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Reducing poverty through sustainable agriculture**Reducing poverty through sustainable agriculture****Note by the secretariat***Summary*

The global community of policymakers and other stakeholders is getting ready to implement the ambitious new sustainable development agenda including the sustainable development goals, which will be adopted at the United Nations sustainable development summit in September 2015. The secretariat of the Economic and Social Commission for Asia and the Pacific (ESCAP) as a whole, and in particular its Centre for Alleviation of Poverty through Sustainable Agriculture, has committed to lead a regional endeavor to support implementation of the relevant goals at the national level, such as proposed goal 1, end poverty in all its forms everywhere, and goal 2, end hunger, achieve food security and improved nutrition and promote sustainable agriculture.

In this document, a number of areas are highlighted that need attention if the Asia-Pacific community is to be aligned to international collective efforts to support sustainable agricultural development for poverty alleviation in the region. Also, key challenges and opportunities are discussed, and a number of cross-cutting issues to be addressed to accelerate necessary transformations in the region are identified.

Member countries may wish to review the document, share their views on issues raised and provide the secretariat with guidance on further work in this area.

I. Introduction

1. In the outcome document of the United Nations Conference on Sustainable Development, held in Rio de Janeiro, Brazil, in June 2012, entitled “The future we want”,¹ the importance of supporting developing countries in their efforts to eradicate poverty and promote empowerment of the poor and people in vulnerable situations, with a view to achieving the internationally agreed development goals, was reaffirmed.

* E/ESCAP/CMP(3)/L.1.

¹ General Assembly resolution 66/288, annex.

2. In the outcome document, several policy directions were identified, including the need to increase sustainable agricultural production and productivity globally, while the diversity of agricultural conditions and systems was noted. A coherent policy approach and an increase of public and private investment in sustainable agriculture, land management and rural development were called for. Examples of key areas that require investment include strengthening of rural infrastructure; research and development on sustainable agricultural practices and technologies; improvement in the functioning of markets and trading systems; development of strong agricultural cooperatives and value chains; and institutional and human capacity-building for relevant stakeholders.

3. The target year, 2015, for the Millennium Development Goals has been reached, with notable success in achieving Goal 1, eradicate extreme poverty and hunger, and in particular target 1A of halving the proportion of people whose income is less than \$1.25 a day and target 1C of halving the proportion of undernourished people. Based on this progress, the global community, through the United Nations sustainable development summit, which will be held in September 2015, will adopt a new and more ambitious sustainable development agenda, including sustainable development goal 1, end poverty in all its forms everywhere, and goal 2, end hunger, achieve food security and improved nutrition and promote sustainable agriculture. These goals, together with the associated targets, will establish key directions for international cooperation in the areas of reducing poverty and hunger through sustainable agriculture, among other methods, for the next 15 years.

4. In the present document, a number of areas are highlighted that need attention if the Asia-Pacific community is to be aligned to international collective efforts to support sustainable agricultural development for poverty alleviation in the region. Key constraints and challenges are discussed, and a number of cross-cutting issues to be addressed to accelerate necessary transformations are identified. The document ends with the conclusion that, given the necessary support, the Centre for Alleviation of Poverty through Sustainable Agriculture can play a key role in facilitating policy dialogues, providing knowledge-sharing functions and enhancing capacity-building opportunities. Such initiatives would support the dissemination of innovative policy practices and technology options for further promotion of sustainable agriculture for poverty reduction, thus contributing to the enhancement of livelihood opportunities in rural agricultural communities.

II. Assessment of current status and trends

5. Two thirds of the world's one billion hungry reside in Asia and the Pacific. Both rural and urban poor spend more than half of their incomes on food.² Ensuring sustainable agricultural development is one of the critical components in global efforts for poverty alleviation, including maintaining a sufficient food supply at a price affordable to the poor, marginalized and most vulnerable people, and maximizing the contribution of the production and trade of agricultural commodities to the sound development of local, national and regional economies and livelihoods.

² Asian Development Bank, "Agriculture and Food Security Issues in Asia and the Pacific". Available from www.adb.org/sectors/agriculture/issues.

A. Poverty

6. In *Making It Happen: Technology, Finance and Statistics for Sustainable Development in Asia and the Pacific (Report 2014/15)*, a joint publication of the Economic and Social Commission for Asia and the Pacific (ESCAP), the Asian Development Bank (ADB) and the United Nations Development Programme (UNDP), the authors examined the achievement, as of 2015, of the Millennium Development Goals, in particular Goal 1 and target 1A. The authors noted that one of the greatest successes was in the area of Goal 1. Between 1990 and 2012, the proportion of the population in the region living on less than \$1.25 per day decreased from 53 to 14 per cent, and by the end of 2015 it is projected to decrease to 12 per cent. The number of people living on less than \$1.25 per day decreased from 1.7 billion in 1990 to 569 million in 2012. However, if the poverty line is set at \$2.00 per day, the achievement is less impressive: the number of people living on between \$1.25 and \$2.00 increased from 764 million to 872 million.

B. Hunger

7. According to *Regional Overview of Food Insecurity: Asia and the Pacific – Towards a Food Secure Asia and the Pacific* published by the Food and Agriculture Organization of the United Nations (FAO), the Asia-Pacific region has successfully achieved target 1C of halving the proportion of undernourished people in 2015.

8. The region has also achieved the largest reduction in the absolute number of undernourished people: 236 million. There are, however, large disparities among subregions. While North-East and South-East Asia have demonstrated more progress, South Asia had not met target 1C as of June 2015. Likewise, the Pacific did not reach that target, and the absolute number of hungry actually increased.³

9. As noted in the report, the challenges in the region are still substantial; there are 490 million people still suffering from chronic hunger in the Asian and Pacific region as a whole, which is home to almost 62 per cent of the world's undernourished people.³ Thus, there are urgent needs not only to produce more food, but also to ensure more equitable access to food for different groups in society.

C. Agricultural production

10. While the demand of the region for food continues to increase, agricultural production has grown faster than the population since 1990, resulting in rising food availability per person in most subregions.

11. Despite this generally positive trend, in some countries, in particular in the Pacific, agricultural production per capita is declining. Those countries traditionally had food security, and the populations had access to readily available and abundant indigenous food resources through local environmentally sustainable farming and harvesting systems. This has changed fundamentally in tandem with urbanization, growing population pressure, commercialization of food chains and changes in dietary patterns. The transformation of household diets towards imported foods has

³ Food and Agriculture Organization of the United Nations, *Regional Overview of Food Insecurity: Asia and the Pacific – Towards a Food Secure Asia and the Pacific* (Bangkok, United Nations, 2015).

increased food-import dependence, adding another challenge for food security.³

D. Agriculture in the economy

12. Although growth in the agricultural sector has stayed robust throughout recent years, a significant decline in the contribution of agriculture to the GDP of the region can be observed, mainly due to the rapid growth of industry and the service sector.⁴ Indeed, the contribution of agriculture to GDP has almost halved since 1990 in developing countries in the region and agriculture currently contributes to only 10 per cent of output. However, as large proportions of the population depend on the agricultural sector and as the incidence of poverty is generally higher in rural areas than in urban areas in most developing countries, the importance of the agricultural sector in the regional economy is still high in terms of providing livelihoods for those populations and making development more inclusive. As highlighted in *Economic and Social Survey of Asia and the Pacific 2015: Making Growth More Inclusive For Sustainable Development*, 4 out of every 10 workers are employed in the agricultural sector in developing countries in the region.⁴

E. Sustainability in agriculture

13. In *Report 2014/15*, it is noted that the remarkable progress in poverty reduction may have been achieved by sacrificing environmental sustainability in some cases. For example, the green revolution that transformed agriculture and boosted food production in some cases also degraded agricultural land and watersheds through increased soil erosion and the overuse of chemical inputs. Unsustainable farming practices have often degraded both environmental sustainability as well as long-term productivity of agricultural lands.

14. Out of total water withdrawal for Asia, at 1,981 km³ in 2009, 82 per cent was destined for agriculture, but that share is declining over time with urbanization and industrialization. The scarcity of water resources is intensifying due to historical over-exploitation, competing demands, including hydropower and ecosystem services, saltwater intrusion and climate change. Water quality degradation from the misuse of agrochemicals and higher concentrations of livestock, together with increased urban sewage discharge, are an increasing problem that also limits water availability.⁵

15. The food sector currently accounts for 30 per cent of the world's total energy consumption.⁶ The Intergovernmental Panel on Climate Change estimates that 24 per cent of total global anthropogenic emissions of greenhouse gases come from agriculture, forestry and other land-use

⁴ Economic and Social Commission for Asia and the Pacific, *Economic and Social Survey of Asia and the Pacific 2015: Making Growth More Inclusive for Sustainable Development* (ST/ESCAP/2714).

⁵ Food and Agriculture Organization of the United Nations, *The State of Food and Agriculture in Asia and the Pacific 2014* (Bangkok, 2014).

⁶ Food and Agriculture Organization of the United Nations, "Targets and indicators for the post-2015 development agenda and the sustainable development goals". Available from www.fao.org/fileadmin/user_upload/post-2015/FAO_TI_14_themes_24_06_2014.pdf.

change.⁷ FAO estimates that 44 per cent of agriculture-related greenhouse gases outputs occur in Asia.⁸ Likewise, CGIAR estimates that the global food system, from fertilizer manufacture to food storage and packaging, is responsible for up to one third of all human-caused greenhouse-gas emissions.⁹

16. At the same time, climate change is a major source of vulnerability and uncertainty for the future of agriculture. The gradual increase in global temperature and alterations to precipitation patterns may bring about large changes in growing conditions for different crops and impact livestock husbandry and fisheries. High acidity of rainfall could affect soil conditions and the forestry and fisheries sectors. Similarly, an increase in seawater levels may result in a reduction of agricultural lands in some countries. The prevalence of yield decreases is also greater than the prevalence of yield increases. Therefore, adaptation, often at substantial cost, will be required.

17. Climate change is also expected to increase the frequency of natural disasters, such as typhoons, floods and droughts, causing significant damage to infrastructure and farms and increasing the vulnerability of the region to food insecurity.

18. Given the environmental stresses outlined above, the sustainability of agricultural production itself is at great risk. Experts have warned that the emerging need for emission reduction actions and the impacts of climate change on agriculture and the food system could potentially profoundly alter present practices in agriculture and food production.⁹

F. Social sustainability

19. Most assessments of food security indicate that the world today produces enough for everybody to have sufficient food if only it were shared equitably. The data also show that hunger and food insecurity are, in most cases, not a supply-side problem, but rather an access problem caused by lack of physical access, purchasing power or social protection schemes. Effective policy measures to address these requirements have yet to be taken in most developing countries in Asia and the Pacific.³

20. In developing countries in Asia and the Pacific, 611.6 million workers, or 34.2 per cent of the total number employed, were engaged in agriculture in 2014, where work is less productive and working conditions are often poor.⁴ It is important to ensure employment and income opportunity in rural areas in agriculture, together with rural-based, small-scale industry processing of agricultural products, as they are an essential element in making sure that development is inclusive and socially sustainable. While the GDP share of the agricultural sector in the regional economy is declining due to the rapid growth of the manufacturing and

⁷ Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report* (Geneva, 2015). Available from ar5-syr.ipcc.ch/ipcc/resources/pdf/IPCC_SynthesisReport.pdf.

⁸ Food and Agriculture Organization of the United Nations, "Agriculture's greenhouse gas emissions on the rise", 11 April 2014. Available from www.fao.org/news/story/en/item/216137/icode/.

⁹ Natasha Gilbert, "One-third of our greenhouse gas emissions come from agriculture", 31 October 2012. Available www.nature.com/news/one-third-of-our-greenhouse-gas-emissions-come-from-agriculture-1.11708.

service sectors, the urban-rural gap in income levels is also becoming significant and can be widely observed across the Asia-Pacific region.¹⁰

21. In many countries, women farmers face inequity in terms of accessing productive resources, services and markets, which leads to an inefficient allocation of resources, lower agricultural productivity and poor nutrition and health outcomes. Policies for empowering women with greater knowledge, skills and resources to become more productive are in high demand as these policies are expected to entail significant pay-offs not only for individuals but also for societies at large.³

III. Policy challenges

22. As evident from the discussion above, challenges to sustainable agricultural production and future food security are significant and multidimensional and are becoming more complex and urgent. Vast tracts of fertile land are being taken away from agriculture due to rapid urbanization at a time when there is an urgent need for further increases in agricultural production and improvements in food security. Young, capable and better-educated successor farmers are migrating from rural to urban areas, leaving farms to the elderly. As climate change adds more vulnerability and uncertainty to the future of agriculture, water shortages are already a growing threat to food production across Asia, particularly in drier areas. Competition for the use of land and water has been increasing between food crops and bioenergy crops. Moreover, the rate of productivity growth for major cereal crops has declined, and investment in agriculture, particularly in research and development, is not keeping pace with the requirements. The Asian and Pacific region will need to pursue a mix of policy, institutional and technological innovations to ensure growth along with shared prosperity.

23. The following are selected issues that deserve specific attention from policymakers in Asian and Pacific countries in formulating effective policy responses to ensure further poverty reduction through sustainable agriculture.

A. Sustainable intensification of agriculture

24. Proposed sustainable development goal 1, end poverty in all its forms everywhere, and goal 2, end hunger, achieve food security and improved nutrition and promote sustainable agriculture will establish key directions for international cooperation, including at the global, regional and subregional levels, in the area of reducing poverty and hunger for the next 15 years. Among other targets, target 2.3 calls for doubling the agricultural productivity and incomes of small-scale farmers.

25. In order to feed a growing population, the easiest option is to intensify agricultural production as part of a multipronged approach that addresses access and distribution issues, including reducing losses and waste along the value chain. This intensification can be facilitated through, in particular for small-scale farmers, secure and equal access to land and other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment, as articulated in target 2.3.

¹⁰ Asian Development Bank, Economic and Social Commission for Asia and the Pacific and United Nations Development Programme, *Making It Happen: Technology, Finance and Statistics for Sustainable Development in Asia and the Pacific – Asia-Pacific Regional MDGs Report 2014/15* (Bangkok, 2015).

26. Although there are many opportunities to increase agricultural production, it is important to do so in a sustainable manner. Environmental considerations are becoming more important than in the past. Adoption of a green growth approach, which calls for the promotion of the eco-efficient use of input resources to maximize economic outputs and minimize negative environmental externalities, can stimulate not only the manufacturing sector, but also the agriculture sector in the context of optimizing the use of fertilizers and other agrochemicals, as well as water and fossil fuels. Similarly, the save and grow approach of the FAO for sustainable crop production intensification promotes producing more from the same area of land while conserving resources, reducing negative impacts on the environment and enhancing natural capital and the flow of ecosystem services. Such an approach often combines traditional knowledge with modern technologies that are adapted to the needs of small-scale producers.

27. Approaches such as eco-efficient agriculture and sustainable crop production intensification provide useful policy tools for the region as it faces the challenge to produce more food from the increasingly limited natural resource base, including, in particular, land, water, ecosystems and genetic diversity. In order to effectively reduce natural resource degradation and increase resource productivity, it is important to understand the functions of different ecosystems, such as forests, wetlands and mountains, and their interaction with agricultural land. Often, agricultural land itself has an important function in supporting surrounding ecosystems. A holistic approach to natural resource management should be strengthened, with environmentally friendly agriculture as an integral part of it.

28. For such a holistic approach to be more widely disseminated, not only environmental benefits but also tangible advantages in economic terms should be emphasized. Such advantages may include reduced costs, higher incomes and sustainable livelihoods, as well as the possibility of financial rewards for the environmental benefits they generate, such as reductions in greenhouse gas emissions and ecotourism. For example, present agricultural practices rely heavily on the use of petroleum products as inputs (chemical fertilizers and pesticides) and for irrigation and transportation of inputs and outputs. Reducing their use through an eco-efficiency approach will result not only in reducing the costs of producing and marketing food but also in improving farmers' long-term resilience in the face of oil price volatility.

29. Thus, addressing the sustainable intensification of agricultural production is crucial for reducing poverty and inequality. Improving agricultural productivity leads to enhanced competitiveness of the agriculture sector in the labour market and to the enhancement of employment and income opportunities in rural areas. Nevertheless, several obstacles stand in the way of farmers adopting innovative practices that combine productivity increases with preservation and improvement of natural resources. Key impediments include the absence of enabling policy support; appropriate infrastructure; access to information on successful policies, practices and technologies; financial incentives and marketing instruments; and investment in targeted research and development activities.

B. Enhancing resilience to climate change and natural disasters

30. Proposed sustainable development goal 2, target 2.4 is “by 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate

change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality”.

31. The Asia-Pacific region is subject to a large number of disasters but has continued to make efforts to improve disaster preparedness. Climate change will increase the demands on those regional efforts, as natural disasters may become more frequent and intense and more damaging. Apart from the acute effects of disaster and extreme climate events, many of which can already be observed throughout the region, climate change will create more chronic changes, such as a gradual increase in global temperature, transition of precipitation and hydrological patterns, and sea level rise. Farmers and agricultural systems, and even value chains, will have to adjust to the new conditions. This, however, would impose additional costs and require new investments.

32. FAO has long worked on disaster risk management and resilience in agriculture. This approach is captured under its resilience programme framework, encompassing four pillars: (a) risks and crisis governance; (b) information and early warning systems; (c) prevention and mitigation measures; and (d) preparedness and response. This framework provides a broadly applicable action agenda for areas of effective policy interventions for enhancing adaptive capacity at all levels.

33. Further, FAO has advocated for the concept of climate-smart agriculture since the Hague Conference on Agriculture, Food Security and Climate Change in 2010. This approach is intended to contribute to the achievement of sustainable development goals by jointly addressing food security and climate challenges. FAO emphasizes that climate-smart agriculture does not mean a single specific agricultural technology or practice. With a view to achieving the three aspects of sustainable development, it brings together practices, policies and institutions which are not necessarily new but are used in the context of climate changes and are unfamiliar to farmers, herders and fishers. The FAO publication, *Climate-smart Agriculture*, contains key concepts and approaches, an overview of available policy options and barriers, tools for practical applications and case studies based on different local conditions.

34. Ecosystem-based adaptation is another emerging approach that uses biodiversity and ecosystem services as part of an overall adaptation strategy and that recognizes that healthy, well-functioning ecosystems enhance natural resilience to the adverse impacts of climate change and reduce the vulnerability of people. Co-benefits among nature conservation, climate change adaptation and disaster risk reduction, and in some cases, further linkages with strengthened agriculture and food security, are increasingly being highlighted. Pilot case studies are being conducted in several ESCAP countries, in particular in the Pacific. It should be noted that social protection policies also play a key role in systemic responses to natural disasters and other impacts of climate change, including, in particular, during the recovery phase. Examples of such policies include new forms of insurance for small farmers, as well as more traditional forms of transfer, such as food- or cash-for work. Moreover, since women farmers in rural areas face multiple insecurities resulting from the multiple inequalities that they face, governments need to eliminate gender-based food insecurities through social, economic and legislative measures.

C. Markets and value chains for sustainable agriculture

35. According to FAO, sustainable agriculture requires a system of global governance that promotes food security concerns in trade regimes and trade policies and revisits agricultural policies to promote local and regional agricultural markets. Fundamental policy challenges in promoting sustainable agriculture include ensuring stable access to markets together with measures to enhance resilience to market volatility.

36. Volatility in market prices creates uncertainty and reduces farmers' willingness and capacity to invest, while potential financiers also become less willing to lend. Following the liberalization of agricultural markets in many countries, farmers have become more exposed to such market risks. To respond to such challenges, improvements in information and transport connectivity will be required to enhance market accessibility and resilience to volatility in market prices. Assistance for setting up cooperatives and other forms of producer organisations can also be effective in increasing linkages between various stakeholders in the value chain by increasing their bargaining power, providing opportunities for mutual financial support and enhancing access to the benefits of increased investment.

37. The development of vital value chains for agricultural products creates value added for agricultural commodities through local small and medium-sized enterprises and can be both a job generator and a major factor in a more equitable distribution of growth in income. Local small and medium-sized enterprises can further add value by acceding to innovative financing schemes, accessing markets directly and by moving up in the value chain. To ensure maximum benefits, value chain financing should take farmers' needs into consideration and include adaptive financial products, such as insurance schemes, microcredit, capital risk mitigation and start-up funds.

38. To promote the proliferation of sustainable agricultural products and support their competitiveness, policy intervention in pricing mechanisms may be needed. Such policies help to incorporate social, environmental, cultural and health/safety externalities, whether positive or negative, in the market price. In addition to direct economic intervention, such as subsidies or levies reflecting various externalities, application of product information systems, including labelling and certification schemes, may be considered. However, establishing widely acceptable definitions and indicators for sustainable agriculture products may involve significant challenges. Involvement of the private sector, as well as civil society organizations, such as consumer groups, as vital partners would be critical in pursuing such endeavours. Several private sector entities have communicated their commitments to sustainable agriculture.¹¹

IV. Regional cooperation and support

39. In Asia and the Pacific, there are a number of international programmes which support national efforts and initiatives to address challenges in reducing poverty through sustainable agriculture, enhancing

¹¹ Such as Coca Cola (www.coca-colacompany.com/sustainable-agriculture#TCCC), Unilever (www.unilever.nl/Images/Unilever-Sustainable-Agriculture-Code_2015_tcm164-430985.pdf) and Monsanto (www.monsanto.com/whoweare/pages/our-commitment-to-sustainable-agriculture.aspx).

food security and achieving the sustainable development goals. Examples of some selected initiatives are given below.

A. Policy dialogue and coordination

40. While the geographic coverage of Asia-Pacific Economic Cooperation (APEC) is not comprehensive and differs from the coverage of the United Nations, APEC provides a high-level forum with significant political momentum to address international cooperation in the area of food security. In response to the concerns of member economies over both demand and supply sides of food security challenges, rising food prices and periods of price volatility, ministers of APEC economies responsible for agriculture and food have been meeting every two years since 2010. The Third APEC Ministerial Meeting on Food Security met in Beijing in 2014. Building on the APEC Policy Partnership on Food Security, which also endorsed, inter alia, the APEC Food Security Road Map towards 2020 and the APEC Food Security Business Plan, the ministers issued the Beijing Declaration on APEC Food Security, highlighting the most recent commitments of APEC for tackling food security.

41. The FAO Regional Conference for Asia and the Pacific also provides a biennial forum with comprehensive coverage of Asia-Pacific countries. Topics addressed at the Conference include food, hunger and agriculture, with a focus on reviewing the state of food and agriculture in the region, discussing collective responses to common and emerging challenges, and defining FAO work priorities for the next two years.

42. ESCAP first took up the issue of sustainable agriculture and food security in Asia and the Pacific when the subject was selected as a theme topic for the 65th session of the Commission, in 2009. The secretariat prepared a regional overview report¹² and member States reviewed, discussed and endorsed the report and recommendations on various means to enhance regional cooperation in this area. The sixty-ninth session of the Commission, in 2013, was also significant as Asia-Pacific countries launched the regional Zero Hunger Challenge for ending hunger, food insecurity and malnutrition by 2025.

43. At the subregional level, the Association of Southeast Asian Nations (ASEAN) demonstrates tangible progress in taking a collaborative approach to address issues related to food security and its relation to climate change. Relevant initiatives include (a) the ASEAN Integrated Food Security Framework, which provides a regional umbrella for food security-related initiatives, including bioenergy and climate change; (b) the ASEAN Climate Change Initiative, which established a comprehensive and cross-sectoral platform for coordination and cooperation; and (c) the ASEAN Multisectoral Framework on Climate Change: Agriculture, Fisheries and Forestry towards Food Security, which supports the Integrated Food Security Framework and provides inputs to the Initiative. In addition, ASEAN Plus Three provides further opportunities for outreach by promoting a broader range of initiatives related to food security and climate change, such as the ASEAN Plus Three Emergency Rice Reserve and the ASEAN Food Security Information System, among others.

¹² ESCAP, *Sustainable Agriculture and Food Security in Asia and the Pacific* (United Nations publication, Sales No. E.09.II.F.12).

44. In South Asia, food security has been one of the most important areas of cooperation of the South Asian Association for Regional Cooperation (SAARC) since its inception. SAARC leaders have demonstrated their commitment towards ensuring food security by adopting a number of important policy documents, such as SAARC Agriculture Vision 2020 and the Colombo Statement on Food Security adopted at the SAARC Colombo Summit in 2008. In 2007, the organization launched the SAARC Food Bank, a unique approach in South Asia, aiming at providing regional support to national food security efforts, in particular in times of food shortage and emergency, as well as fostering inter-country partnerships and regional integration.

B. Technical advice and project finance

45. Building on the long history of international cooperation on agricultural development, several international organizations provide support for technical advice and project finance on sustainable agriculture and food security, including climate-smart agriculture. FAO and ADB are among the most active in the Asian and Pacific region, together with the World Bank. Typical examples include the advocacy of FAO on climate-smart agriculture, sustainable agriculture loans from ADB, and the support of the World Bank for the Sustainable Agriculture Transformation Project for Viet Nam, which aims to improve farming practices and value chains in targeted areas and to promote institutional strengthening of relevant public agencies to effectively support implementation of the agricultural restructuring plan.

46. The International Fund for Agricultural Development supports sustainable agriculture projects in several countries in Asia and the Pacific. Together with the United Nations Environment Programme (UNEP), it launched a joint policy on sustainable agriculture in 2011 to guide Governments in scaling up policies and investments to aid and protect farmers and natural resources at the same time. UNEP provides technical support for the promotion of sustainable agriculture in the context of natural resources management, including biological diversity, with a particular focus on ecosystem-based adaptation to climate change. The United Nations University collaborates with the Government of Japan to promote the Satoyama Initiative, which focuses on synergy between sustainable agricultural production and conservation of natural ecosystems, among others. The secretariat of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa¹³ supports sustainable agriculture in the context of combating desertification and controlling soil degradation.

47. International non-governmental organizations are also involved in sustainable agriculture projects and are willing to collaborate with governments and community-based organizations. Winrock International and Oxfam International are among those that are actively promoting sustainable agriculture in Asia and the Pacific.

48. Technical advice and project finance are also provided through bilateral cooperation. A number of donor agencies and other governmental bodies for international cooperation, research institutes, universities and civil society organizations are engaged in activities related to the promotion of sustainable agriculture.

¹³ United Nations, *Treaty Series*, vol. 1954, No. 33480.

49. South-South cooperation also provides new opportunities for technical advice and project support. The Agrovista Project in 1998 is a classic example of how the potential of South-South cooperation may still be underutilized for sustainable agriculture.¹⁴ As agricultural research and biotechnologies to achieve food security are considered as some of the most promising areas of intra-Asia-Pacific South-South cooperation, their potential should be further explored and expanded.

C. Research and development

50. The research community in Asia and the Pacific has a long history of and many achievements in supporting robust agricultural development. National Agricultural Research Systems in individual member States have played key roles in this endeavour, especially in facilitating the application of different levels of technologies, as adapted to specific national and local conditions. They now, however, face the new challenge of adjusting their focus to upcoming challenges, such as coping with climate change impact, integrating economic, social and environmental dimensions and achieving the sustainable development goals, while simultaneously dealing with insufficient investment in research and development.

51. In this context, mutual cooperation and partnerships among National Agricultural Research Systems is becoming critical. In a spearhead approach, CGIAR unites organizations engaged in research on reducing rural poverty, increasing food security, improving human health and nutrition, and ensuring sustainable management of natural resources. Its work is recognized as an example of successful partnerships that bring different actors together and mobilize public funding. The Asia-Pacific Association of Agricultural Research Institutions provides a neutral forum for National Agricultural Research Systems in the region, with the objective of strengthening their research capabilities and promoting information-sharing in order to alleviate poverty, increase agricultural productivity and resource use, protect/conservate the environment and improve sustainability.

D. Information and networking

52. Improving access to the latest policy and technical information and enhancing opportunities for knowledge-sharing is an important component of effective support for decision makers at different levels, from farmer groups to development planning bodies. Strengthening the science-policy interface is an essential step to improve the policymaking process in the face of emerging and intensifying challenges.

53. SATNET Asia, also known as the Network for Knowledge Transfer on Sustainable Agriculture Technologies and Improved Market Linkages in South and Southeast Asia, is a regional network specifically dedicated to the promotion of sustainable agriculture, targeting comprehensive coverage of key stakeholders, such as the public sector and policymakers, non-governmental organizations, farmer organizations, traders and the private sector. Launched in 2012 with funding from the European Union, and

¹⁴ Nagesh Kumar, Director-General, Research and Information System for Developing Countries, "South-South and Triangular Cooperation in Asia-Pacific: Towards a new paradigm in development cooperation", keynote address to the Asia-Pacific Development Cooperation Forum: Regional Workshop on Trends and Progress in Triangular and South-South Cooperation, Bangkok, 21-22 October 2008. Available from www.un.org/en/ecosoc/newfunct/pdf/background%20study%20final.pdf.

coordinated by the Centre for Alleviation of Poverty through Sustainable Agriculture in collaboration with the Asian and Pacific Centre for Transfer of Technology and other partners, SATNET Asia supports innovation for sustainable agriculture by strengthening South-South dialogue and intraregional learning. Operating in 10 countries in South and South-East Asia, SATNET Asia has facilitated knowledge transfer through the development of a portfolio of best practices on sustainable agriculture, trade facilitation and innovative knowledge-sharing. Based on documented knowledge, it has delivered a range of capacity-building programmes to network participants who play roles as change agents and innovators.

54. There are other networks which also address specific topics related to sustainable agriculture or target specific groups. For example, the Asia Pacific Adaptation Network facilitates information-sharing on climate change adaptation policies, practices and technologies applicable in different sectors, including agriculture; the Asian Co-benefits Partnership promotes a co-benefit approach which seeks simultaneous solutions for climate change mitigation, adaptation and other environmental issues; and the International Partnership for the Satoyama Initiative of the United Nations University deals with information related to win-win actions for sustainable agricultural development and biodiversity conservation.

55. With a more specific focus on a synergetic approach to climate change mitigation and adaptation, as well as broader socioeconomic challenges for achieving a more sustainable future society, LoCARNet, also known as the Low Carbon Asia Research Network, connects researchers and research institutes in the Asian region to assist with and coordinate the formulation and implementation of science-based policies for low-carbon development. The Asia Pacific Network for Sustainable Agriculture, Food and Energy connects researchers from six countries in Asia and the Pacific with the objective of collaborating in connecting and educating people for a better economy, ecology, and equity in agriculture, food and energy systems.

56. The Asia Pacific Agricultural Extension and Outreach Network was established in December 2014 to contribute to enhanced linkages between agricultural research and extension to promote sustainable agriculture and food systems and improve productivity in the region. It focuses on the role of agricultural extension as a critical agent for transformation towards sustainability.

E. Capacity-building

57. Given the above discussion, it is evident that the multiple challenges faced by agriculture and food systems need to be addressed simultaneously and holistically, and therefore, there are critical requirements for capacity-building. This would help in improving the efficiency and sustainability of existing agricultural systems and modalities for the innovation and transfer of technology. The emphasis needs to be on developing better policy environments and regulatory systems, enhancing awareness and technical capacities, and nurturing new partnerships among all stakeholders, including policymakers, regulatory bodies, researchers, farmers and value chain actors.

58. At the policy level, the institutional strengthening and development of regulatory instruments, together with the enhancement of human resource capacity, are essential, especially for coping with new challenges such as climate change adaptation and response to intensifying natural disasters. For example, countries in the region must identify integrated adaptation and mitigation options for a range of agroecosystems, strengthen

the disaster risk reduction approach and improve the capacity to respond to food and agricultural threats and emergencies.

59. There is a growing recognition of the critical role of smallholder agriculture in increasing agricultural production and raising rural incomes in a sustainable manner and thus contributing to efforts to promote sustainable agriculture, ensure food security and alleviate poverty. Utilizing the full potential of smallholder agriculture, however, will require increasing the pace of innovations and of transfer of agricultural technologies and increasing the use of economies of scale. It will also require improving (a) the efficiency of value chains and consolidation of supply channels, (b) communication between technology innovators and farmers, (c) public-private partnerships and (d) the efficiency of markets for technology.

60. Various opportunities for capacity-building support programmes are provided through international programmes. The Centre for Alleviation of Poverty through Sustainable Agriculture, among others, provides tailor-made capacity-building programmes, upon request from ESCAP member States, specifically focusing on sustainable agriculture for food security and poverty reduction in developing countries. On the basis of experiences from SATNET Asia, the Centre has also launched, in partnership with the Centre for Sustainable Agricultural Mechanization and the Asian and Pacific Centre for Transfer of Technology, a project funded by the Livelihoods and Food Security Trust Fund managed by the United Nations Office for Project Services. The Integrated Rural Economic and Social Development Programme for Livelihoods Improvement in the Dry Zone of Myanmar seeks to strengthen the capacities of policymakers, especially at the local level, programme development partners and the private sector to coordinate and share knowledge through the establishment of knowledge-sharing and collaboration mechanisms and to formulate policies and advocate for rural development, poverty reduction, livelihood improvement and food security in the dry zone of Myanmar. The outcomes will be further disseminated to other member States.

F. Strengthening the Commission's engagement

61. Regionalism is an effective strategy for countries to strengthen their capacity to respond to the challenges of the new global development context. As outlined in "The United Nations Regional Commissions and the Post-2015 Development Agenda: Moving to Deliver on a Transformative and Ambitious Agenda", the United Nations regional commissions will be a valuable resource for the support of member States in the implementation of the post-2015 development agenda and the sustainable development goals, by providing a vital bridge between global frameworks and national development agendas.

62. In line with this important role, ESCAP now intends to strengthen its activities in the areas related to sustainable agriculture for food security and poverty reduction, to support member States in achieving the relevant sustainable development goals, such as goals 1 and 2, with a particular focus on promoting balanced integration for sustainable development and supporting South-South cooperation. The Centre for Alleviation of Poverty through Sustainable Agriculture, in collaboration with the Centre for Sustainable Agricultural Mechanization, together with other regional institutions and substantive divisions, will take the lead in the implementation of ESCAP activities in this area. Among other efforts, strengthened linkages with the Environment and Development Division

will facilitate a holistic and systemic approach to sustainable agriculture in the broader context of natural resources management.

63. To achieve this, the capacity of the Centre for Alleviation of Poverty through Sustainable Agriculture should be strengthened so that the Centre can better play a pivotal role among ESCAP divisions to lead ESCAP-wide actions in facilitating inter-ministerial policy dialogues, provide multidisciplinary knowledge-sharing functions and enhance broad-based capacity-building opportunities that would support the development, dissemination and implementation of innovative policy, practice and technology options for the further promotion of sustainable agriculture for poverty reduction, and thus contribute to the enhancement of livelihood opportunities for rural agricultural communities in all dimensions of sustainable development. While significant progress has been made in building and promoting Centre-led platforms such as SATNET Asia, continued support to the Centre is necessary to further scale up these efforts and ensure it continues to deliver useful services to member States.

64. At the eleventh session of the Governing Council of the Centre, held in Bogor, Indonesia, in February 2014, it recognized the Centre's excellent accomplishments over the past years and recommended that the Centre continue to operate as an ESCAP regional institution and to promote cooperation between and among countries and organizations to enable knowledge-sharing and leveraging of the others' strengths, with a particular focus on agricultural innovation systems. Further, the Governing Council discussed modalities to strengthen the Centre's financial base and recommended, *inter alia*, that a concerted effort be undertaken by the Chair and members of the Council and the Executive Secretary of ESCAP to increase voluntary contributions to sustain the Centre. In this context, a subcommittee, composed of the Chair and selected members of the Council, will be formed to look into opportunities to enhance ownership of the Centre by Council members.

65. At the seventy-first session of the Commission, it commended the Centre for its knowledge-sharing, capacity-building and other activities in the areas of poverty, food security, sustainability and climate change. Members of the Commission who are also members of the Centre's Governing Council reaffirmed their commitment to continue and, if possible, increase yearly voluntary contributions to the Centre and to continue working with the Centre in knowledge-sharing and other activities beneficial to the region.

V. Matters for consideration

66. Through the Committee, member States may wish to share information and experiences on recent progress in the area of policy as well as achievements, challenges, lessons learned and needs for further support through regional cooperation for reducing poverty through sustainable agriculture.

67. The Committee may wish to provide advice on specific areas, priority actions and modalities for further regional cooperation for reducing poverty through sustainable agriculture that should be promoted by ESCAP, especially through its Centre for Alleviation of Poverty through Sustainable Agriculture.

68. The Committee may wish to provide advice on the means to strengthen the Commission's engagement on issues related to reducing poverty through sustainable agriculture, including, in particular, the

strengthening of the Centre, its functions and programme delivery as well as financial and human resource bases. More specifically, the Committee may wish to consider the possibility of the transfer of the Centre's activity from ESCAP subprogramme 1, Macroeconomic policy and inclusive development, to subprogramme 4, Environment and development, in an effort to enhance its integrated approach to the three dimensions of sustainable development, namely the economic, social and environmental dimensions, and to facilitate a holistic and systemic approach to sustainable agriculture in the broader context of natural resources management.
