issues and challenges when it comes to implementation. Multisectoral stakeholders need to work together to address the complexity of nutrition security and food security. In addition, having multisectoral stakeholders in the working group also allows drawing diverse expertise from each stakeholder to better tackle these complicated issues. Mr. Sprang shared his experience in building multisectoral stakeholders within SRP.
The stakeholders of SRP are very much involved because they see the benefits of joining SRP not only for their companies but also in contributing to the global direction in sustainable rice production.

Another issue highlighted was the apparent disconnect between nutrition security and new technologies. While new technologies are developing at an unprecedented rate, there is still a lot of resistance in adopting such technologies to address nutrition security; and such resistance is attributed mainly to emotional factors. Prof. Teng mentioned that targeted approaches and strategies are needed to tackle issues at various levels, as well as the concerns of different target groups.