

Asia-Pacific Rural Development and Food Security Forum 2022

22–24 March 2022 (Virtual)



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“Battling Climate Change and Transforming Agri-food Systems”

FORUM NOTE

Background

Food security remains a major concern in the Asia and Pacific region, home to about 60% of the world’s population.

The continuing effects of the COVID-19 pandemic are exacerbating pre-existing challenges to food security: climate change and disaster risks, shrinking natural resources and degrading environments, changing demographics and labor profiles, and infrastructure deficits. These risks, which are both multisectoral and multifaceted, are expected to affect the achievement of the Sustainable Development Goals (SDGs), particularly those related to hunger; food and nutritional security; poverty and decent jobs; gender; environment, and climate change.

The situation likewise highlights the interconnectedness of climate, biodiversity, and human health, and underscores the importance of a climate-resilient, green, and nature-positive recovery. It also underpins the growing consensus that various global, regional, and local stakeholders must “join-up” their thinking and collaborate to find solutions for a “new normal” in rural development and food security.

Purpose

The Asian Development Bank (ADB) and its partners are organizing the [Asia-Pacific Rural Development and Food Security \(RDFS\) Forum on 22–24 March 2022](#).

With the theme **“Battling Climate Change through Sustainable Agri-food Systems,”** the RDFS Forum 2022 aims to bring together innovators, experts, and thought leaders to:

- Rethink the future of agri-food systems and culture amidst complex and evolving challenges;
- Explore new research, innovations, and technologies that can help build nature-positive food systems; and
- Forge partnerships and collaborations which will help mobilize finance for innovation, research, and business to promote food and nutrition security in the Asia and Pacific region.



Discussions in the Leaders' Roundtable and technical sessions will emphasize: the future of food and agriculture; digital technologies for agriculture; pathways to sustainable and inclusive food systems; an intersectoral approach to nutrition security; and financing green, resilient, and inclusive agriculture.

Three deep-dive sessions will discuss cross-cutting and emerging issues on integrated rural-urban development, urban farming as a potential window for fresh and nutritious food, and alternative proteins to meet the growing global demand for nutritious food. Further, a special session on COVID-19 will discuss its impacts on food systems and present ways to effectively respond, recover, and build resilience against future disruptions.

Leaders' Roundtable: The Future of Food and Agriculture

The COVID-19 pandemic disrupted economic growth globally, highlighted the fragility of food systems in Asia and the Pacific, and exacerbated the food insecurity situation in developing Asia. The recovery from this crisis presents an opportunity to build a sustainable and resilient food system in the region.

Lessons from the COVID-19 pandemic provide key actions that can be taken in the short, medium, and long term. First, the food system in Asia and the Pacific needs to ensure food and nutrition security for a growing population in the region. Second, the agri-food value chain plays a critical role offering incomes and livelihoods in the economy and can be used to promote integrated rural development. Third, a transformation of the agri-food system is fundamental to ensuring environmental sustainability and climate resilience in the region.

This session will discuss anticipated threats and risks to agri-food systems in Asia and the Pacific and will identify specific knowledge, technology, policy interventions, and financial instruments to promote transformation and resilience.

Technical Sessions

Technical Session 1: Digital Technology for Agriculture

Over 90% of farmers in the region are smallholders who produce 80% of the total food. However, smallholder farmers have been in constant financial distress – and COVID-19 has made the situation much worse, causing additional problems and challenges within the agri-food value chain. That said, the pandemic crisis gave rise to opportunities by stimulating entrepreneurial talent and accelerating the adoption of digital technology which facilitated direct sales to consumers even in some regions where many years of well-intended regulatory reform and support programs had failed. The most pertinent question is: how can the digital solutions catalyzed by the COVID-19 pandemic be sustained?

While many governments in developing member countries (DMCs) have struggled to provide effective instruments of support to agriculture, examples of publicly funded responses to COVID-19 offer ideas and case studies to meet rural society's needs in a timely way. Longer-term, and more broadly, the need to design policies that recognize public goods is better understood today.



“Soft” infrastructure such as: research, education, training and extension, marketing, and financing, all combined with good governance, is a vital part of public policy and economic development. And, for these elements, a partnership with the private sector is often a *sine qua non*.

To transform the farm sector in developing countries and achieve major crop and livestock productivity gains, governments and multilateral development banks will have to devise policies and interventions (often liberalizations) to overcome current constraints. Digital innovations will have a big part to play in transforming the farm and food sectors in developing countries. As the FAO notes: “the digital agricultural revolution will be the most recent driver which can help ensure agriculture meets the needs of the global population into the future.”

This session will review, discuss, and propose policies and approaches to promote “agripreneurship”, develop digital skills, narrow the digital divide, and increase infrastructure investments to enable digital innovations. Equally important, discussions will describe enabling conditions for smallholders and SMEs to access credit and financing, and digital payment systems.

Technical Session 2: Pathways to Sustainable and Inclusive Food Systems

Unless adaptation and mitigation policies are adopted on a wide scale, populations in Asia will suffer greatly from the effects of climate change—and countries with lower levels of per capita GDP will fare the worst.

Experts predict significant increases in heat and humidity by 2050 coupled with an increased likelihood of extreme precipitation, implying that the agricultural sector will be hit the hardest. Limited resources in terms of accessible credit and finance and the lack of well-established governance in many of these countries will make adaptation more difficult.

The concepts of one and planetary health are now part of the climate change debate, and the work that has been done on these areas offers some startling facts and projections. The health impacts of global warming and air pollution tend to concentrate in developing countries. Urban and rural areas are impacted, with some effects such as ambient air pollution being more present in cities, while others such as negative impacts of climate change on agriculture put rural areas at increased health risk.

The good news is that adaptation and mitigation policies can still do much to reduce these adverse effects of climate change, if supplemented with sufficient capacity development to introduce and apply climate-smart improvements in production and supply chains. This will involve more efficient resource use and will deliver, lower waste, lower unit costs, higher quality, and more effective responses to consumer demand.

This session will review and discuss the challenges and opportunities in natural resources management, gender equity, and digital technology and propose changes in policies and approaches to make farming receptive to, and capable of adopting climate-smart policies. These changes can include improved awareness of agricultural policies as influenced by the Nationally Determined Contributions aligned with COP26; increased productivity; reduced emissions; climate risk assessments; expanded incentives to support climate change objectives and targets;



private sector engagement; and South-South knowledge sharing and cooperation, amongst other actions.

Technical Session 3: Intersectoral Approach to Nutrition Security

The number of people in the world affected by hunger increased in 2020 with the onset of the COVID-19 pandemic. Global targets for any of the major nutrition indicators are not expected to be achieved by 2030.

The [FAO's state of food security and nutrition report](#) in 2021 reveals that 768 million were undernourished in 2020—and 418 million of these were in Asia. Obesity, meanwhile, is prevalent in the People's Republic of China, India, Pakistan, and Indonesia.

Globalization, economic development, and women's changing role in society contributed to changing diets and food preferences and have made the double burden of malnutrition—undernutrition and obesity - worse.

Developing and emerging economies require strategies to improve nutrition security. Country-level experiences provide examples of practical and innovative ways to transform food value chains. These case studies often illustrate that nutrition policies need regulatory reform and/or new regulations as well as investments that link food systems and agricultural production, health, environmental, and social protection systems.

This session will review and discuss the challenges and opportunities in gender equity, spatial equity (covering economic, social, education, and other basic services), science and technology, and cross-collaboration. Discussions will focus on potential changes in policies and approaches to make farming receptive to, and capable of adopting climate-smart policies. These can include but are not limited to robust regulatory policy frameworks; education and communication programs; private and public investment incentives; improvements and accountabilities in the food supply chains; among other changes.

Technical Session 4: Green Financing for Resilient and Inclusive Agriculture

Natural capital includes forests, agricultural land, the atmosphere, oceans, and mineral resources, offering ecosystem services essential to human survival such as food, water, energy, and shelter. Natural capital represents 20%-55% of the countries' total wealth and is a key contributor to economic growth. Innovative fiscal instruments such as environmental taxes and incentives, and market-linked mechanisms such as payments for eco-services can more effectively direct and harness that contribution.

However, natural capital is seldom measured and accounted for in a country's national accounts, and its inclusion on the balance sheet offers many developing economies an opportunity to move away from the stereotype of development aid/western-style economic growth. The challenge will be how to turn this new "wealth" into an income stream and access investment to meet sustainable development goals (SDGs) that benefit the populations of the developing world. How can this be justified in the traditional accounting sense?



In parallel with initiatives that recognize natural capital, the subject of green finance and net-zero goals were a focus at COP26. Announcements at the Glasgow meeting claimed that previous pledges to provide \$100 billion to fund mitigation and adaptation to climate change in developing countries will be met in the future. And that the global financial system will properly align with the Paris declarations, driving a transition of the global economy and enabling all countries to move towards net-zero by 2050.

On the ground, ADB has begun to apply the ideas behind natural capital in the way it approaches the financing of some development projects. For example, ADB's innovative green financing model has been applied in the People's Republic of China. These experiences and new ways of thinking deserve wider appreciation and communication. Most probably, this is the future shape of development economics and credit operations.

This session will review and discuss the challenges and opportunities on climate change impacts and responses, and e-finance. Discussions will focus on proposing changes in policies and approaches to make governments receptive to and capable of accepting new financing mechanisms that reflect natural capital, are climate-smart, and net-zero compliant. These changes could include green finance options to meet net-zero targets; intensive promotion of the natural capital concept and its inclusion in resource and financing allocations of developing economies; new or improved credit instruments and financing models based on the natural capital concept; adoption of these models and systems; and identification of digital technologies that contribute to transforming financing and improving sustainability based on the natural capital concept.

Special Session: COVID-19 Impacts on Food Systems

The COVID-19 pandemic crisis strongly affected food chains in various ways.

At the start of the pandemic, imminent lockdowns and movement restrictions imposed to contain the spread of the virus led to panic buying, temporary shortages, and price spikes. The subsequent disruptions to both local and international food supply chains affected the availability and accessibility of food to consumers. Lost sales, higher production costs, and difficulty accessing inputs, equipment, and food distribution systems also hit farmers hard and led to the shift away from high-value crop production to low-value but storable crops.

All combined, these factors resulted in economic losses and adversely impacted the food security situation in the region. According to [FAO](#), the number of people experiencing severe food insecurity globally increased by 148 million to 928 million in 2020, or 12% of the world's population – an increase equal to that of the previous 5 years combined.

The session reviews the impacts of the COVID-19 pandemic on food inflation and discusses policy options to help food systems recover and strengthen resilience against future shocks. These may include observed pandemic impacts on macroeconomic indicators, food supply chains, and food security; governments' social protection measures to support farmers and trade policies; policies toward green recovery; and onsite experiences from Central Asia, South Asia, and Mongolia.



Deep Dive Sessions

Deep Dive 1: Rural-Urban Integrated Development

To avoid the middle-income trap, countries must move from a low-cost to a high-value economy. This development, however, has the potential to create disparities including urban-rural inequality. Urban-rural inequality accounts for the largest share of total inequality that mainly reflects significant spatial disparities and the associated disparities in access to public services.

Reducing the rural-urban divide is critical for more inclusive growth and necessary for sustainable economic growth. Integrated urban-rural development ultimately requires continued reforms toward universal provisions of basic public services.

As the economy grows, rural development policy must also evolve to assume a multidimensional focus that is geared towards delivering well-being to rural dwellers comparable to that in urban areas.

Rural development policy must consider the attributes that create a good quality of life and a sense of local identity. These include: (i) economic dimensions, where household income hinges on employment in firms that are productive and competitive; (ii) social dimensions, where households have access to a broad set of services and where a local society that is cohesive and supportive is promoted; and (iii) a local environment that provides a pleasant place to live.

This session will review and discuss ways to strengthen synergies between urban and rural areas e.g., demographic linkages, economic transactions and innovation, delivery of public services, and exchange in amenities and environmental goods; to encourage more diverse stakeholder participation in rural development i.e., urban-based private sector institutions and non-government organizations; and to support the governments in facilitating sector-wide innovations and entrepreneurship to narrow the urban-rural income gap and to retain and attract more human capital in rural areas.

Deep Dive 2: Urban/Controlled Environment Farming – New Window for Fresh and Nutritious Food

Urbanization has been rapidly increasing in Asia and the Pacific over the last two decades. With more people now living in cities, demand for food has now become greater in urban areas than in rural areas.

Urban farming presents an increasingly viable method of not only enhancing urban food security but also reducing the pressure on traditional agricultural land and transport logistics thereby contributing to a reduction in carbon footprint. Underutilized spaces in cities could house small farm gardens for local communities.

Novel technologies such as plant factories with artificial lighting, farm management software, Internet of Things systems with environmental and farming data capture devices, decision support software, analytics engines, seeds with new genetics, cell culture technology, etc. can be used to farm in open spaces, under shade, and in a controlled environment. Creative design of



infrastructure for inputs such as water and compost could also create and enhance a circular economy.

Appropriate technology and government policies that encourage the use of unused urban spaces for farming can help propagate this concept and these may be key to the growth of urban farming as a viable method to produce food.

This session will explore new farming approaches, appropriate urban design, and policy measures that encourage the use of unused urban spaces for farming and improve the viability of urban farming.

Deep Dive 3: Alternative Proteins to Meet the Growing Demand for Nutrition

If the current pace of growth continues, the global population is expected to surpass 9 billion by 2050. With increased consumption of meat, dairy, and aquatic foods, particularly in developing markets, it is expected that the world's protein requirement in 2050 will need to be twice as high as it was in 2005. As a result, protein supply may become insufficient as early as 2030.

While animal protein production can be highly inefficient, alternative protein sources from plants, microbes, and insects, typically require far fewer energy inputs per unit of output and thus can offer more effective utilization of natural resources. Alternative proteins for human consumption can also avoid issues pertaining to animal welfare and may also improve public health.

The potential for alternative proteins has been recognized in the People's Republic of China's (PRC) five-year agricultural plan, released in January 2022, which includes cultivated meat and "future foods." The promotion of these foods is part of a commitment by the Ministry of Agriculture to transform PRC's food system to become greener and more sustainable.

However, as new business opportunities in alternative proteins develop, a race for alternative proteins could cause its own problems. Expanding the consumption of alternative protein sources requires consideration of issues including diversity of sources, nutrition, consumer acceptance, cost, and regulations.

This session will discuss motivations for alternative proteins, explore sources of alternative proteins and their nutritional considerations, and identify market barriers to their operation at scale in production, as obstacles to increased consumption.

Knowledge Showcase and Partnerships

The forum will showcase the launch of key knowledge products prepared by ADB that will showcase research findings and project experiences. These will stimulate and support discussions on resilient and sustainable food systems. The session will also feature ADB's signing of agreements with partner organizations.



Actions and Recommendations

Based on the three-day discussions and knowledge sharing, a plenary session will be held to identify the Forum's key takeaways and highlight the next steps for implementation. Selected partners will be invited to present their plans and strategies to forge a collaborative effort which will find and implement solutions that can transform agri-food systems and enable them to adapt and mitigate climate change impacts as part of the recovery from the COVID-19 pandemic and the effort to build resilience against future shocks.

