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Round Table on Imagining Future Healthy and Inclusive Food Systems in Asia and the Pacific

Executive summary

The Asia and Pacific region is experiencing rapid economic growth, urbanization and major demographic shifts. These factors have led to dietary diversification and a structural transformation of the economy, with an increasing role for non-farm income and emergence of new information tools and technologies for agriculture. These trends and technologies have potentially profound implications for the livelihoods of smallholder farmers, the management of natural resources, and the organization of food systems, especially in the context of climate change.

Moreover, the impact of these trends on food security and nutrition is increasingly complex, requiring a multi-faceted approach, encompassing greater incentives and institutional innovations in support of smallholder farmers, nuanced pathways for rural and non-rural areas, institutional innovations for modernization and other initiatives involving a diverse range of actors and stakeholders from public and private sectors.

Guidance sought from the Regional Conference

The Regional Conference is invited to:

- discuss practical ways to make food systems more nutrition-sensitive for both urban and rural consumers;
- share innovative experiences to better integrate smallholder farmers into food value chains serving urban markets, with special attention to rural women's needs and opportunities;
- discuss institutional innovations that can support systems for smallholder farmers to access and adopt e-agriculture and other new technologies;

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- discuss ways of addressing the drivers of rural migration and leveraging migration to enhance investment in the region's agricultural and rural development;
- discuss risk management strategies for smallholders that take into account climate change and farmers' increased reliance on non-farm income;

I. Rapid economic growth, demographic shifts, migration and urbanization

1. Food systems¹ in Asia and the Pacific are changing due to several phenomena and trends, including rapid economic growth, increasing population and demographic shifts, rapid urbanization, rural and urban transformation, changing food consumption behaviour and climate change. Economic growth has led to increased income for the poor and large reductions in poverty rates. Nevertheless, most of the growth in incomes has accrued to those in the top part of the income distribution, widening the gap between the affluent and the poor. This inequality makes it more difficult to eradicate malnutrition, as stunting in children under five years of age is substantially more prevalent among the poor than it is among the affluent.² Thus, while the prevalence of stunting has declined substantially, it is still at very high levels in both rural and urban areas.

2. Population growth continues to slow, but by 2050 Asia and the Pacific is projected to add another 600 million people to its already huge population of 4.1 billion, with the bulk of the growth occurring in South Asia. Given that the rate of poverty reduction in South Asia has been slower than in East and Southeast Asia, this does not bode well for the eradication of poverty. There is a real danger of a higher concentration of poverty in South Asia, further deepening the subregional divide. The increased population (and diversified diets) will also place additional stress on land and water resources, which are already quite scarce in the region.

3. In terms of demographic shifts, Asia's median age is expected to rise from approximately 30 years in 2015 to almost 40 years by 2050. The old-age dependency ratio is projected to rise from 11 in 2015 to 28 in 2050.³ This ageing will affect the supply and composition of the labour force in both rural and urban areas, change consumption patterns and put stress on public finances. Additionally, the ageing phenomenon is playing out at a much faster pace than historically has been the case in most developed countries, implying that the region has far less time to build the financial infrastructure and social security systems needed to effectively address the consequences of an ageing population. East Asia in particular is projected to be the world's fastest-ageing region in the coming decades. In countries such as Japan and the Republic of Korea, the average age of farmers is now in the mid-60s.

4. Rural to urban migration is an inherent part of the economic development process, and is an important livelihood strategy for rural households. At the same time, migration is often caused by poverty, food insecurity and lack of employment opportunities. Other causes of migration include conflict, human rights violations, natural disasters, and the negative impacts of climate change.⁴ The creation of remunerative employment, including agribusiness and improvement of infrastructure, promotion of social protection measures, etc. can help to limit push-driven rural to urban migration.

¹ Food systems encompass the entire range of actors and their interlinked value-adding activities in the production, aggregation, processing, distribution, preparation, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded. More informally, food systems are often referred to as "farm to fork".

² FAO. 2017. Regional Overview of Food Security and Nutrition: Asia and the Pacific, Bangkok.

³ The old-age dependency ratio is the number of elderly (65+) per 100 people aged 15-64.

⁴ Asia-Pacific Regional Preparatory Meeting for the Global Compact for Safe, Orderly and Regular Migration (Bangkok, 6-8 November 2017).

5. By 2021, more than half of the region's people will live in urban areas. While some of this urbanization is due to migration, much of it is also due to urban areas expanding and incorporating areas that were previously rural, putting pressure on the availability of high-quality land. Urbanization is occurring across cities of different sizes. Mega-cities (over 10 million inhabitants) are growing: of the world's 31 mega-cities in 2016, 17 are located in the Asia-Pacific region; of the ten additional cities that are projected to become mega-cities between 2016 and 2030, six will be from this region. But other cities are growing as well. In Indonesia and the Philippines, 75 and 60 percent of the urban population, respectively, will live in cities with fewer than 500 000 people in 2020.⁵ These small- and medium-sized cities have the potential to contribute to more equitable economic growth, but this will require policymakers to boost infrastructure, ensure basic urban services, and improve food availability and access, particularly for the urban poor.

6. Urbanization is leading to a different organization of food systems in terms of production, marketing and consumption. Supply chains are becoming longer geographically, but often with fewer intermediaries, and are becoming more demanding in terms of quality, food safety and traceability. These demands of the private sector and consumers can be difficult for farmers, especially smallholders, to meet. Food and agricultural systems must improve their inclusiveness by linking smaller producers (farmers, foresters and fishers and their organizations), both women and men, with agribusiness enterprises and supply chains in order for them to effectively and sustainably participate in rapidly changing global, regional and national markets.

7. In terms of consumption, compared with rural areas, urban dwellers rely less on own production, purchase more processed foods, eat food prepared away from home more frequently, have greater access to refrigerators and a greater diversity of market outlets. Young urban adults also face more advertising that encourages unhealthy diets. While urban areas have a wide variety of retail outlets, the importance of supermarkets and convenience stores is steadily growing as traffic congestion increases and work schedules become more hectic.

8. Consistent with trends around the world, temperatures have increased across most of the Asia-Pacific region over the past 60 years, both in terms of average and in terms of extremes. In general, northern latitudes have experienced larger warming trends. Trends in the volume of precipitation are less robust, but changes in timing are a bigger issue than overall global volumes, especially for agriculture, and have important implications for infrastructure, disaster risk reduction, and adaptation in the agriculture sector.

II. Changes in diets – good and not so good

9. Economic growth, migration and urbanization are also leading to dietary diversification and structural transformation of the economy and the agriculture sector. Consumers are eating smaller quantities of staple foods, and also shifting among different staple foods (e.g. from rice to wheat in traditional rice-eating areas). They are eating more animal source foods, as well as more fruits and vegetables. These trends are evident not only in national averages, but also in the bottom quintile of the income distribution. As a result, non-staple foods now account for well over half of total food expenditures. Dietary diversification means that farmers must change *what* they grow and produce more protein-rich foods (from animal sources or plant sources, e.g. pulses), fruits and vegetables – this is where the emerging food markets are. However, subsidies for staple foods encourage farmers to grow staples at the expense of more nutritious foods. In addition, there have not been sufficient investments in agricultural research and infrastructure (e.g. cold chains) for many non-staple products. In summary, the changing consumer demand, resulting from increased incomes, is providing opportunities for smallholder farmers to grow more high-value products and become more prosperous,

⁵ UNDESA. 2014. World Urbanization Prospects: The 2014 Revision, CD-ROM Edition. United Nations, Department of Economic and Social Affairs, Population Division.

provided that policy adjustments are made. Since the turn of the century, several countries in South Asia have experienced rapid growth in the areas dedicated to cultivating fruits and vegetables – Bangladesh, India and Nepal have all witnessed growth in excess of 55 percent. China has also made great strides in restructuring its agriculture sector along these lines – the area for cultivating fruits and vegetables has increased five-fold in the past 30 years.

10. However, the availability and consumption of ultra-processed foods that are high in salt, sugar or fat are also increasing substantially. Consequently, obesity rates are climbing in all countries, and have already reached extremely high levels in Pacific island countries. Without changes in diets, the burden of non-communicable diseases such as cardiovascular diseases and diabetes will be very high by 2050 and possibly even earlier. With these considerations in mind, many countries in Asia and the Pacific are experimenting with taxes on such foods. These taxes are proving to be controversial: while they have the potential to reduce the consumption of such foods, thus improving nutrition and reducing the burden of disease, they might also affect a range of farmers (e.g. those who grow sugar and oilseeds) and those who are employed in the distribution chains for those foods.

III. Growth of non-farm income and new technologies in rural areas

11. In addition to diversifying their diet, consumers are also spending much of their extra income on non-food items such as health, education, clothing, transport and consumer electronics. These shifts in spending patterns are driving a structural transformation of regional economies – while agriculture is still growing, it is becoming a smaller share of the overall economy. Structural transformation thus means that farm households are becoming more reliant upon non-farm income and diversified livelihood strategies. Indeed, approximately 90 percent of rural households in a group of large Asian countries earn money from non-agricultural activities⁶ – farm households are typically quite diversified in their livelihood strategies, especially those that are poor (because they do not own much land).

12. Migration and income diversification, exacerbated by the fact that migrants tend to be young, are creating increasing scarcity of labour in rural areas and leading to greater mechanization. While this trend is inevitable, it may disrupt the livelihoods of landless farmers and casual workers, especially women and those who are too old to learn new skills but too young to retire. In South Asia, agriculture is becoming more “feminized”, as migrants are typically male. A key problem faced by agriculture in all subregions is attracting dynamic entrepreneurs, both women and men, through access to land, information and communication technologies, and gender-sensitive training in order to increase labour productivity in farming and make it more remunerative. In this regard, diaspora and migrant households can also bring opportunities for rural areas of origin by sending financial remittances back home and transferring new skills and knowledge.

13. New technologies are spreading rapidly – many people are now referring to the emergence of a fourth Industrial Revolution that combines physical and biological systems with the digital world. Emerging technologies (4G, broadband, the Internet of Things,⁷ smart phones, remote sensing, artificial intelligence, drones and sensor networks), as well as more traditional technologies such as mechanization, will affect *how* we grow our food and manage our natural environment. At the same time, farm sizes continue to become smaller in most countries in the region – and farm sizes in this region are already the smallest in the world. Therefore, smallholder farmers face a challenge to

⁶ Davis, B. et al. 2017. Are African households (not) leaving agriculture? Patterns of households' income sources in rural Sub-Saharan Africa. *Food Policy* 67, pp.153-174. (Despite the title, this paper contains data on a range of countries around the world).

⁷ The Internet of Things is a system of interrelated and interconnected devices able to collect and exchange data through the Internet. Devices could include computers, smartphones, cars, kitchen appliances, health monitors and sensor networks. It is estimated that, by 2020, there will be approximately 20 billion connected devices.

integrate these new and old technologies into their production systems, as they may not have the time (especially in light of more time spent on non-farm activities) to invest in learning new technologies that can only be applied to small parcels of land, or the money to invest in buying new equipment. Governments, the private sector and civil society will need to develop institutional innovations (e.g. rentals of machinery and other services, contract farming, improved land rental markets) that help smallholder farmers take full advantage of these technological innovations. While the private sector will invest most of the money for the development of e-agriculture, governments have an indispensable role and will also need to innovate to create sustainable information systems that can share infrastructure and data across multiple databases (so that each department does not have to collect the same data). These innovations can help to improve smallholder income and natural resource management, and increase national production.

14. The fourth Industrial Revolution may also affect *where* we grow our food, as urban agriculture is becoming increasingly popular. While many cities use rooftop gardens and abandoned plots as educational tools to teach communities about growing fruits and vegetables, a new form of urban agriculture championed by young innovative start-up firms called Controlled Environment Agriculture (CEA) includes hydroponics, aeroponics, aquaponics and farming using LED grow lights and vertical farms. These new farming techniques can shorten supply chains, reduce waste and minimize the use of inputs such as water. Furthermore, CEA provides an urban farming option for many overcrowded mega-cities whose soils are too polluted to have rooftop gardens for food production. CEA is currently very costly, but this could change rapidly; discussions need to take place regarding how to make such technologies more accessible for cities in low- and middle-income countries. Finally, new technologies such as blockchain⁸ will affect *how food moves* from one location to another, with great promise for bringing greater accountability and transparency in food traceability, as well as in supporting smallholders in accessing emerging markets.

IV. New and different challenges ahead

15. Although undernutrition is worse in rural areas than in urban areas, it is also a serious problem in urban areas – for example, stunting rates among the urban poor in the region are typically higher than rural averages. Furthermore, obesity is often more prevalent in urban areas than it is in rural areas. Reducing urban malnutrition will therefore require a different approach from that used to reduce rural malnutrition, because the nature of the problem is different, as are the food environments faced by urban and rural dwellers. Eradication of malnutrition, one of the targets for Sustainable Development Goal (SDG) 2, will require approaches, policies and strategies that recognize the differences between rural and urban areas – measures addressing malnutrition in rural areas are not always relevant for urban areas (and vice versa). Gender-sensitive approaches will also be important for improving nutrition – when women have access to resources, major gains are possible.

16. Not only are food insecurity and malnutrition becoming more complex compared with the past, but the interactions between different components of the food system are increasingly intricate and multidimensional, linking sectors and actors in unprecedented and sometimes novel ways. In order to take these connections into account, it will be essential to engage with multiple stakeholders across multiple disciplines, both in the private and public sectors. It is no longer sufficient to see agriculture as an independent sector with the objective of maximizing production of staple foods. Agriculture is now just one part of an integrated, more science- and capital-intensive, globalized food system. The future will see profound changes in *what* is grown, *how* it is grown, *where* it is grown and *how it moves* from one place to another. In this context, fostering inclusive and diversified sustainable food and agriculture systems will be of great importance. Promoting a gender-sensitive value chain

⁸ A blockchain is a digitized, decentralized, distributed public ledger for transactions. By design, a blockchain is inherently resistant to modification of data. The technology was originally devised for digital currencies but it is now finding uses in other areas such as agricultural supply chains and land registers.

approach and enhancing women's equal access to and control over productive resources and services will reap wide-ranging economic, environmental and social benefits.

17. Meeting SDG 2 will also require greater cross-ministerial coordination to make food systems more context-specific and nutrition-sensitive. In this regard, Fiji has made substantial progress and Bangladesh has successfully promoted such an approach in the development of its Second Country Investment Plan. As another example, Mongolia established a National Food Security Council to better coordinate intra- and intersectoral cooperation for promoting nutrition-sensitive interventions.⁹

18. The round-table discussion will engage participants to share their experiences, policies and good practices in addressing these key emerging trends. Possible areas for discussion and sharing of experiences include:

- What changes in public policies and programmes can make the agriculture sector more nutrition-sensitive? For example, how can farmers be encouraged to diversify production in order to increase their incomes and meet emerging consumer demands for more fruits, vegetables, pulses and animal-source foods? What are the constraints that farmers face and what are the implications if demand for these foods is increasingly met by imports?
- What have been the most innovative public and private strategies to integrate smallholder farmers, especially women and youth, into value chains serving urban markets and to make those value chains more inclusive?
- What institutional innovations can create an enabling environment and support systems for smallholder farmers to adopt e-agriculture and other new technologies, in light of the new knowledge required and considering the demands on farmers' time as they earn more income from non-farm activities?
- What are the best practices for building cross-sectoral coordination mechanism and collaboration in order to promote policy coherence between different sectors such as; agriculture, food security, nutrition, health, rural development, urban planning and natural resource management policies?
- How can national, inter-regional and international migration be leveraged to enhance investment in the agriculture sector and rural development?
- In light of experience, what is the proper role of selective food taxes that might act to improve nutrition but could reduce the income of some farmers?
- What public policies and programmes can address urban malnutrition, and what is the experience of collaborating with other ministries involved (especially the Ministry of Health) in promoting improved nutrition?
- How can holistic risk management strategies for smallholders be designed that take into account climate change and farmers' increased reliance on non-farm income?
- How can strategic partnerships involving the private sector, civil society, farmers' and youth organizations, and development partners as well as South-South and Triangular Cooperation be promoted to ensure a vibrant and sustainable future for food and agriculture in the region towards the SDGs by 2030?

⁹ FAO. 2016. Asia and the Pacific Regional Overview of Food Insecurity: Investing in a Zero Hunger Generation, Bangkok.