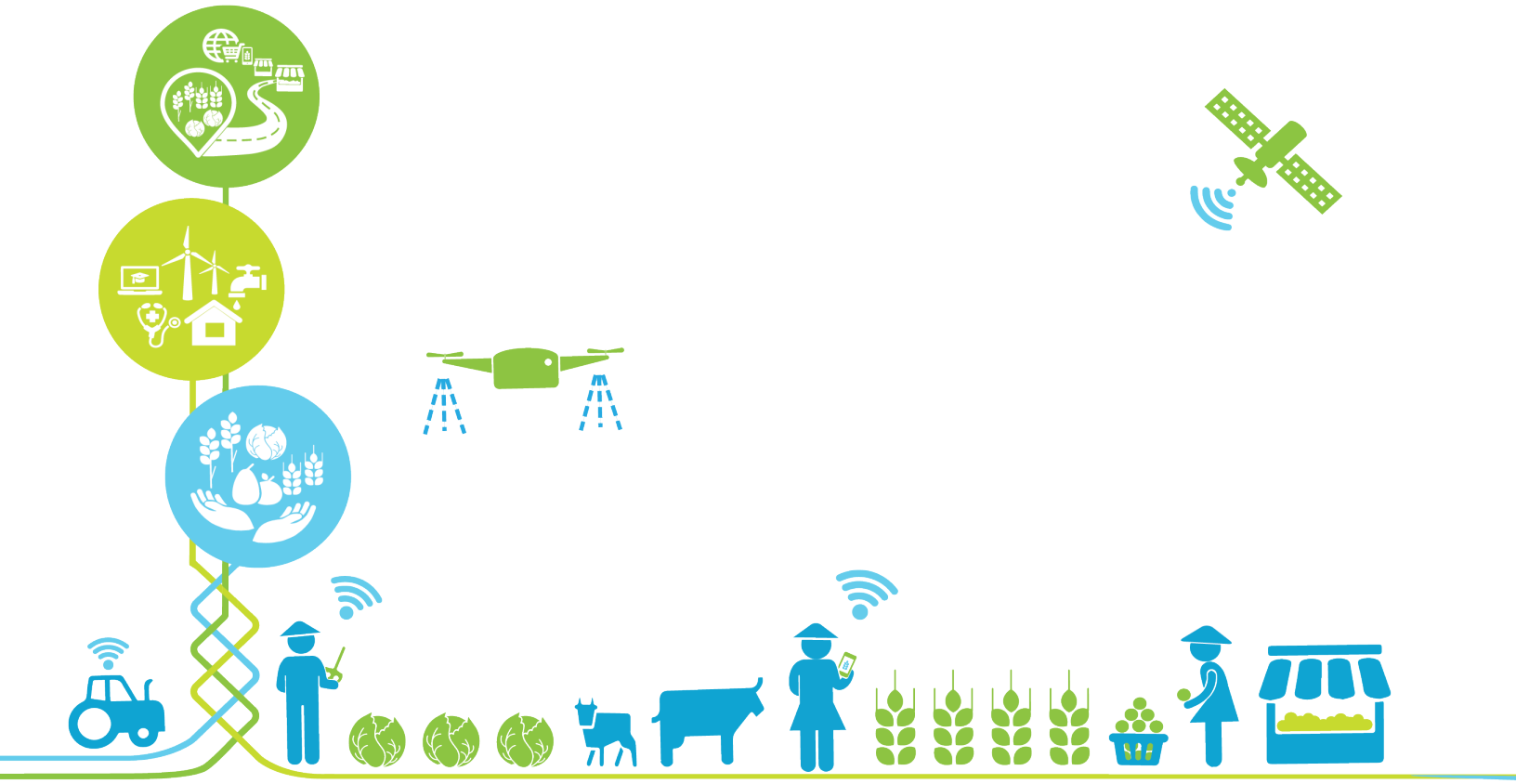

RURAL DEVELOPMENT AND FOOD SECURITY FORUM 2019 PROCEEDINGS

DECEMBER 2020

ASIAN DEVELOPMENT BANK

ADB

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Notes:
ADB President Takehiko Nakao stepped down as President on 16 January 2020.
In this publication, "$" refers to United States dollars.
ADB recognizes "China" as the People's Republic of China.
All photos are by ADB.
Cover design by Rodel Valenzuela.

Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
AWD	alternate wet and drying system
CIRAD	French Center for Research and Agricultural Development
CO_2	carbon dioxide
DMC	developing member country
DSR	directly seeded rice
EBRD	European Bank for Reconstruction and Development
EU	European Union
FAO	Food and Agriculture Organization
FDI	foreign direct investment
FPC	farmer-producer company
FPO	farmer-producer organization
GDP	gross domestic product
GIS	geographic information system
GMS	Greater Mekong Subregion
IAEA	International Atomic Energy Agency
ICT	information and communication technology
IFPRI	International Food Policy Research Institute
IRDP	Integrated rural development program

IRRI	International Rice Research Institute
IT	information technology
KMUTT	King Mongkut University of Technology, Thonburi
LAO PDR	Lao People's Democratic Republic
NATCO	National Confederation of Cooperatives in the Philippines
NGO	nongovernment organization
OECD	Organization for Economic Cooperation and Development
O&M	operation and maintenance
OTOP	One Tambon One Product
PGP	Carrageenan plant promoter
PNRI	Philippine Nuclear Research Institute
PRC	People's Republic of China
PPP	public–private partnership
PSOD	Private Sector Operations Department
RDFS	Rural Development and Food Security
R&D	research and development
SDG	Sustainable Development Goal
SME	small and medium-sized enterprises
STEAM	Science and Technology, Engineering, Arts and Mathematics
UK	United Kingdom
UNCDF	United Nations Capital Development Fund
US	United States
USAID	United States Agency for International Development
WHO	World Health Organization

Cooperation as a vital factor. Individual farmers need to acquire knowledge of practices and solutions adopted by other farmers to solve common problems.

Voices from the Field: Farmers' Experience

Carolyn Dedolph Cabrera, ADB: In this session, smallholders as well as commercial farmers share their first-hand experience of challenges, difficulties, and successes with policy makers and other stakeholders in the businesses they operate. In the early part of my career, I worked at the IRRI in the Philippines and did a report titled: Listening to the Farmers. I am pleased to have the opportunity to interact with farmers during this session. Our panelists are Jit Kumari Yogi, Nepal; Indra Gunawan, Indonesia; Paulina de Afria, Philippines; Jose Romeo Ebron, Philippines; Ganpat Parthe, India; and Sehar Iqbal, joining us via video link from India.

Panel Discussion

Jose Romeo Ebron, Asian Farmers Association for Sustainable Rural Development, Philippines: I would like to thank ADB for inviting me and the farmer's association to this forum. I am a potato and rice farmer with some small goats and am an active member of a cooperative, which is called Agriculture and Farmers' Cooperative both at the village and national levels. We organized the Philippine Family Farmers, especially Forestry Federation.

Paulina de Afria, Farmer, Philippines: I am a smallholder farmer from Nueva Ecija in the Philippines, and I grow onions, green chilies, and okra.

Jit Kumari Yogi, Sustainable Social Women Cooperative, Nepal: I am from Nepal, single mother and a smallholder farmer planting banana on 1 ha. I used to plant rice but because of the uncertainties of rice growing, I learned from others and have gone into banana farming now.

Ganpat R. Parthe, Ankur Farm (Organic Strawberry Farm), India: I am from Maharashtra, India and I grow organic strawberries in the Western Ghats. Rainfall is more than 5,000 mm and the Maharashtra state government declared this area as an eco-sensitive zone. Landholdings are quite small, but farmers work hard. I have

been growing strawberries since 1992 but in the last 4 years I have been practicing organic farming. A group of 60 farmers pooled together 100 ha of land to bring it under organic farming. The Government of India has provided support to farmers to increase their income from organic farming. We also received a Geographical Indication (GI) Certification.[20] Farmers meet weekly to discuss organic manure and bio-fertilizer compost. In the first year we cultivated boundary crop to protect strawberry crop from harmful insects coming from outside, which works as a buffer zone. We test soil from farm every year and start with green manure and after 45 days use the green manure as compost adding cow dung, neem cake phosphorus mobilizing bacteria and potassium used in farmyard manure such as cattle manure. The first 2 years is a conversion period. After year 3, we have increased the humus of the soil to get best yields. In the market nowadays there is an increased demand for organic strawberries, and we secured double the price for our organic strawberries compared to ordinary strawberries. We send the fruit directly to the consumers after receiving orders and receive online payments in advance. In future the challenge is to modify technology and provide support to our farmers. Apart from cultivating organic strawberries, I also practice apiculture, collecting honey jointly with 1,900 small farmers, who are also involved in beekeeping. We provide support to farmers to increase yields by 30% while saving bees and saving the earth.

Indra Gunawan, Farmer, Indonesia: Good morning to all participants at the RDFS Forum 2019. I would like to thank ADB for the invitation. I am a farmer from Cibunar village in Garut Regency, West Java, Indonesia. The RDFS Forum has captured the main issues that we farmers have been struggling with. Farming today is a profession with high cost and low return. It has to deal with complex problems, such as shrinking farmland, decreasing the quality of soil, lack of farmer friendly technology, climate change impacts and lack of young workers engaged in farming. In this forum I will try to share with you my experience as a farmer from a small village in Garut, Indonesia. This only reflects my individual experience, as there are other smallholder farmers who did not have the chance to come to this forum to share their similar experience. I will share problems that we face and expect solutions or at least call ADB Forum's attention to the issues. In addition to the marginal returns that we get from farming in Garut, there are other major challenges that I wish to identify: water, technology, climate, and mindset. The farmlands lack water but because there is none. During dry season we usually do not have water but recently, the government funded the construction of a reservoir, which is not yet functioning. Our paddy fields are in a mountainous area and the water reservoir is in a lower area. We do not have the equipment and technology to bring water to upper farming areas from the reservoir. In addition, the irrigation channels that were traditionally built now have leakages. Our farmland on higher ground also pose difficulties in using technology. We can hire tractors but we have to lift these to higher levels in order to use them on our farmland. Bringing other machines, such as rice threshers to the paddy fields is also difficult and time consuming.

[20] Geographical Indication Certification, which is issued by testing centers accredited by the Agricultural and Processed Food Products Export Development Authority, under the National Program for Organic Production of the Government of India.

Sehar Iqbal, Sajid Iqbal Foundation, Kedia Farming, India: I am an activist, researcher, and writer. My work covers agriculture in India, gender mainstreaming, and land reform. Today I am here to talk about a farmer-led agricultural project in Bihar, India in which I worked.

Paulina de Afria, Farmer, Philippines: I am thankful to ADB for inviting me to this forum to talk about family farming experience and conditions. I am a smallholder farmer, planting onions during the dry season and chili during the wet season. At the start of the planting season we borrow money to buy fertilizer, chemicals, and hire labor and harvesting of onions is done after 110 days. We have borrowed so much money and spent so much in planting and yet the market price of the onions for the producer is very low. In the recent cropping season, we could not even recover the cost of production. My husband and myself are wondering how we can give our children a better life. I also fear that my children will not take up farming and there will be none to farm the land we have inherited from our parents. As a smallholder farmer I hope to receive assistance and support services from the government so that our poor situation can be improved.

Jose Romeo Ebron, Asian Farmers Association for Sustainable Rural Development, Philippines: I am active in a cooperative, which is part of part of a regional network we call Asian Farmers' Association for Sustainable Rural Development. We organized ourselves in 2002 and we are present in 16 countries with a total membership of 13 million individuals. In Asia and the Pacific, we have 20 National Farmers' Organizations. For us, the challenge is not just about dysfunctional markets. We are also facing a challenge of dysfunctional agricultural production. Our agenda as a regional network is to promote secured land rights, produce diverse and nutritious food through sustainable agro-ecology, build farmer cooperatives and their enterprises, promote equitable rights and opportunities among women and men farmers, and promote young farmers. Smallholders are the main investors in the rural sector and the largest food growers in the world. But they are dispersed and fragmented and face numerous barriers, which lead to high transaction costs coupled with a lack of access to credit. In imperfect markets it is difficult to sell our products; we usually sell to traders. To some extent we also lack government support. We can only address some of these concerns by mobilizing our farmer cooperative members. A lot of farmer organizations have no professional capacity and that is why we need investments from private sector and government to strengthen and build farmer organizations and cooperatives. We want to professionalize business planning as a lot of farmer organizations in the Philippines do not know how to develop business plans. They mostly concentrate on producing and do not have capacity to manage their enterprises. Part of the challenge is access to finance. There are a lot of financial organizations, but farmers do not know how to access financial instruments. The Asian Farmers' Association is now responsible for agricultural investments. We want to facilitate positive co-op–to–co-op production. Right now, in the Philippines, a lot of rice farmers are unable to sell their produce because palay supply has exceeded demand. What we do is to promote collaboration between co-ops, where farmer co-ops can sell to big co-ops. We also need to organize commodity-specific federation. We know that a lot of private sector organizations are willing to engage with cooperatives, but the challenge lies in increasing volume to meet demand. That is why

we need to organize commodity-specific federations such as those for cocoa, banana, and other commodities. We also hope to organize federations at national level. The legal framework is also important for the policy environment.

In the Philippines, there is a Cooperative Code, which however contains only one chapter on agricultural cooperative and nothing else. In Cambodia, there is a good cooperative law, in Lao PDR there is an executive decree and we are pushing for the passage of the agriculture cooperative law. In the Philippines we need government support in insurance, procurement, and addressing climate risks. We need weather-based or weather index insurance to be able to minimize risks to farmers. And we wish to multiply partnerships. In the Philippines we have this program with the International Fund for Agricultural Development and the Department of Trade and Industry to assist small farmer cooperatives to link with the market and enhance capacities in managing their enterprises. Lastly, I attended a meeting at FAO, Rome, 2 weeks ago, which produced a high-level expert report on tackling the issue of transformative food systems. We must promote agro-ecology and must diversify farming. We must support transition to diversified and resilient food systems and establish multi-stakeholder partnerships (government-cooperatives-private sector). I would like to encourage the private sector and governments to invest in farmer organizations so that farmers will have a bigger role in the value chain processes.

Jit Kumari Yogi, Sustainable Social Women Cooperative, Nepal: One of the problems I face is unavailability of seeds. As seed is not readily available, farmers have to store seeds from the previous production. Seeds are available through agro-vets, but these are expensive. There is also no irrigation in our area and without access to electricity, pumping ground water has been an issue. We are also not knowledgeable about disease and pest control. If we are provided information regarding the kind of diseases to which the seeds being sold are susceptible to, we would be better prepared. But agro-vets lack this knowledge. We also have problems of fertilizer availability, as there is scarcity of one or the other component. That creates problems for us during the planting season. The male farmers who own bicycles go to India, which is close to our place, and get the fertilizers. As a female I cannot do that. Even if fertilizers were available in the market, there is always a risk of police arresting the farmers who are procuring individually from India. We depend on traditional seeds that have been passed down since generations and we are following traditional practices of planting. But rains do not come on time these days and that is also a big problem. A lot of people are moving out of the villages and going overseas for employment because there is no income from farming anymore. Since I do not see any future in farming, I have put all three of my sons through school giving them an education in the hope that can find other sources of income. I have had to sell my land to put them through college and I am hoping that they will not have to depend on farming in the future. I decided to send my sons to college because in 1991 when I came down from the hills, I lost my first-born child to pneumonia, as I could not afford to pay Rs. 30 to buy medicine. I was really struck by that and I wanted to put my sons to school so that they do not face challenges in society that I have had to go through in my life. One of my sons is now a health worker. One is in the education sector, and one is a sub-engineer.

Ganpat R. Parthe, Ankur Farm (Organic Strawberry Farm), India: Our organic strawberry product is a perishable commodity being grown in a remote area at high altitude. For transportation of this crop they need a pre-cooling system at the farm level and support to farmers in transportation of the produce to market. The 1,400 farmers involved in strawberry growing need to be trained, especially on how to pre-cool the fruit after harvest. Currently, we have a pre-cooling system with a capacity of about 5 tons per day, but production is about 80 tons per day. There is a huge gap of 75 tons per day. As a farmer group, they need capacity building with regard to harvesting because each farmer uses a different strawberry plucking technique. In addition, pre-cooling capacity is needed to increase the shelf-life of the strawberries. For produce from collective farming, it is difficult to determine whether a certain crop was grown organically or non-organically. Laboratory tests are needed to confirm whether the cultivation has been under strict organic conditions. The vertical cultivation of strawberries requires less farmland but requires initial capital investment.

I share my knowledge and experiences in organic farming with other farmers as well as visitors to the farm. Organically grown crops sell at higher prices compared to those grown inorganically. I recommend farmers to keep at least 2 boxes of honeybees at farm level, which increases crop yield between 25%–30% due to pollination. I also recommend keeping local varieties of bees, which are already acclimatized to local conditions. The honeybees provide additional income to farmers.

Indra Gunawan, Farmer, Indonesia: Some in my community and myself believe that use of machines makes some sources of income for locals disappear. By using tractors, friends who assist me with their labor will become jobless. If we use rice threshers, women who usually do this job will lose their income. Use of technology also creates other socioeconomic and cultural problems. Other problems relate to climate and mindset. Many farmers believe that a lot of water is required in farming. Most farmers refuse to switch to other varieties of crops and prefer paddy to other crops. Sometimes the dry season last longer and most of us wait for the rainy season to start planting paddy, leaving the land idle during dry season. The last challenge concerns the workforce. Today farmers and laborers are already middle-aged or older and young people tend to work in other sectors, such as in industries as factory workers. Their income may be at same level as ours, but they think that working on farms is not prestigious and does not suit the young men. Ironically, many old farmers encourage their children to get employment with government or work in factories because they too think that off-farm employment is more prestigious. These problems together make the situation complicated. If you ask me to prioritize, I would say that the most important problem needing immediate solution is the irrigation technology. We need a functioning irrigation system and technology to ensure that our farmlands do not lack water and we can continue planting also in the dry season.

Sehar Iqbal, Sajid Iqbal Foundation, Kedia Farming, India: The larger agriculture scenario is that we have a population of more than a billion (1.27 billion) and growing. Over 86.2% of India's farmers have land holdings of less than 2 ha. They are beset with high input costs, decreasing water availability, and price crashes because production is resource-intensive, cereal-centric and regionally biased. Systemic

failures have manifested themselves through tragedies like the rise in farmer suicides in the country. The government has promised to double farmer income by 2022 but it is clear that in doing this, it will also have to address gender issues in agriculture, high input costs, and water and soil sustainability.

A group of farmers in Kedia, Bihar have come up with a model that addresses all these concerns, and it all began with a research project, which was a participatory study into declining soil quality and productivity in six states of India including Bihar. The team of researchers were wrapping up their research in 2013 when the farmers, who were working on the research project challenged them to not just record their problems but also to address them. The villagers had seen two farmer suicides just before this and a massive failure of the onion crop. The area is a small village in Jamui district of Bihar. Farming is rain-fed and 99% of farmers are marginal. Forty percent of the adult male population work in cities as construction laborers leaving their wives and daughters to farm the land. In this respect, it is typical of agriculture in India as a whole. The women farmers cannot access fertilizer subsidies and government schemes for farmers because land title documents are not in their name. These women were beset with procuring good seed, accessing agriculture credit, and government extension programs and they were one of the first to volunteer for the pilot project. The pilot project had 38 participants out of which 20 were women. Participants were encouraged to construct concrete floor cattle sheds, ecosan toilets, establish biogas plants, and vermicompost beds. All human and animal waste collected under the first two formed the inputs for the next two, providing free fertilizer in the shape of slurry and vermicompost. The farmers were trained in watershed management and micro irrigation. They formed a cooperative called the Jeevit Mati Kisaan Samiti (All Living Souls Farmer Group). Besides this the village, farmers also founded a small savings group in which they saved money every month and lent interest-free to its members. This gave them a reliable source of short term credit.

The farmers were also introduced to mixed and multilayered cropping; flour, millets, oilseeds, and herbs were introduced for the first time. They were taught to make their own pesticides using neem and tobacco. The results were a bumper crop of onions, and other farmers joined in. Today, every farmer in Kedia is part of the project and two other villages in the neighborhood have joined in. Chemical pesticide usage is down to zero and fertilizer use has been reduced by more than 80%. Improvements in soil quality have led to greater moisture holding capacity for the soil and all 30 shallow wells are full in a year when the surrounding villages have been declared drought hit. This has reduced irrigation and tilling expenses. All told, input costs have been reduced by a whopping 92.5%. There are 22 biogas plants and 282 vermicomposting units. The easy availability of good quality fertilizer has increased potato production by 73%. There has also been an increase in millet and oilseed production. The villagers were provided with a solar-powered cold storage facility that was funded through crowd sourcing so that farmers can store their produce and get a better price in the lean season. Three more farmer cooperatives (with men and women farmers) have been registered and a sales counter in Patna established for selling produce from the cooperatives for higher prices (in collaboration with Indian Institute of Technology-IIT Kharagpur alumni).

Apart from these general benefits, women farmers now have access to vermicompost and do not need to buy fertilizer. They do not need to go through the difficult process of accessing fertilizer subsidies. Additional income comes to women farmers from selling vermicompost. Women farmers selling through cooperatives get fair prices and they get clean fuel (biogas) to cook with as opposed to respiratory disease-causing firewood. There is improved sanitation and hygiene and gains in women's and community health from Eco San toilets. Women get more privacy with Eco San toilets replacing open defaecation. And finally, improved water percolation in the soil means that the 30 shallow wells in the village are now filled. Women no longer have to travel long distances to collect water. The success of the project can be gauged by the fact that in February 2018, the Bihar state government announced that it would replicate the Kedia model in one village in each of its 118 districts, creating a green agriculture corridor around the Ganga river.

Carolyn Dedolph Cabrera, ADB: We have heard from farmers, big and small, about their challenges—irrigation, other issues with water, debt, low prices, lack of government assistance, challenges with cooperatives and associations, seeds, pests, diseases, challenges of women farmers, challenges to keep the next generation in farming, and how to afford paying for their education if that is what families want the youth to do. We have also heard about how some want to stick to traditional crops and not go into farming new crops. We have also heard about challenges of organic versus non-organic farming. So, there are a lot of challenges out there. Some, we have heard of for many years and others are new ones, particularly related to climate change risks. What is the topmost priority problem of our panelists that the audience should hear today?

Indra Gunawan, Farmer, Indonesia: The top challenge is to manage the water system because of the contours in the planting area, which if managed well, could allow them to have multiple harvests in a year.

Jose Romeo Ebron, Asian Farmers Association for Sustainable Rural Development, Philippines: The real challenge is high production cost as input costs are increasing. That is a reason why our association is supporting agri-ecology and organic farming. This also relates to the market; we know that there is high demand in the market for organic products right now, but farmers are unable to produce quantities to meet demand.

Paulina de Afria, Farmer, Philippines: Our primary problem is the high cost of inputs as we have to buy fertilizers and chemicals to control pests and diseases and hire labor. The cost of production is high and yet at harvest our crops are priced low. We can barely recover the cost of production and we cannot pay back personal loans from friends. We are now in deep debt and the ones who are gaining in profit are the middlemen and agents who buy our crops.

Jit Kumari Yogi, Sustainable Social Women Cooperative, Nepal: I would benefit most if someone can teach me how to utilize my limited farmland to make it most profitable for me. It is knowledge and skills that are the most important contribution experts can make toward improving my life.

Ganpat R. Parthe, Ankur Farm (Organic Strawberry Farm), India: We expect infrastructure in rural areas that help avoid losses and improve the shelf-life of the fruit and increases attractiveness of farming for younger generation. We also expect advice on green branded manure for the farmer.

Carolyn Dedolph Cabrera, ADB: Now I would like to invite the discussants to introduce themselves and say a few words.

Jakhongir Bektashev, "Baht Imkon Rivoj Chorvasi" (Private Farm), Uzbekistan: I would like to thank ADB for inviting me to the forum. We produce milk and provide it to a Nestle processing plant nearby. In 2017, we diversified our production by growing walnuts because there was demand from overseas customers coming from Uzbekistan to buy walnuts. We created a 415-ha walnut orchard with loan from ADB in the Ferghana valley, which is 80 km away from our farm. This has created 32 new jobs and these families asked me to convey their thanks to ADB.

Marites Alin Castre, Farmer, Philippines: I am a smallholder cultivating long chili and onions on 2 ha of land. One of problems faced by us is lack of capital as we have to seek loans to cover our production costs. We faced a volatile market price for our recent harvest of onions. For example, the price of P18 in the morning would drop to P16 by the afternoon. We spent P90,000 for production and got backed only P20,000. In addition, the floods destroyed our crops, so we had to again borrow money as we do not have financial resources to replace crops damaged by floods.

Amarjit Jagap, Farm Green Horizon, India: Farmers here have presented their problems. I would like to present some solutions. I export pomegranates to the European market. For an individual farmer there are numerous problems related to farm practices, making produce residue-free, traceability, supply chain, infrastructure, marketing, and profitability. The solutions are to promote young farmer leadership, connect the marginal farmers, share knowledge, right-person-at-the-right-place, involve women, focus on a specific crop, and establish a Farmers' Producer Company. Our Green Horizon Farm was established in 2016 and started operation with just 13 farmers. It mainly works on residue-free pomegranate. The farm has now a group of 350+ registered marginal farmers and is the first Farmers' Producer company in India, which has successfully marketed residue free pomegranate in Europe (Netherlands). It also has stakes in the domestic market, partnering with organized retail companies in India like Healthy Harvest, Reliance Fresh, Big Basket etc. Over 417 farmers are registered under "Solapur Pomegranate," an initiative under Geographical Indication (GI) No – 502. Over 49 are Good Agricultural Practices and Global Risk Assessment on Social Practices and Sedex Members Ethical Trade Audit (SMETA) Certified growers.

Patrick Renucci, Chen Yi Agventures, Philippines: I am here to share information with you what we are doing here in the Philippines. I live in the Philippines and my wife and I moved here 5 years ago to set up a sustainable business enterprise after the typhoon Yolanda struck. We are based in Visayas and we built a technologically advanced rice processing complex procuring palay from the farmers. We also launched a program to help farmers to get out of poverty and become debt-free. We

Developing resilience. It is important to diversify production within a viable and sustainable agro-ecological system—both to enhance nutritional and income security, and resilience to climate change.

provide seeds and loans at zero interest, as well as inputs like fertilizer, chemicals, and introduced mechanization. In the Philippines, the young people are increasingly getting educated and they do not want to go into farming as farming is considered to be one of the lowest professions in society. So, farmers are poor, they do not earn money, the size of farm holdings is small (average 1 ha), and the average age of the farmer is 57 years. There is a rice crisis in the Philippine as we need to import rice from Thailand and Viet Nam, without which there will be a shortage in the market. Our model is to change the way people are farming, using model farming and to increase their income. Most of money borrowed by farmers goes toward living expenses. Farmers borrow money from middlemen and pay huge interest. When farmers follow our program, they can make up to 10 times more money than from what they are doing now. Farmers need to focus on farming as an enterprise. Another major problem is that many farmers are not owners of the land they cultivate. They are not tenants and do not have a contract with the owner of the land. The farmer is only a caretaker. While the owner is an absentee, the caretaker has no resources and interest to improve the farm. That is another big problem. By following our program on mechanization, land leveling, and others. farmers can improve current yields of 2.5 tons per ha to 10 tons per ha. With the introduction of Tariffication of Rice, the price of palay is going down. The solution is to increase yield when prices of palay are going down.

Vanchin Tsogt-Ochir, Mongolian Rural Development and Relief Association NGO, Mongolia: Mongolia has its own set of problems and the list is long starting from the huge distances, sparse population, and the harsh winters. However, the last 2 days of deliberations here have shown that most problems are universally shared but the solutions are not. Lots of people say there are context-specific options and entry points proposed by various organizations and government. I would like to discuss to what extent those issues are institutional, technological, and most importantly operational.

Mariano da Costa Alves, Coffee farmer, Timor-Leste: My family has a coffee farm in Timor-Leste, and I have become a coffee farmer. I used to work as a barista in 2014. Timor-Leste is a very young country and we just celebrated our 17th anniversary. I worked with a Japanese-owned the coffee company. The company sent me abroad to learn about coffee in Indonesia and Japan. In 2017 I returned to my farm and started developing high value coffee there. In Timor-Leste, almost all would drink a cup of coffee every morning. I link the coffee farmers to end-customers like a coffee shop to eliminate the role of the middleman.

Forum participant: Have we explored the possibility of linking existing farmer cooperatives with a bigger cooperative such as the National Confederation of Cooperatives in the Philippines (NATCCO) to minimize farm-to-market linkage problems, eliminating the middleman, and increase the take home profit of the farmers?

Jose Romeo Ebron, Asian Farmers Association for Sustainable Rural Development, Philippines: Thank you for that question. In fact, I was also formerly chairperson of NATCCO and NATCCO and other federations also support this new Family Farmers Federation. There are 29 small rice producer cooperatives and because of the problem with the RTL, we consolidated the small cooperatives and linked them to larger cooperative members of NATCCO. Right now, one of the biggest members is ACES Cooperative Development Inc. They have ordered 10,000 bags of rice through the federation. Co-op trading is what we are doing right now so that the producer can link directly to the consumer.

Alessandro Marini, International Fund for Agricultural Development (IFAD): What I found quite interesting is that we have been hearing about challenges, successes, and solutions. I would like to focus on success and would like to turn my question about successes to the panelists, in particular addressing the farmer from India and our friend from AFA, Jojo: what is the key advice you may wish to provide to your fellow farmers from Asia (Philippines and Nepal) in making their business successful. It seems they are struggling in making their business successful for various reasons.

Ganpat R. Parthe, Ankur Farm (Organic Strawberry Farm), India: The farmer has to focus on his or her own field and work in cooperation with other farmers. Individual farmers cannot solve their problems on their own. They need to acquire knowledge of practices and solutions adopted by other farmers to solve similar problems.

Jose Romeo Ebron, Asian Farmers Association for Sustainable Rural Development, Philippines: For us, it is important to address the issue of food security because the issue is not just access to food but access to nutritious food. What we advise farmers in relation to climate change issues right now is to diversify production and develop agro-ecology system. Mono-cropping will not address the issue because when typhoons impact the farm, entire harvests are lost. We encourage diversified farming. Secondly, farmers need to organize themselves into cooperatives or producer organizations. For me this is the only way to link with the market and engage the private sector. Individually it is very hard but as a collective group or organization, it

will be better to have economies of scale, bargaining power, and have better access to mechanization, finance, and investments.

Forum participant: Universities and government agencies offer extension services that address the challenges pointed out by the farmers. Have any of you (addressed to all including panelists) received any kind of agriculture extension services or help with your problems?

Jose Romeo Ebron, Asian Farmers Association for Sustainable Rural Development, Philippines: Some individual farmers have received agriculture extension. But I would like to point out that in the Philippines agri-extension is being devolved to local government agencies, which is a challenge. In the cooperatives, they themselves provide extension services and help government. Co-ops have their own staff and provide agri-extension to their members.

Paulina de Afria, Farmer, Philippines: No, I have not received any extension services from government.

Jit Kumari Yogi, Sustainable Social Women Cooperative, Nepal: Yes, I have received extension advice.

Ganpat Parthe, Ankur Farm (Organic Strawberry Farm), India: Yes. I have received too.

Indra Gunawan, Farmer, Indonesia: Yes. I have also received extension advice.

Carolyn Dedolph Cabrera, ADB: Most people are getting information and knowledge shared through extension and university services. That is good news. And with all our modern technologies, hopefully the advice and services can be improved.

Forum participant: My question is addressed to the pomegranate producer from India (Ganpat Parthe). I am wondering if you store the pomegranate for a certain period. In our case in Turkey, if you store for 1 or 2 months, you can achieve at least a four-times higher selling price because of the Christmas period in Europe. I am wondering if you have any storage facilities and do you store your pomegranate produce?

Ganpat Parthe, Ankur Farm (Organic Strawberry Farm), India: In my presentation the last slide shows packaged pomegranates using modified atmospheric packaging, which is why the shelf-life of our pomegranate produce is more than 100 days. That is how we ship and export to the European market using such packaging over the last 5 years, thus increasing shelf-life to more than 100 days.

Carolyn Dedolph Cabrera, ADB: Let us give a big round of applause to all our panelists, discussants, and all who have responded with questions and answers. We truly appreciate your patience today. We have some tokens of appreciation for our

panelists and discussants that we would like to give out now. Kindly remember to put in your recommendations, feedback, insights in the insights icon in the EventsAir App so that we can capture what you thought was most meaningful about this session. There are certainly a lot of challenges that farmers continue to face; hopefully, with the help of technologies and all of us working together we will be able to help resolve some of these situations sooner for the benefit of everyone.

Akmal Siddiq, ADB: I would like to thank all the panelists and we will be issuing certificates to those who have participated.

Rural Development and Food Security Forum 2019 Proceedings

Smart rural development, effective agricultural policies, and efficient regulations are critical to ensure a sufficient, safe, nutritious, and affordable supply of food to Asia and the Pacific's growing population. Toward this end, the Asian Development Bank hosted the Rural Development and Food Security Forum 2019 to prompt governments in the region to provide the leadership and transformative change needed to generate rural prosperity and effective stewardship of land and water resources. Among the topics discussed were the farm income crisis, food insecurity and malnutrition, and rural distress and prosperity challenges. This report captures the stories and on-the-ground experiences of farmers, entrepreneurs and young agripreneurs to help prompt leaders to provide active leadership, effective resource stewardship, and promote transformative changes in rural development and food security.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members —49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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