



Food and Agriculture
Organization of the
United Nations

Working for  #ZeroHunger

Working with countries of Asia and the Pacific to achieve the 2030 Agenda



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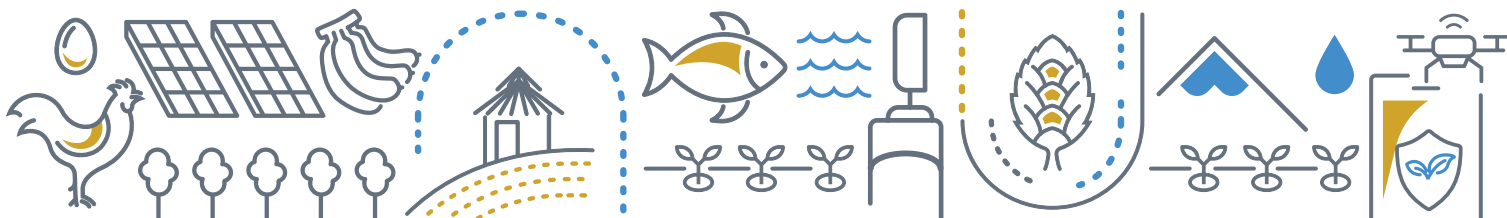
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Introduction

This publication “Working with countries of Asia and the Pacific to achieve the 2030 Agenda” provides an overview of Food and Agriculture Organization (FAO) of the United Nations' involvement in Agenda 2030 and the support it renders to its Member Nations in the Asia and Pacific region towards achieving the Sustainable Development Goals (SDGs).

The Asia and Pacific region is very dynamic and the countries vary in terms of socio-economic status, physical size (and that of their populations) and agro-climatic zones. Therefore they can often face both similar and/or very different challenges. The kind of support programmes that FAO provides also vary widely, with each intervention decided on a case-by-case basis, and drawing upon FAO's global expertise, specifically adapted to the situation on the ground.

The booklet describes the crucial role food and agriculture has in determining the success

in achieving all of the SDGs and presents a selection of support programmes that FAO delivers in Asia and the Pacific, at regional level as well as at country level, in supporting members in achieving those goals.

With time racing in the countdown to 2030, the Asia-Pacific region will need to fast-track progress to meet the SDG targets. It is hoped that this publication will contribute to accelerating our common efforts toward achieving Agenda 2030, for a just and secure world, leaving no one behind.





Food and agriculture – the lynchpins for achieving the Sustainable Development Goals (SDGs)

In September 2015, the 193 members of the United Nations (UN) General Assembly adopted the 2030 Agenda for Sustainable Development, along with a set of 17 bold Sustainable Development Goals (SDGs). They form a universal agreement to end poverty in all its dimensions and craft a more equal, just and secure world for people, planet and prosperity.

Member Nations have actively taken up the Agenda, and SDGs have become the main reference for development policies and programmes at national level in many countries.

From ending poverty and hunger to responding to climate change and sustaining our natural resources, food and agriculture lie at the heart of the 2030 Agenda. Being the prime connection between people and the planet, food and agriculture can help achieve multiple SDGs. Properly nourished, children can learn, people can lead healthy

and productive lives and societies can prosper. By nurturing our land and adopting sustainable agriculture, present and future generations will be able to feed a growing population. Agriculture, covering crops, livestock, aquaculture, fisheries and forests, is the world's biggest employer and the largest economic sector for many countries, while providing the main source of food and income for the extreme poor.

Clearly, there is an important role for FAO to play in assisting countries in implementing Agenda 2030.



FAO'S ROLE IN ACHIEVING THE SDGS

FAO has adopted the SDG targets and related indicators for measuring progress of FAO's Strategic Objectives. The SDGs have been mainstreamed into FAO's strategic programme of work that detail its approaches to help Member Nations achieve their SDG targets.

FAO is the custodian UN agency for 21 SDG indicators and is a contributing agency for a further 5. In this capacity, FAO is supporting countries' efforts in monitoring the 2030 Agenda. For the SDG indicators under FAO custodianship, accepted international methodologies are in place, free on-line training materials are available in English, and there is expanding coverage to other UN official languages.

FAO is proactively contributing to the UN development system regional reform in Asia and the

Pacific, with an overall objective to reinforce collaborative efforts and work in a synergetic manner with other UN partners and especially with Rome-based Agencies. Specifically, FAO is fully participating in the establishment of strong joint UN regional knowledge management hubs, the strengthening of joint statistics, policy and analytical work with Regional Economic Commissions and other UN agencies, bringing the Organization's comparative advantage.

FAO is also strengthening its Country Offices to be equipped for implementation of UN reform. The guiding spirit of UN reform is widely appreciated as an opportunity to strengthen coherence within UN Country Teams working together around the SDG agenda.

In the Asia and Pacific region, FAO is keenly supporting its members in achieving the SDGs, through effective partnerships with a broad range of actors.



SUPPORTING COUNTRIES FOR ACHIEVING SDGS AT THE REGIONAL AND SUBREGIONAL LEVEL

Following the 34th Session of the Regional Conference for Asia and the Pacific (APRC) in 2018, during 2018–19 FAO in Asia and the Pacific region focused its work on five regional initiatives (RIs): the Zero Hunger Challenge; blue growth; climate change; One Health; and the Interregional Initiative on Small Island Developing States (SIDS) – Pacific Component. Other programmes and priority areas of work included strengthening food and nutritional security; supporting the development of agricultural data and statistics; fostering sustainable agricultural production and rural development; improving capacity of resilience to food and agricultural threats and emergencies; and enhancing sustainable, efficient, and equitable natural resource management and utilization.

FAO in the region has made efforts to respond to the challenges and address the priorities in Asia and the Pacific region in a coherent, consistent and coordinated manner to achieve significant results at country level. These efforts have helped to enhance the relevance and coherence of the global commitments to regional priorities and have facilitated an integrated, multidisciplinary and cross-sectoral approach in terms of delivery at country level. FAO at regional level has implemented analytic and normative work and regional technical programmes in support of Agenda 2030, as well as providing technical backstopping to a large chunk of field projects and programmes in countries.

FAO developed high quality analytical products and organized high-level events bringing together diverse actors from the global community to showcase evidence and lessons learned, explore innovations, and to build momentum. These included 2018 and 2019 “Regional Overview of Food Security and

Nutrition in Asia and the Pacific”, “Dynamic Development, Shifting Demographics, Changing Diets”, “Forest Futures: Sustainable Pathway for forests, landscape and people in the Asia-Pacific Region”, the International Food Policy Research Institute (IFPRI)-FAO Global Event on “Accelerating the End of Hunger and Malnutrition” held in 2018 in Thailand, the “Regional Consultative Meeting on Biodiversity Mainstreaming across Agricultural Sectors for Asia and the Pacific” in 2019 in Thailand, “Asia-Pacific Forestry Week” in 2019 in the Republic of Korea and “Pacific Week of Agriculture” in both 2018 and 2019. Several of these events, knowledge products and work streams have provided the foundation for country-level related knowledge products and events.

Specific achievements of several regional programmes are further outlined as follow.

Supporting the SDGs by getting the numbers right – Gathering data, monitoring progress in Asia and Pacific



FAO supports enabling environments for achievement of Agenda 2030 and the SDGs related to food and agriculture (including forestry and fishing) by strengthening the capacity of member countries in Asia and the Pacific to collect data and compile and use SDG indicators to identify SDG gaps and to monitor progress. Additionally, FAO assists countries in planning and/or implementing their agricultural census using cost-effective methodologies, including data collection for compilation of key SDG indicators, such as women’s secure rights to agriculture land. **FAO’s Regional Action Plan for Global Strategy to Improve Agricultural and Rural Statistics** was successfully completed in 2018. Under this program, FAO provided support to over 20 countries in Asia and the Pacific to improve their agriculture statistics and mainstream SDG indicators. FAO held regional workshops

on such methodologies as computer-assisted personal interviewing (CAPI), sampling, master sampling frame and Geographic Information System (GIS). FAO also fielded over 40 technical missions to 20 countries to improve their agriculture and rural statistics. Together with the Asian Development Bank, FAO developed the first massive open online course on use of CAPI technologies for national surveys in support of the SDGs, which launched in January 2019 with a registration of 750 students from over 80 countries worldwide.

FAO organized a regional capacity development workshop on gender and land related data. The workshop raised awareness on gender and land rights and built the technical capacity of national experts from 13 countries in Asia and the Pacific on the use of sex-disaggregated statistics in agriculture. These approaches will help member countries achieve their goals by more accurate interventions to achieve SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality) and SDG 17 (Partnerships for the Goals).

Pacific Strategic Plan for Agricultural and Fisheries Statistics (2018–2020)



FAO and the Pacific Community (SPC) developed the plan through an FAO-SPC partnership. This also led to the establishment of a sub-regional Working Group to focus on specific statistical challenges and capacity strengthening of Pacific countries. Statisticians in the Pacific sub-region were trained on FAO tools and methodologies to estimate SDG Target 2.1. The programme contributes to achieving all SDGs but specifically SDG 2 (Zero Hunger), SDG 14 (Life Below Water) and SDG 17 (Partnerships for the Goals).



Chennai, India, one of many ports where FAO and partners have worked to make fisheries more environmentally sustainable across the Bay of Bengal

Bay of Bengal Large Marine Ecosystem



The Bay of Bengal area affords fisheries livelihoods for 5 million people and provides food for nearly 400 million people. Together with the eight countries surrounding the Bay of Bengal – Bangladesh, India, Indonesia, Malaysia, the Maldives, Myanmar, Sri Lanka and Thailand, FAO identified three issues threatening the Bay of Bengal Large Marine Ecosystem: over-exploitation of fish stocks, habitat degradation and pollution.

The eight countries committed themselves to work together through the FAO-implemented and GEF-funded **Bay of Bengal Large Marine Ecosystem (BOBLME) Project**, to better the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries.

The first phase of the project started in 2009 and expanded knowledge and strengthened understanding of the ecological, human and governance dimensions of the Bay of Bengal through reviews, research, working groups and expert workshops. It increased awareness of transboundary issues by undertaking a Transboundary Diagnostic Analysis. The project provided many new opportunities for scientists from the region to collaborate, and for them to interact with policy makers (both within and between countries) through regional meetings and exchange fora. It also facilitated many collaborations and partnerships between the bodies and agencies working in the region, and strengthened capacity of participating countries in applying the Ecosystem Approach to fisheries management.

The project developed an extensive **Strategic Action Programme (SAP)**, which was endorsed by the Ministries of Fisheries and Environment of the eight partner countries. A phase-two project proposal for GEF funding is under

approval, which will strengthen the capacity of participating countries to implement the SAP. The SAP aims to 1) Restore and sustainably manage fisheries and other marine living resources; 2) Restore, conserve and maintain degraded, vulnerable and critical marine habitats; 3) Control coastal and marine pollution and water quality, to meet agreed standards for human and ecosystem health; and 4) Address social and economic constraints, leading to increased resilience and empowerment of coastal people.

The project contributed substantially to achieving SDG 14 (Life Below Water) and also to SDG 1 (No Poverty), SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production).

Responding to African swine fever



Since reaching Asia in 2018, the epidemic of African swine fever (ASF) has affected 10 out of 42 member countries in the Asia and the Pacific region, seriously affecting their economies and the global pig production and meat supply. ASF kills pigs and there is no effective vaccine. The ASF virus does not infect humans, but the disease affects national food security and national and international trade opportunities. As pig production is an important sector of the economy and pork is a preferred commodity in many parts of East and Southeast Asia, control of the disease is crucial.



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FAO, in partnership with the World Organisation for Animal Health (OIE), is working extensively to enhance regional cooperation and information sharing, to help reduce the impact of this deadly pig disease. To foster this cooperation, in April 2019, the Standing Group of Experts was created in order to help build national and regional capacities for fighting ASF. Furthermore, international workshops have been organized, country missions to assess the ASF situation

and response strategies were undertaken, e-learning courses developed and laboratory equipment provided. As a result, countries are now better prepared to control and prevent further spread of ASF.

The programme contributes to SDG1 (No Poverty), SDG 2 (Zero Hunger), SDG12 (Responsible Production and Consumption) and SDG 17 (Partnerships for the Goals).

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CONNECTING THE DOTS, GLOBALLY, REGIONALLY AND AT THE COUNTRY LEVEL

In addition to the regional programmes in support of achieving the SDGs, FAO in Asia and Pacific is also undertaking numerous projects at country level, supporting individual Members. FAO's country projects bring global

expertise and high quality services to the Members, helping them to pursue their national priorities in their pathway towards meeting the SDGs. The projects are identified within the Country Programming Framework, a jointly prepared five-year planning outline for the cooperation between FAO and the member country. Examples of country projects are presented in the following section.





Achievements of member countries in Asia



AFGHANISTAN



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Dairy as a boon to rural livelihood improvement

FAO's cooperation framework with the Government of Afghanistan focuses on:

- policy planning, land reform, natural resources management, climate change, agricultural production, value chains development, employment creation and food security.

Within this framework, the dairy sector has been identified as a sector with significant scope for increasing household incomes, creating employment opportunities, and improving nutrition for the people of rural and peri-urban Afghanistan.

Due to the ongoing conflict in the country, the dairy sector has collapsed and the country has had to resort to imports for dairy products. The main challenges the dairy sector faces is the lack of access to markets for selling product and lack of animal health services. FAO's intervention has concentrated on addressing the many livestock disease outbreaks and high animal mortality rates, as well as on rehabilitating the value chain.

Starting in 2005, FAO and Afghanistan's Ministry for Agriculture, Irrigation and Livestock – with financial support from the International Fund for Agricultural Development, and the governments of Germany and Italy – launched the Integrated Dairy Scheme project, which addressed the entire dairy value chain. Dairy farmers were organized into cooperatives at village, district and provincial levels. Village-level cooperatives were trained in hygienic milk production and improved milk productivity. High-yielding fodder varieties (e.g. sorghum, berseem, Lucerne and oats) were introduced and fed fresh to animals or preserved into silage or hay for winter. FAO also helped establish the Afghanistan National Dairy Association as a national umbrella organization for stakeholders of the dairy sector.

Over time, the project expanded from two to six provinces: Kabul, Logar, Kunduz, Nangarhar, Herat, Parwan and Wardak. FAO mobilized over USD 13 million to establish five milk-processing centres, which are currently collecting, processing and marketing more than 27 tonnes of milk every day.



Five feed processing units (total capacity 100 tonnes per day) have also been established. Milk production per cow has tripled from 3.5 litres to 10.8 litres per day; and per family, milk production has increased from 4.4 litres to 14.8 litres per day. Farmers' annual income from milk sales has increased from USD 370 to USD 870, and an estimated 576 off-farm and 9 161 on-farm jobs have been generated.

The project contributed towards achieving SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth) and SDG 12

(Responsible Consumption and Production). Women, who are the primary caretakers of animals in Afghan households, are the major beneficiaries and have been substantially empowered by the project. Some 85 percent of households' income from milk sales is received by women who use it for children's education, food, clothing, medicine, feed for dairy animals, and for cultural celebrations. Overall, FAO's efforts resulted in women's enhanced socioeconomic status, and at the national level, the project has contributed to import substitutions, thus strengthening Afghanistan's economy.

BANGLADESH



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Achieving sustainable food and nutrition security under changing environmental conditions

FAO's programme to support Bangladesh in achieving the Sustainable Development Goals (SDGs) is defined by three pillars:

- healthy, safe and nutritious foods;
- sustainability of productive ecosystems;
- resilient and inclusive agri-economic growth.

A planning initiative was designed, focusing on climate change and environmental degradation, as these two issues can disrupt food availability, reduce access to food, and affect food quality. Bangladesh, one of the most populous and densely populated countries in the world, is highly vulnerable to the effects of climate change due to its geography. This, together with significant environmental challenges, puts pressure on the country's food and nutrition security.

In response to these challenges, the Government of Bangladesh, assisted by FAO, devised two mutually supporting key Country

Investment Plans that have led to significant extra investment that is furthering progress towards achieving a number of SDGs. These plans are the "Bangladesh Second Country Investment Plan for Nutrition-Sensitive Food Systems 2016–2020" and the "Country Investment Plan for Environment, Forestry and Climate Change 2016–2021".

Both country investment plans represent powerful tools in the hands of the government for assessing the need for and mobilizing additional financial resources, prioritizing investments, and integrating and coordinating action across sectors and ministries for better effectiveness. The plans also propose a series of investment programmes, anchored in existing national policies and programmatic frameworks, to improve food and nutrition security in an integrated way.

The 2019 Monitoring Report of the Bangladesh Second Country Investment Plan for Nutrition-Sensitive Food Systems 2016–2020 concluded that total mobilized resources increased by 22 percent (an extra



USD 1.6 billion), reaching USD 8.9 billion in 2017–2018, a 25 percent increase achieved from the previous year.

FAO's Meeting the Undernutrition Challenge (MUCH) project provided assistance to the Ministry of Food in preparing the Bangladesh Second Country Investment Plan for Nutrition-Sensitive Food Systems 2016–2020. FAO projects such as MUCH are helping the government to develop robust frameworks so that the people of Bangladesh have access to healthy, safe and nutritious food. FAO has deployed its technical expertise to develop a national food and nutrition policy, dietary guidelines, food composition tables, consumption data, and nutrition programmes.

The Country Investment Plan for Environment, Forestry and Climate Change responds to the urgent need to address environmental degradation in Bangladesh and improve the country's ability to meet the threats posed by climate change. It has helped to mobilize and deliver effective, coordinated and sustainable investment programmes in natural resource management; environmental pollution reduction and control; climate change

adaptation, mitigation and resilience; and environmental governance. At least 77 Bangladesh government agencies are in the process of implementing these investment programmes.

Both country investment plans play a significant role in achieving SDG 2 (Zero Hunger), SDG 13 (Climate Action) and SDG 15 (Life on Land). Due to their overarching nature, the two plans will also contribute to several other SDGs, including SDG 1 (No Poverty), SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), SDG 14 (Life Below Water) and SDG 17 (Partnerships for the Goals).

FAO is carrying out reforestation and land stabilization activities in Cox's Bazar, in Bangladesh's southeast. In the photo below, the left side of the hill has suffered some deforestation. Rice paddies can be seen in the middle, showing the link between food production and land degradation.

BHUTAN



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Food and nutrition security through increased productivity

FAO's cooperation with Bhutan focuses on four pillars:

- agricultural policy development, planning and investment;
- transformation towards a value chain-based and market-oriented agricultural sector;
- food self-sufficiency and nutrition security;
- a carbon-neutral, climate- and disaster-resilient farming sector.

Within this cooperation framework, one of FAO's interventions is the Food Security and Agriculture Productivity Project.

While incomes have increased over time, food insecurity and malnutrition remain as major risks to all Bhutanese people. Bhutan imports about 34 percent of its cereal needs, and one-quarter of all households consume less than the daily minimum calorie requirement. One-third of children under the age of 5 years suffer from stunting. Dietary diversity and variation are limited, with a typical food plate consisting of insufficient amounts of micronutrient-rich vegetables, fruits and high protein-based foods.

Due to Bhutan's mountainous topography, only 8 percent of the total land area is arable, and of that, only 3 percent is under cultivation. Nevertheless, the agriculture sector provides livelihoods for 58 percent of the population, accounting for 17 percent of the gross domestic product.

To address some of these issues, since late 2018, Bhutan's Ministry of Agriculture and Forests has been implementing the five-year Food Security and Agriculture Productivity Project. The project's main objective is to increase agricultural productivity and enhance farmers' access to markets in selected districts in southwest Bhutan. Furthermore, the project will help to increase resilience to climate change through climate-smart agricultural productivity enhancement for food security and nutrition, and increase access to local and export markets for producers. There is a strong focus on capacity building of human resources and institutions. The project targets 52 000 beneficiaries, of whom at least 30 percent are women, and includes a home-grown school feeding component for 3 000 school children by facilitating linkages between producers' groups and schools.

The Global Agriculture and Food Security Program provides USD 8 million in funds, and Bhutan finances USD 1.3 million. FAO provides technical assistance to the project, which is being implemented through a partnership with the government, World Bank, farmers' groups and marketing cooperatives. Furthermore, there is strong cooperation with the Ministry of Health and Education, World Health Organization, United Nations Children's Fund and the World Food Programme.

One of the first project outputs has been the Behaviour Change Communication Strategy and a contingent of Community Resource Persons trained in improved nutrition, health and sanitation. They are local volunteers, whom the local people respect and listen to.

Additionally, a cropping calendar has been developed to align school menus with local farming systems; manuals have been prepared for propagation and crop diseases identification; and water users associations were founded in four irrigation schemes, with their respective constitutions and bylaws developed.

The project supports the Government of Bhutan towards achieving many Sustainable Development Goals (SDGs), specifically SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 13 (Climate Action), SDG 15 (Life on Land) and SDG 17 (Partnerships for the Goals).



CAMBODIA



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Members of a farmer field school (FFS) learn new ways to tend crops

Strengthening the resilience of rural communities to climate change using micro-watershed approaches

The FAO Cambodia Country Programming Framework revolves around three priority areas:

- agricultural productivity, diversification and commercialization, and safe and nutrition-sensitive food systems;
- equitable and sustainable natural resources management and increased capacity to monitor climate action;
- climate change resilience at the national, community and household level.

Cambodia is one of the countries most vulnerable to climate change, with floods and droughts causing significant losses and damage to the agricultural sector on an almost yearly basis. Women, being among the poorest members of society in rural Cambodia, often bear the brunt of the impact of climate change. In Cambodia, women are the main conduits for introducing alternative livelihoods into farming households. Therefore, addressing women's concerns and closing the gender gap in natural resource management and climate change resilience,

is crucial towards achieving food security and strengthening the resilience of rural communities to climate change.

A Global Environment Facility (GEF)-funded project to “Strengthen the Resilience of Rural Communities to Climate Change Using Micro-Watershed Approaches” – better known as the Life and Nature project – has contributed to reducing the vulnerability of rural communities to climate change by increasing their adaptive capacity, and transferring adaptation technology through: 1) participatory integrated micro-watershed management, thus reducing climate impacts on natural resources; 2) promotion of climate-resilient agricultural practices demonstrated through farmer field schools; and 3) piloting climate-resilient alternative livelihood options that target women. Launched in 2014, the Life and Nature project was working at the national and subnational level in close collaboration with the Ministry of Environment, the Ministry of Agriculture, Forestry and Fisheries, and the Ministry of Women's Affairs, and was being implemented in four micro-watersheds in the provinces of Kampong Thom, Siem Reap, Preah Vihear and Ratanikiri.



Savings and loans groups help women in Cambodia to save and invest

A systematic gender mainstreaming process was implemented to improve female farmers' decision-making abilities and their livelihood diversification opportunities at the community level. The Life and Nature project's gender strategy enhances the equal participation, representation, and rights of women and men in watershed management (WSM) by setting gender indicators for WSM committees and conducting proper gender analyses within the vulnerability needs assessments (VIA) for the design of intervention activities. The results of the gender-sensitive VIA have been embedded in the five-year WSM plans, in community development plans and community investment plans, and in the WSM guidelines.

Similarly, a gender analysis was undertaken for the planning, implementation and monitoring frameworks of farmer field schools, with the aim of improving farming systems in the targeted communities. Towards the end of the project, 75 percent of the almost 500 FFS members were female and eight of the sixteen

learning plots to pilot the FFS are owned by female-headed households. Nineteen women's producer groups were established and capacity training workshops were delivered on saving, loans and group management. The climate-smart agriculture skills obtained in the FFS were scaled-up through the development of 16 business plans for women cohorts, including farm planning, to diversify their livelihoods in the four provinces. Women beneficiaries commented that they have appreciated becoming financially literate and are now applying regular saving and borrowing techniques to invest in their agricultural enterprises.

The Life and Nature project contributes towards achieving Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), and SDG 13 (Climate Action).

CHINA



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Agriculture Innovation Lab addresses agriculture and food loss and waste

Cooperation between FAO and China is guided by four priority areas:

- fostering sustainable and climate resilient agriculture;
- reducing rural poverty, food insecurity and malnutrition;
- promoting a One Health approach;
- facilitating China's regional and international agriculture cooperation.

To encourage innovation and develop collective intelligence in the area of agriculture and food security, FAO China established the Agriculture Innovation Lab (AgLabCx) in 2017 with Tsinghua University and other partners. AgLabCx enables the sharing of knowledge, technologies and sustainable practices that address agricultural challenges. By connecting a wide range of stakeholders and promoting multi-stakeholder partnerships, such a cooperative environment fosters creative and innovative ideas.

Several innovative activities have been undertaken at AgLabCx, including Save Food forums in Shanghai in 2017 and 2019; events on smallholder farmers' connectivity to market in 2018; courses on urban agriculture and food systems in 2019; and most recently, the hackathon for food loss and waste in 2019.

The hackathon for food loss and waste was organized and held in Beijing with FAO's long-term partner Tsinghua University, and supported by the Swiss Agency for Development and Cooperation. In general, a hackathon brings together teams of skilled computer experts engaged in creating solutions for specific issues and challenges in a collaborative environment. The outcome is usually an information and communications technology (ICT) tool such as software, an app, a sustainable product, a business model or other solution, which may lead to the inception of a start-up business or project. Interdisciplinary cooperation during the FAO hackathon created significant potential for addressing food loss and waste issues,



and offered innovative approaches to developing sustainable food systems and reducing food waste.

The top winning hackathon team, “Food for Life”, proposed the development of a mobile app that integrates blockchain, the “Internet of Things” and “Artificial Intelligence”, to solve the sales problems of merchants’ perishable foods and unsellable agricultural products, with a final goal of reducing food waste in the supply chain.

The second winning team, “Pinshaoshao”, designed a platform for tourists to register the type of local food they want to try sample. By scheduling a group meal at a local restaurant through the platform, tourists will be able to taste and share more local food with less money and less waste.

The third winning team, “W+”, designed a special food plate for canteens. By inserting a radio-frequency identification (RFID) tag into

the food plate and the canteen management system, nutrition information and the amount of food waste can be tracked.

After the hackathon, the winning team, “Food for Life”, was invited to Shanghai to give a presentation at the Save Food Forum, which was co-organized by FAO and a company called Messe Düsseldorf. The Save Food forum gave the team a good platform for networking and creating first contacts with a company developing ICT solutions for agriculture. FAO, together with its partners, will provide continuous support to further foster the winning teams’ innovative solutions to addresses food and agricultural challenges.

All proposals from the top 10 hackathon teams were in line with the Sustainable Development Goals (SDGs), especially SDG 2 (Zero Hunger), SDG 9 (Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production) and SDG 17 (Partnerships for the Goals).

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA



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Roadmap for disaster risk reduction and risk management in the agriculture sector

FAO's Country Programming Framework (2018–2021) for the Democratic People's Republic of Korea (DPRK) comprises three priority areas:

- increasing food production and strengthening food security;
- improving livelihoods;
- reducing disaster risk and improving natural resources management.

Disaster risk reduction (DRR) and disaster risk management (DRM) are very important issues to DPRK. Extreme weather events (e.g, droughts, floods and landslides) driven by climate change have become recurrent in DPRK over the past decade, severely impacting agricultural production, the sustainability of natural resources vital for agriculture, and people's livelihoods. As a result, domestic food production in the country has been declining since 2017, thereby widening the gap between the availability of food and its consumption, which also complicates efforts to meet the Sustainable Development Goals (SDGs) on poverty and hunger.

With FAO's assistance, DPRK has produced a roadmap for both DRR and DRM in the agriculture sector that allows improved targeting of interventions and the allocation of resources to boost the resilience of cooperative farms to extreme climate events and enable them to sustain food production at adequate levels. As part of the roadmap, FAO DPRK implemented a project in 2018–2019 with funding from the Government of Sweden. The project strengthened the DRR and climate change adaptation (CCA) capacity of 9 600 cooperative farmers in five provinces within the country. The selected farms were provided with agricultural inputs and equipment such as manual seeders for bed sowing, portable meteorological data measurement devices, portable salinity meters, animal drawn wheat or barley seeders with space controller, pre-fabricated ready-to-install greenhouses, and plastic sheets. For disaster risk monitoring, forecasting, warning and impact assessment, 5 technical guidelines and 12 reporting formats have been developed for use by focal points under the Ministry of Agriculture (MoA) at the national, provincial, county and farm levels.

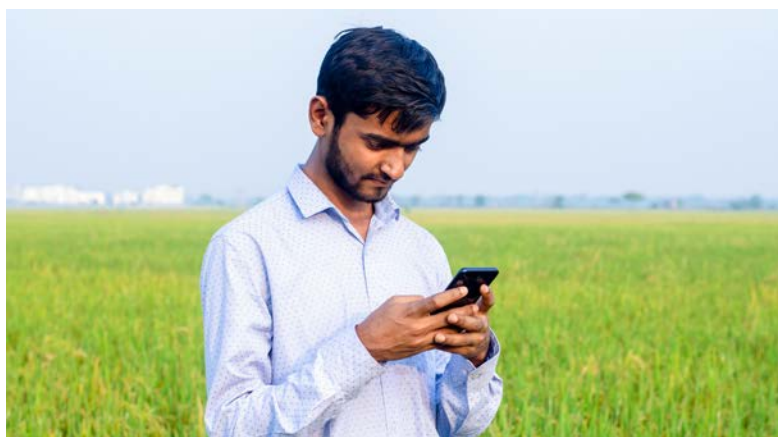
The project also supported the updating of technical resources developed by MoA for crops and livestock sector-specific risk analyses and vulnerability assessments, and improving methodologies and maps used for assessing natural hazard risks and vulnerability to risks. A national-level workshop has laid the groundwork for upgrading the decision-making and coordination mechanism for DRR, DRM and CCA in the agriculture sector. As part

of the roadmap, the DPRK Government drew up the National Environment Protection Strategy and the National Disaster Risk Reduction Strategy for the period 2019–2030.

With a core group of cooperative farmers trained and equipped, and with decision-making policies and DRR strategies in place, the country is now better prepared to achieve SDG 1 (No Poverty), SDG 2 (Zero Hunger) and SDG 13 (Climate Action).



INDIA



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Monitoring progress towards achieving the 2030 Agenda for Sustainable Development

Cooperation between FAO and the Government of India focuses on four priority areas:

- sustainable and improved agricultural productivity and increased farm incomes;
- stronger food and nutrition security systems;
- effective natural resource management, community development and assistance in transboundary cooperation;
- enhanced social inclusion, improved skills and employment opportunities in the agriculture sector.

In support of all four areas, FAO India and the government are jointly working on strengthening the national capacity for monitoring of progress towards Sustainable Development Goal (SDG) targets related to food and agriculture. Although India has a strong statistical system, it needs to be aligned with the requirements of monitoring progress on achieving the SDGs. A specific challenge has been to bring nationally agreed indicators for monitoring SDGs in alignment

with the Global Indicator Framework that has been approved by the United Nations General Assembly.

This work involves a three-way partnership between FAO India, the Ministry of Statistics and Programme Implementation (MoSPI) and the Society for Social and Economic Research (SSER).

The SSER, an independent research institution in New Delhi, has been a key partner in producing technical work on implementing SDG indicators in India. Researchers associated with SSER have a strong technical background and are well versed with the India's statistical system. They also have worked closely with FAO India in organizing the training of officials, developing country-specific resource materials, and providing technical support at the national level for guiding the process.

In addition to these partners, FAO has worked closely with other agencies within the government, including the National Institution for Transforming India Aayog (Hindi for Policy Commission) and the Ministry of Agriculture and Farmers' Welfare (MoAFW).



During 2019, a number of activities were undertaken to strengthen national capacity on the reporting of SDG indicators. A workshop was organized to familiarize concerned staff with the 21 SDG indicators under FAO's custodianship. Technical workshops were organized to provide training to officials from MoSPI, MoAFW and other ministries on food security indicators, SDG indicators related to farm economy, and macro-economic indicators related to food and agriculture. Training was organized at FAO headquarters for Indian officials on estimation techniques for SDG Indicators 2.1.1 and 2.1.2. Also, MoSPI and MoAFW staff participated in a regional training workshop in Chiba, Japan on farm survey-based SDG indicators.

For top-level senior officials, a workshop was organized on "SDG indicators related to food and agriculture: Aligning the Indian statistical system and the global monitoring framework".

The high-level workshop was attended by the India's Chief Statistician, and senior officials of MoSPI, MoAFW and other stakeholders. The workshop was addressed by FAO's Chief Statistician, who highlighted the importance of robust monitoring systems that are based on technical best practices and are given independence from political interference.

In order for India to monitor its progress in achieving the SDGs, a framework has been agreed on, at the national level, to review the contributions that various government programmes are making toward meeting the SDG targets. Developing a similar system of frameworks is also in the pipeline for each state.

FAO has been instrumental in helping India achieve all food and agriculture-related SDGs, particularly SDG 2 (Zero Hunger).

INDONESIA



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Food safety starts on the farm

FAO and the Government of Indonesia have established a five-year Cooperation Programming Framework that focuses on four priority areas:

- increased resilience of livelihoods to the effects of climate change, recurrent disasters and emerging pandemic threats;
- sustainable intensification of crop production and improved management of forests and fisheries resources;
- reduction of rural poverty through more inclusive food systems and value chain development;
- improvement of the policy environment and strengthened partnerships in agriculture, fisheries and forestry for food security and nutrition.

Under priority area 1, a programme was established to address the threats of zoonotic diseases – diseases that can spread from animals to humans – and antimicrobial resistance (AMR). In addition to threatening animal and human health, these can also threaten the sustainability of food production, particularly poultry production in providing safe animal-source food for human consumption.

To ensure the safety of poultry food products (eggs and chicken meat), hygienic and well-managed farms are needed to produce healthy animals that are less susceptible to diseases and, therefore, need less antimicrobial treatment. A Ministry of Agriculture (MoA) regulation (no. 14/2017) addresses the classification of animal medicines and their use in livestock production, which are focused on reducing the threat of AMR.

Since 2017, the FAO Emergency Centre for Transboundary Animal Diseases has conducted many poultry health improvement activities with financial support from the United States Agency for International Development in collaboration with the Ministry of Agriculture. FAO has supported the government in preventing, detecting and responding to avian influenza and other diseases that are antimicrobial resistant by: 1) increasing the capacity of 150 veterinary officers in more than 50 districts; and 2) providing training seminars and workshops for 1 375 commercial poultry farmers to implement good farming practices, including on-farm three-zone biosecurity, flock vaccination, and farm management.

The MoA-FAO-USAID intervention focused on Lampung Province, where the Lampung



Farmers keep poultry flock and poultry farms clean and well-managed

branch of the national association of layer farmers (Pinsar Peternak Nasional or PPN) committed to implementing good farming practices on their farms. These practices focus on improving disease control, reducing the use of antibiotics and disinfectants, and most importantly, producing safe animal-origin products for human consumption.

Lampung Provincial Livestock Service then encourages biosecure farms to apply for food hygiene and sanitary certification (NKV or Veterinary Control Number). NKV is a government certificate of compliance with sanitation and hygiene requirements as a guarantee of food safety for foods of animal origin. The main goal of the certificate is to guarantee the safety of poultry products to the consumer. Along with this certification, layer farmers can fashion their own brand of eggs, sell them across provincial borders, and supply supermarkets where their products can be sold for as much as twice the price.

With support from FAO and ten months mentoring by Lampung veterinary officers, 14 layer farms were awarded the NKV certificate in 2019. These achievements resulted in the Governor of Lampung Province, the Director of Veterinary Public Health and PPN Lampung receiving an Indonesian World Record award from MURI (Indonesian World Record Museum) during the 2019 World Antibiotics Awareness Week celebration.

The successful Lampung programme can be used as a model to expand good farming practices to other provinces in Indonesia, thus guaranteeing wholesome and safe poultry products to Indonesian consumers. The programme also contributes to achieving Sustainable Development Goal (SDG) 3 (Good Health and Well-being), SDG 8, (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), SDG 15 (Life on Land) and SDG 17 (Partnerships for the Goals).

THE ISLAMIC REPUBLIC OF IRAN



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Rehabilitation of degraded land and soils and supporting sustainable water resources management

FAO's cooperation programme with the Islamic Republic of Iran foresees activities in four priority areas:

- environmentally sustainable and climate-smart agriculture;
- food and nutrition security, and food safety;
- inclusive and resilient rural development;
- knowledge-based economy and society.

To support priority area 1, FAO – with financial support from the Global Environment Facility – implemented a project on sustainable land management. Soil erosion is one of the most serious forms of land degradation in the Islamic Republic of Iran. Approximately 20 million hectares of all land in the country are exposed to wind erosion, which endangers millions of hectares to infertility, salinity and other types of degradation, thereby posing a severe threat to food security and ecosystems.

In collaboration with the Islamic Republic of Iran's Forest, Rangeland and Watershed

Management Organization, FAO works toward removing key barriers to sustainable land and forest management (SLMF) practices. The goal is to restore and enhance the biodiversity and capacity of degraded lands to deliver expected goods and services for sustainable livelihoods, and food and nutrition security, and to combat desertification. In doing so, FAO works on 1) strengthening local and national capacity to implement participatory integrated SLFM initiatives; 2) adopting and implementing sustainable alternative livelihood options; and 3) mainstreaming these approaches into national plans, policies and processes.

FAO has trained more than 2 000 government staff and community residents on SLFM practices. In addition, 20 village development committees, 14 community funds and 2 cooperatives have been established.

As a result of the rehabilitation activities conducted on 47 000 hectares of land, wind erosion has been reduced by more than 30 percent. Another 2 250 hectares of farm and rangeland were restored using drought- and salinity-resistant plants.



The project has had a catalytic effect and best practices were introduced to other regions of the country, beyond the initial pilot sites.

In a related activity, FAO – with support from the Government of Japan – is implementing a project on restoring Lake Urmia. During the last five decades, demographic and socioeconomic developments in the Islamic Republic of Iran have led to a severe scarcity of water. This situation puts intense pressure on Lake Urmia – a UNESCO Biosphere Reserve – and reduced it to a third of its original size. The severe depletion of the lake has also caused an ecological crisis in the region that has resulted in significant impacts on biodiversity and socioeconomic conditions of the people living in the lake basin.

Halting and inverting the drying up of the lake is the main challenge, and in order to achieve this goal, this collaborative effort to empower national stakeholders with powerful tools, advanced methodologies and sound knowledge related to water accounting, water productivity, and drought and watershed management, and supports the identification and promotion of sustainable livelihoods.

As an ongoing effort FAO has partnered with a number of global and national scientific entities and organizations, and has mobilized relevant expertise and strengthened the capacities of various key stakeholder groups on water resource management.

Specifically, FAO has helped with the development of a new water accounting framework, an updated land use map, a composite drought index, and a vulnerability impact assessment for the lake basin. It has also conducted a comprehensive assessment of current policies and institutions and farm households to serve as a basis for developing alternative livelihoods in the basin. Initial assessments in 2019 of rainfall compared to the lake's water level, seem to indicate that restoration measures are starting to have a positive effect.

The projects contribute towards Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), SDG 13 (Climate Action) and SDG 15 (Life on Land).

LAO PEOPLE'S DEMOCRATIC REPUBLIC



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Informed decision-making for farmers and agricultural policy-makers

FAO and the Government of the Lao People's Democratic Republic have identified four priority areas for collaboration:

- fostering agricultural production and rural development;
- improved food security and nutrition for the most vulnerable;
- protection of forest and other ecosystems;
- responding to food and agricultural threats and emergencies, and the impact of climate change.

As part of priority area 1, FAO is implementing the project “Strengthening Agro-climatic Monitoring and Information Systems (SAMIS) to improve adaptation to climate change and food security in Lao People's Democratic Republic”.

Farmers have always needed knowledge to plant, grow and harvest crops, forecast weather, improve soil conditions and minimize risks. Agricultural sector decision-makers also need information to plan accordingly.

The SAMIS project addresses these needs by developing capacities for decision-making and planning at national and farm levels, using climatic and geospatial information.

The project ensures that information is communicated in a language and form that is easily understood, thereby boosting planning capacity and aiding locally led decision-making. Readily available agro-climatic information strengthens sustainable production and optimizes farmers' and smallholders' resilience against climate change.

Farmers can now access weekly and monthly agrometeorological bulletins with forecasts on seasonality of rainfall and temperatures, crop productivity, and risks of pest and disease via the Lao People's Democratic Republic Climate Services for Agriculture (LaCSA). The approach aligns with both existing institutions and emerging modes of communication. Launched in 2019, 180 farmers have so far been trained in LaCSA through the farmer field school system. More than 25 000 people (of whom more than 12 600 are women), including members of



ethnic groups, reported using or being aware of the pilot agrometeorology system.

Bulletins are available via mobile app and Whatsapp groups, while a related Facebook page was accessed by 200 000 active users in July 2019 alone. Advanced information technology training has been provided to more than 200 national experts, of whom approximately 25 percent are women. Village public address (PA) systems remain a critical communication and information dissemination tool, especially in rural and remote communities. Lao People's Democratic Republic National Radio helps to train farmers in PA skills and broadcasting in local languages to help inform their own communities.

Decision-makers are also active beneficiaries of the project, which enhances their capacities to gather, process, analyze, and share climatic and geospatial information efficiently. At the national policy-making level, it is critical to predict crop distribution and productivity.

Over time, and due to changing climatic conditions, the productivity of certain crops

may increase, while others might disappear without the adoption of appropriate and sustainable crop and soil management technologies. Temperature and rainfall expectations are calculated with relation to predicted future climate scenarios. Spatial analysis quantifies present and future land productivity based on FAO agro-ecological zoning methodology and modelled over different time horizons. This allows decision-makers to be presented with risk scenarios for climate change impacts at agro-ecological and socio-agricultural levels. Furthermore, models and decision-support tools inform policies and planning and assess trade-offs between agricultural production adaptation strategies. Overall, the project provides policy-makers with a wealth of information and scenarios, thereby allowing them to make better-informed decisions and reinforce planning at national and village levels.

The project contributes to several Sustainable Development Goals (SDGs), most specifically to SDG 2 (Zero Hunger) and SDG 13 (Climate Action).

THE MALDIVES



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Fishers in the Maldives land their catch. A new government policy sets out a framework to improve the fisheries and agriculture sectors

Formulating the first National Fisheries and Agricultural Policy

FAO's cooperation with the Maldives focuses on three priority areas:

- food production for prosperous livelihoods;
- climate change resilience and sustainable natural resource management;
- data collection and utilization.

The fisheries and agriculture sectors play a vital role in enhancing the livelihoods of Maldivians. Statistics show that, on average, fish consumption contributes more than 70 percent of the animal-origin protein intake of the population's diet. Steady population growth, along with the continuous influx of tourists, creates a high demand for fish and agricultural products. Despite this growing demand, this important sector's contribution to the Maldives' gross domestic product reached only 6 percent in recent years. National data also indicate that less than 10 percent of the national food requirement

is met through domestic production and the country remains highly dependent on imports for staple food items such as flour, rice and sugar. A recent assessment conducted by the government identified numerous challenges for both sectors, including a high dependency on imported inputs and goods, insufficient capacity building opportunities and institutional support, lack of market access, an inadequate transport system, poor environmental management and insufficient food safety controls. In this context, development of a comprehensive policy framework was seen as a vital necessity to effectively address and overcome challenges while triggering benefits for fishers, farmers, consumers, and other industry stakeholders.

In 2018, FAO supported the Ministry of Fisheries, Marine Resources and Agriculture (MoFMA) in formulating the first National Fisheries and Agricultural Policy (NFAP). This policy framework spans a period of ten years and is the first of its kind to be developed by the Maldivian government. The NFAP aims to address all current issues pertaining to the



fisheries and agricultural sectors as well as to reflect on forthcoming challenges in the upcoming decade.

The activities leading to the drafting of NFAP included consultations with key relevant stakeholders to identify seven core elements of the framework: overall mission and vision, values, guiding principles, focus areas, pillars and policy statements. FAO also supported the MoFMA in drafting the final policy document, which was published and launched in July 2019. MoFMA is enacting NFAP by developing a set of coherent and detailed strategic action plans.

NFAP and its action plans are expected to strengthen the Maldives' fisheries and agriculture sectors, to alleviate poverty through greater economic empowerment and better food security, and improve the nutritional status and overall health of the population, while significantly contributing to the sustainable environmental management.

NFAP supports achieving SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 13 (Climate Action) and SDG 14 (Life Below Water).

MONGOLIA



Global position system locations during foot-and-mouth disease surveillance in 2019

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Improving the effectiveness of animal disease surveillance for better food security and health

FAO's Cooperation Programme with Mongolia revolves around five country outcomes:

- enhanced access to adequate, affordable, nutritious and healthy food;
- sustainable improvements of crop and livestock productivity;
- strengthening agricultural value chains, including the development of export-oriented livestock production;
- equitable and sustainable natural resource management;
- building resilient food systems.

In Mongolia, the livestock sector is key to all country outcomes and, therefore, a project to address animal health issues was started. Therefore, understanding animals' movements can greatly assist veterinary services in controlling the spread of infectious diseases. Live animal movement is a major cause of introductions or disseminations of livestock and wildlife infectious diseases, whether through local and international trade-related

transportation or traditional herd movement. In Mongolia, the patterns of contacts between herds are a key determinant for infectious disease spread and this knowledge is key to clearly understanding the epidemiology, routes and rates of transmission, and the impact of infectious diseases affecting livestock and wildlife. Enhancing this knowledge can greatly assist veterinary services to closely monitor the risk pathways for disease transmission and develop risk-based disease management approaches.

The seasonal movements of nomads vary several times throughout the year, and includes circular roaming or progressive relocation of camps, and even migration to a new region. In addition to these long-distance movements, daily movement routines are characterized by grazing and resting cycles, where various herds, from different camps, can simultaneously use the same pasture.

Animal movement and other surveillance data can also provide information about disease incidents and attributing factors (putative risk factors). This information is important for



A foot-and-mouth surveillance and simulation exercise, shot with a drone provided by FAO

better understanding the risk factors for, and routes of transmission of, diseases such as peste des petits ruminants, foot-and-mouth disease, and sheep and goat pox.

FAO introduced global positioning system (GPS)-tracking technology in the nomadic Mongolian context to characterize herd movements and the patterns of interaction between herds throughout the year while surveying information regarding key herd management and husbandry practices. The GPS data helped improve the understanding of pasture and water usage and sharing mechanisms between neighbouring herds. The data were collected using the latest data collection methods customized to suit the needs for field veterinary staff. Features of the data collection application included the possibility to record data offline, automated georeferencing, and short questionnaires with built-in checks tailored to the kind of

surveillance activity. Once in the proximity of internet connection, data are uploaded and stored at the server of the State Central Veterinary Lab. This allowed data to be fully integrated with the laboratory information management system.

Once data collection in multiple locations is completed, data are downloaded for analysis and reporting. The instant availability of quality data and easy mapping features has greatly enhanced the monitoring and disease surveillance capacity. It is a great leap forward from previous paper-based systems, and now allows for swift and targeted interventions to address any disease outbreak.

The project has direct impacts on achieving Sustainable Development Goal (SDG) 2 (Zero Hunger) and SDG 3 (Good Health and Well-being).

MYANMAR



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FAO collaborates with two government ministries in Myanmar and smallholders to improve agricultural resilience by mitigating and adapting to the effects of climate change

Prioritizing climate change adaptation

The recently signed five-year Country Programming Framework between FAO and the Government of Myanmar has three pillars:

- enhanced food security, nutrition and food safety;
- strengthened governance and sustainable management of land, forests, water resources and ecosystems;
- enhanced resilience of local communities and farming households to natural and humanitarian disasters, climate change and transboundary and emerging infectious disease risks.

As part of the 3rd pillar, FAO supports Myanmar through the Global Environment Facility (GEF)-funded project “Sustainable cropland and forest management in priority agro-ecosystems of Myanmar”. According to the Global Climate Risk Index for 2019, Myanmar is ranked the third most affected country in the world in terms of vulnerability to extreme weather events related to climate

change. This severely affects the sustainable development of Myanmar, particularly its agricultural sector, which contributes to 30 percent of the national gross domestic product and provides livelihoods for 68 percent of the rural population.

The GEF project is implemented in close collaboration with the Ministry of Agriculture, Livestock and Irrigation (MOALI) and the Ministry of Natural Resources and Environmental Conservation (MONREC). The project aims at mitigating and adapting to the effects of climate change by supporting the development of resilient and sustainable policies, and establishing good agricultural practices. In particular, the project has identified climate-smart agriculture and agro-ecological approaches, and has developed models that are being scaled up and replicated throughout the country.

Furthermore, as part of its assistance with disaster risk reduction, FAO is developing Early Warning – Early Action systems, including at the farmer level through community-based disaster risk management.



At the national level, FAO supports the Government of Myanmar by strengthening capacities for state-of-the-art data collection, which includes the establishment of a Drone Mapping Unit within MOALI. The country is now able to undertake rapid high-resolution aerial mapping of flood-affected areas and obtain detailed images of specific areas within villages and rural areas that are impacted by flooding.

FAO's interventions provide continuous support towards achieving the Myanmar Climate Change Policy, Strategy and Master Plan (2018–2030), the Agriculture Development Strategy, and the Agriculture

Action Plan for Disaster Risk Reduction. All of these efforts have helped to strengthen institutional coordination and capacity development on climate change as well as disaster risk reduction and social protection at national and local levels, and to improve data gathering, management and access for stakeholders through user-friendly information systems for evidence-based decision-making.

FAO's interventions support Myanmar in achieving Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

NEPAL



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A group of women in Nepal consider ways to become more resilient to climate change in order to improve their food security and livelihoods

Community-based adaptation planning and weather information for climate change adaptation in agriculture

Cooperation between FAO and the Government of Nepal focuses on three priority areas:

- sustainable agricultural production and productivity, marketing and consumption for the eradication of hunger and malnutrition;
- enhanced natural resource management and agricultural production systems resilient to climate change and disasters;
- inclusive and gender responsive livelihoods enhancement and poverty reduction.

In support of priority 3, FAO, in cooperation with the Government of Nepal, implemented a four-year project entitled “Reducing Vulnerability and Increasing Adaptive Capacity to Respond to Impacts of Climate Change and Variability for Sustainable Livelihood in Agriculture Sector in Nepal” from 2015 to 2019. The project was financed by the Global Environment Fund’s Least Developed Country Fund.

The project supported the implementation of urgent adaptation measures identified by Nepal’s National Adaptation Plan of Action (2010) through four components: 1) Strengthening technical and institutional capacities; 2) Assessing, monitoring and providing advance early warning information on vulnerabilities, risks of climate change and agrometeorological forecasts; 3) Improving awareness, knowledge and communication on climate impacts and adaptation; and 4) Prioritizing and implementing local investment by promoting community-based adaptation measures.

The project delivered many measurable adaptation benefits in a cost-effective way to a wide range of stakeholders, including: vulnerable farmers; staff working in government ministries; local-level government staff working in agriculture, livestock, irrigation, hydrology and meteorology; agriculture research entities; and non-governmental and community-based organizations. At the national and district level, the project increased the capacity of

more than 300 government staff through a series of training workshops that helped enhance skills in planning and implementation of climate change adaptation and risk reduction measures. At the municipality level, more than 100 municipality leaders and staff were trained in vulnerability and risk assessment and adaptation planning thereby enhancing their capacity to understand the problem of climate change. Similarly, 3 500 farmers were trained on climate change hazards, agrometeorology and agro-advisory, and income generation.

Agrometeorological forecasts and weather-based agro-advisory weekly bulletins were developed and disseminated to 120 farmers groups through regular Climate Field Schools (CFSs), thus enhancing farmers' capacity for better farm management. Beneficiary farmers indicated that the information that was provided was very useful and continues to be applied during their day-to-day farm operations.

Each of the 120 farmers groups formulated community-based adaptation plans, which were used for planning CFSs, and livelihood support measures for resilience building. Project-related good practices that were tested in CFSs are now used for improving the livelihood of farmers. Conservation agriculture was promoted by the supply of crop-planting devices, which decreased the workload of women farmers while raising wheat yields. Vulnerability and risk assessments were prepared for eight municipalities, followed by the development of climate change adaptation or risk reduction plans based on the findings of the risk assessment. Furthermore, the project has had catalytic spin-off effects, as farmers other than the target beneficiaries are now adopting practices promoted by the project.

The project supports Nepal towards achieving several Sustainable Development Goals (SDGs), in particular SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 13 (Climate Action).



PAKISTAN



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A group of women in Sindh Province take part in an EU-funded FAO workshop on improved land tenancy

Improved land governance

FAO's Country Programming Framework in Pakistan focuses on:

- healthy, safe and nutritious foods;
- climate-smart agriculture and sustainable ecosystems;
- inclusive and efficient agriculture and food systems.

In Sindh Province rural poverty and food insecurity levels are high, despite vast fertile lands. Many landless farmers are either tenants or sharecroppers on land of larger landowners. The sharecropping system commonly found in Sindh, in which sharecroppers and landlords share crop production inputs and outputs, has contributed to deteriorating conditions of multidimensional poverty. Smallholder farmers who have lost access to their land, crops and income to natural disasters, often remain trapped in a vicious cycle of poverty due to accumulated debt. This is compounded by undocumented informal land-tenure agreements between landlords and sharecropper farmers.

Under the project Improved Land Tenancy in Sindh (ILTS), which is funded by the European Union, FAO interventions are designed to improve livelihoods for millions of women and men smallholder farmers through improved land governance and the implementation of sound natural resources practices. Policy assistance is also provided to create an environment conducive to investments in food security, nutrition and sustainable agriculture.

In 2018, the Sindh Cabinet approved the Sindh Agriculture Policy 2018–2030, which was developed with support from FAO's Food and Nutrition Security Impact, Resilience, Sustainability and Transformation programme. The policy sets the direction for job creation, poverty reduction and food insecurity and malnutrition resolution.

The ILTS project developed a strategy to mainstream the principles and practices of the policy document "Responsible Governance of Tenure in Legislation, Administration and Policies of the Land Sector in Sindh Province, Pakistan". The 22 recommendations to the government in this strategy were endorsed by the Sindh Government in 2019.

Key stakeholders, including government representatives, civil society organizations, academia and others, came together for 18 different training workshops on the “Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security” (VGGT). The workshops directly benefitted 608 people, including 159 women. Specific training sessions were held for 286 sharecropper farmers, including 97 women, with the aim of contributing to sustainable livelihoods, social stability, housing security, rural development, environmental protection and sustainable social and economic development. This has led to 1 515 written versions of informal agreements between sharecroppers and landlords, designed to improve sharecropper farmers’ land access security by bringing clarity to customary verbal arrangements and making provisions for coping with natural disasters and other matters.

Recently, the Sindh High Court issued a decision in favour of making amendments to the Sindh Tenancy Act, as per the Constitution of Pakistan and the United Nations Declaration on the Rights of Peasants. This decision reinforces the Sindh Agriculture Policy and the strategy developed under the ILTS project, which are based on stakeholder consultations, feedback at VGGT training workshops, background studies, and a careful review of the laws, policies and

administration relevant to land tenure in Sindh Province against the principles in the VGGT.

To better support livelihoods and food security, the ILTS project also promotes the adoption, by both sharecroppers and landlords, of improved approaches to climate-smart and cost-effective agriculture. In total, 232 farmer field schools have contributed to training 2 800 men and 3 000 women farmers to test, validate and adapt good agricultural practices that will assist them in achieving sustainable food production. Fifty climate-smart cultivation plots have been established to demonstrate and facilitate upscaling of locally appropriate, climate-smart agricultural practices among smallholder farmers, be they tenants or landowners.

In Sindh, FAO is thus adopting a two-pronged approach of adopting climate-resilient approaches to crop production and on-farm water management, and enhancing food and nutrition security of local communities through raising awareness of the benefits of better land tenure governance.

FAO’s interventions support Pakistan towards achieving Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth) and SDG 17 (Partnerships for the Goals).



PAPUA NEW GUINEA



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A field school on forest inventory, monitoring and reporting in Papua New Guinea

Strengthening forest monitoring and reporting

FAO's work in Papua New Guinea focuses on three priority areas:

- enhancing equitable, productive and sustainable natural resource management;
- strengthening resilience for food security and nutrition;
- sustainable and inclusive economic development and job creation in rural areas.

The island of New Guinea contains the third largest tropical rainforest after the Amazon and Congo basins. Papua New Guinea comprises the eastern portion of the island, and is a well-known centre for biological endemism and diversity. This means that conservation of Papua New Guinea's forests is of international interest.

In recent years, Papua New Guinea has experienced an increase in deforestation and forest degradation. The country's growing population (more than 3 percent per annum) and its rapidly expanding economy (6.7 percent per annum) have increased

development pressures on Papua New Guinea's forests. Deforestation and forest degradation are also the largest source of greenhouse gas emissions. The forestry industry is an important source of export revenue, and many people rely directly on forests for their livelihoods. Despite their significance, forests have not been sufficiently monitored within the country, and little scientific information is available on their biodiversity.

In response, FAO has been providing support to Papua New Guinea's forestry sector through a number of initiatives, in collaboration with key government agencies such as the Papua New Guinea Forest Authority (PNGFA), Climate Change Development Authority (CCDA), Conservation and Environment Protection Authority, United Nations partners, and other relevant private sector and civil society organizations.

With support from the European Union and UN-REDD (United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation), FAO has supported PNGFA and CCDA in the establishment of a

national forest monitoring system. A satellite land monitoring system laboratory was set up at CCDA, and relevant operators were trained. Assessment tools were introduced to enhance the capacity of PNGFA to conduct annual national forest monitoring, and a web portal was developed to provide REDD+ information to the public.

FAO collaborated with PNGFA in conducting the country's first-ever multi-purpose national forest inventory. In addition to data on trees, information on plants other than trees, zoological components (birds, moths, ants and fruit flies), soil and socioeconomic information were also collected. Findings from the inventory were presented at research conferences, and the capacities of national personnel were enhanced through technical training sessions and fellowships. The initiative also supported discussions on the establishment of a potential national timber legality verification system, through a series of field testing and consultation workshops.

These initiatives have contributed to the formulation of national policies and have facilitated international reporting on climate change and forestry through key milestones such as the submission of Nationally Determined Contributions and the establishment of the REDD+ Forest Reference Level and strategy. Another milestone relates to work on the submission of the Biennial Update Report in 2019, including the REDD+ Technical Annex, making Papua New Guinea the eighth country globally to have submitted to the United Nations Framework Convention on Climate Change Secretariat.

These achievements have significantly strengthened Papua New Guinea's capacity to promote sustainable forest management and biodiversity conservation, and contribute to international commitments on climate change.

The programme has contributed to the achievement of Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 13 (Climate Action) and SDG 15 (Life on Land).



PHILIPPINES



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Acaba fibre production offers a profitable new value chain in Marawi

Improved land governance

FAO's work in the Philippines is guided by the priorities of the Philippine government, as laid out in the Philippine Development Plan 2017–2022. FAO implements interventions that focus on three priority areas:

- improving nutrition for all;
- expanding economic opportunities in agriculture, fisheries and forestry;
- reducing vulnerabilities of individuals and families and fostering just and lasting peace.

In 2018, Marawi City in Mindanao was held under siege, resulting in the displacement and loss of livelihood of thousands of farmers. In such a situation, restoring, promoting and supporting sustainable and productive livelihoods is critical to drastically reducing the uncertainty and vulnerability of affected farmers and their families.

Inclusive value chain development has the potential to spur economic growth in post-conflict areas, which is especially

beneficial to agricultural producers and other players within the value chain. An upward trend in consumer spending, a booming population, and dietary diversification in the Philippines has led to increased demand for high-value crops, which bodes extremely well for local farmers, especially those in the communities that had been affected by the siege.

In post-conflict Marawi, there was a need to restore and expand livelihood opportunities in agriculture to help farmers get back on their feet. This entailed improving production as well as fostering linkages with markets and service sectors that were disrupted by the siege for more efficient commercialization and value-adding processes. This was urgent as many traditional markets in Marawi City had been either damaged or destroyed, leaving farmers without any means to sell their produce.

Under the Marawi Recovery Project – “Support for Enhancing Agri-based Livelihoods and Internally Displaced Farmers Affected by the Marawi Conflict” – funded by the Government of Australia through Community and Family Services International (CFSI), FAO took an



Red chili pepper is grown as part of the crop value chains under the Marawi Recovery Project

innovative approach to conducting conflict-sensitive needs assessments of market potential in order to determine which crops' value chains had the highest potential to benefit affected farmers. Once abaca fibre, chili pepper, sakurab, and sweet potato had been identified as potentially profitable value chains, FAO provided vital knowledge and information to beneficiaries on supplementing or expanding their production, post-harvest processing, and value-adding activities for each crop. Specifically, FAO provided crop-specific guidance, organized and facilitated market-linking activities (e.g. trade fairs, exhibits, and market missions), and provided technical support, agricultural inputs and training on improved production and value-adding technologies.

FAO was able to help some 2 500 households recover their livelihoods, with 824 beneficiaries receiving training on good agricultural and manufacturing practices, and 800 beneficiaries receiving training on entrepreneurship and business management. Because of the support, farmer-beneficiaries were able to become gainfully productive citizens once again. This support also

lessened the appeal of engaging in further hostile acts (that often came with financial incentives), thus promoting long-term peace and stability in the region. Impacts are expected to be wide reaching in the long term as well, as local government will continue to use the value chain identification methodology that FAO has provided. Income is estimated to increase by around 10 percent as compared with before FAO's intervention.

Working with the government of the (then) Autonomous Region of Muslim Mindanao, Task Force Bangon Marawi, concerned local government units, and FAO – through the Marawi Recovery Project – were able to link identified demand for key crops with an improvement in supply, so helping affected farmers and their families rebound from the conflict, facilitating sustainable and economically feasible livelihoods, and ensuring increased food security.

The programme contributes towards achieving Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 8 (Decent Work & Economic Growth) and SDG 17 (Partnerships for the Goals).

SRI LANKA



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Rehabilitating degraded agricultural land

FAO's programme in Sri Lanka revolves around three priority areas:

- food systems for food and nutrition security, and income generation;
- sustainable management of natural resources and resilience against natural disasters and climate change;
- capacity development for policy formulation and evidence-based decision-making.

Land degradation has emerged as a serious issue in Sri Lanka. Estimates indicate that nearly one-third of the land in the country is subjected to soil erosion. Soil erosion and the decline in soil fertility are the two main types of land degradation observed in the country's Central Highlands, and according to the Department of Agriculture, about 50 percent of agricultural lands in the area have already been degraded. Land degradation in the Central Highlands has been threatening the ability of agro-ecosystems in the area to provide environmental benefits and to sustain economic activities and livelihoods of people depending on ecosystem goods and services.

The Rehabilitation of Degraded Agricultural Lands Project (RDALP), funded by the

Global Environment Facility (GEF), is being implemented by FAO in close collaboration with the Ministry of Environment and Wildlife Resources, and directly addresses food security, nutrition, farmers' livelihoods, the sustainable use of land and other natural resources, and environmental conservation. The project was launched as a pilot project in three districts of the Central Highlands: Kandy, Badulla and Nuwara Eliya.

A panel of experts was appointed to review existing policies, regulatory processes and mechanisms, and the strengths and weaknesses of them. The report pointed out that although there are sufficient policies in Sri Lanka to address sustainable land management (SLM) issues, the absence of regulations, lack of institutional capacities, and lack of coordination among the institutions hinder the implementation of policies. The report makes comprehensive proposals to address SLM-related policy issues.

RDALP introduced appropriate SLM technologies for rehabilitating degraded lands in the selected mini watersheds in three project districts. Participatory land use plans were prepared for watersheds with community participation. Soil conservation

technologies were adopted in all lands in these watersheds and strengthened the networks of training and extension in SLM. Relevant government officers in all related agencies joined to implement the land-use plans.

Demonstration sites on the application of SLM technologies were established at government institutions and individual farms. The project has taken a novel approach to rehabilitation. Rather than focusing solely on specific SLM technologies (e.g. terracing) it has focused on educating and encouraging farmers to adopt SLM technologies (also crop diversification and improved crop-livestock integration) to increase their farm income and not directly on soil conservation, which is widely viewed as being highly labour intensive.

RDALP has also launched a market-based approach for SLM financing with the Department of Agriculture and Cargills (Ceylon) PVT Ltd., mobilizing farmers for the department's Good Agriculture Practices program.

RDALP also focused attention on establishing innovative funding mechanisms for SLM. The main focus was on the valuation of ecosystem

goods and services produced by a micro watershed, and finding funds to protect ecosystems by the application of SLM technologies.

Various measures have been taken to enhance the national knowledge base for SLM and appropriate dissemination mechanisms. The Sri Lanka Overview of Conservation Approaches and Technologies (SRICAT) is a land information-sharing and web-based platform for Sri Lanka, and is used to share land-related knowledge, experiences, best practices, technologies and approaches on SLM.

Importantly, RDALF has been able to successfully catalyze a much higher level of intersectoral collaboration by implementing SLM through a landscape approach in a more sustainable and efficient way.

RDALF supports Sri Lanka towards achieving Sustainable Development Goal (SDG 1) (No Poverty), SDG 2 (Zero Hunger), SDG 13 (Climate Action) and SDG 15 (Life on Land).



THAILAND



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The marine research vessel Dr Fridtjof Nansen in port after carrying out oceanographic and biological surveys in Thai waters

Fighting illegal, unregulated and unreported fishing

Cooperation between Thailand and FAO centers around three priority areas:

- implementing food safety standards for consumer health and trade promotion;
- enhancing the uptake of inclusive and efficient agricultural value chain opportunities;
- enhancing sustainable natural resources management.

This prevents any fish caught from IUU fishing activities and vessels from reaching national and international markets.

FAO also assisted in drafting subsidiary legislation to tackle IUU fishing, helped formulate a national strategy and action plan for compliance with PSMA, and supported the development of Thai language guides on Port State Measures. These interventions have prepared Thailand for acceding to the agreement, which was formalized in 2016.

Since 2012, FAO has been supporting the Government of Thailand in addressing illegal, unregulated and unreported (IUU) fishing activities through a series of technical cooperation projects. Over time, the projects undertook various actions towards combatting IUU fishing. An important step in the process was Thailand becoming a party to the Agreement on Port State Measures (PSMA), the first binding international agreement to specifically target IUU fishing. Its objective is to prevent, deter and eliminate IUU fishing by preventing vessels engaged in IUU fishing from using ports and landing their catches.

Thailand has also been able to improve the sustainable management of its fisheries and marine resources in the Gulf of Thailand and the lower Mekong River basin, with support from the Global Environment Facility (GEF). The country also participates in the GEF-funded Bay of Bengal Large Marine Ecosystem project, which focuses on developing a strategic action plan for the countries on the Bay of Bengal. Furthermore, the oceanographic and biological surveys in Thai waters by the marine research vessel Dr Fridtjof Nansen – under the global FAO Nansen Programme – have helped with

capacity building and knowledge development among Thai government staff and Thai scientists. The project has also paid special attention to the issue of decent working conditions and related issues in the fisheries sector, including small-scale fisheries.

An important result of these concerted efforts over the years has been the delisting (in 2019 by the European Commission) of Thailand from the group of “warned countries”, as recognition of Thailand’s progress in tackling IUU fishing. The delisting also serves as an important

declaration for the Thai fisheries export sector, as it removes restrictions on importing fisheries products caught by Thai vessels into the European Union.

FAO will continue to provide support to Thailand in combatting IUU fishing and promoting sustainable fisheries, thereby contributing to the achievement of Sustainable Development Goal (SDG) 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production) and SDG 14 (Life Below Water).



TIMOR-LESTE



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A farmer works in his corn fields, with crops made more resilient, thanks to different planting techniques

Strengthening resilience in communities most affected by drought

FAO priority areas in Timor-Leste focus on:

- improving nutrition and food security;
- sustainable agriculture;
- contributing to economic opportunities;
- sustainable managing natural resources;
- building resilience to climate change.

In particular, FAO has been helping to improve institutions and coordination mechanisms for policies, laws, programmes and plans for equitable access to adequate, nutritious and affordable food for all, and supporting the strengthening of agricultural information management systems. Other priority areas include supporting: improved farming livelihoods, food availability and diversity of household diets through increased production and consumption of underutilised food crops; the sustainable development and resilience of smallholder fisheries and aquaculture; and the development of the cash crop sector.

Timor-Leste is among the world's ten countries most at risk from natural disasters. Around 80 percent of the population has experienced the effects of a disaster in their lifetimes. While the agricultural sector is affected by floods, storms and pests, drought is by far the most severe hazard. In 2015 and 2016, a severe El Niño event led to tens of thousands of farmers losing crops and livestock, and 63 000 households fell into severe food insecurity. Adding to this challenge, 42 percent of people live in poverty.

The country is dependent on imports for its staple food needs and around 430 000 people are chronically food insecure. Malnutrition is a major concern: 46 percent of children under the age of five years suffer from stunting and 24 percent suffer from wasting. While household food shortages are common during some months of the year, food insecurity may increase sharply during disasters.



Disaster risks in the agriculture sector are increased by unsustainable farming practices, including “slash and burn” cultivation and resulting forest fires, and uncontrolled grazing.

FAO is working with the government, farmers and other partners to address these challenges and to increase the sustainable management of natural resources in the agriculture sector, and increase the capacity to adapt to climate change. The European Union-funded project “Pro-Resilience Timor-Leste – Strengthening Resilience in Communities Most Affected by Drought”, has focused on building capacity in drought early-warning and climate-smart agriculture interventions, including value chain development. In close partnership with the Ministry of Agriculture, local authorities and farmers, interventions covered three areas: 1) Effective functioning of the National Food Security Information and Early Warning System; 2) Development and adoption of disaster risk management plans for drought-prone rural communities; and 3) Climate-smart agriculture for poor smallholder farm families.

As a result of this work, 2 880 men and women farmers are adopting proven conservation agriculture, agroforestry and water harvesting technologies on 1 000 hectares of land. There has been a 40 percent increase in crop yields, 40 percent reduction in household post-harvest losses, and 40 percent reduction in farm labour.

The government’s capacity to use the National Food Security Information and Early Warning System in planning and policy has also been improved, and the system for food security is now fully operational at the national and 13 municipality levels. Furthermore, the Integrated Food Security Phase Classification structure is operational.

FAO’s interventions are contributing to achieving Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger); SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 14 (Life Below Water); and SDG 15 (Life on Land).

VIET NAM



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Demonstration of organic fertilizer preparation

Integrated nutrition and food security strategies for children and vulnerable groups

FAO's Cooperation Framework in Viet Nam focuses on:

- alleviation of hunger, malnutrition and food safety concerns;
- green growth, natural resource management and environmental protection;
- rural development and sustainable poverty reduction;
- enhancing resilience to disasters and threats.

Despite considerable progress in addressing malnutrition, childhood undernourishment remains a challenge for Viet Nam. Almost 2.1 million children under the age of five years in Viet Nam are considered too short for their age (i.e. are stunted).

Financed by the Sustainable Development Goals Fund, a United Nations Joint Programme

(UNJP) was implemented between 2015 and 2017. It combined the expertise of four UN entities: FAO (as the lead agency), the United Nations Children's Fund, UN-Women, and the World Health Organization. Nationally, the UNJP supported improvements in the food security policy framework. At the local level, using two heterogeneous provinces with minority populations and high levels of stunting, the UNJP piloted activities to improve the nutritional status of participating communities, under the rubrics of agriculture and health, so as to increase knowledge regarding the best ways to reduce food insecurity and child malnutrition.

The UNJP's programme management structure brought together government personnel from the Ministry of Health (MOH) and the Ministry of Agriculture and Rural Development, and social organizations of women, farmers and youths.



Community feeding club beneficiaries

Through farmer field schools, some 5 500 farmers were trained. Government officials in seven programme communities improved their knowledge and skills in seven household models of crop, livestock and aquaculture production. The MOH approved technical guidelines on early detection and early treatment of children with severe acute malnutrition (SAM), along with national guidelines on the diagnosis and early treatment of SAM. These guidelines were used in 334 communities of the 28 districts most affected by the drought crisis in 2016, and benefitted some 7 000 children with SAM. Community child feeding clubs that targeted women from households in each respective village proved to be successful and focused on making the best use of available foods, providing guidance on exclusive breastfeeding and complementary feeding, as well as hygiene and sanitation.

FAO assisted with the development of a series of government health and agriculture policies and strategies, such as the National Rice-sector Restructuring Strategy, and the Policy on Restructuring of Crop Production Sub-Sector in Lao Cai Province. Assistance was also provided in conducting gender assessments and training workshops on gender equality in nutrition and food security for government officers in the health and agriculture sectors. Finally, the UNJP managed to integrate climate-smart practices at both the farm and policy level.

The UNJP contributes to Sustainable Development Goal (SDG) 1 (No Poverty), SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), SDG 5 (Gender Equality) and SDG 13 (Climate Action).



Achievements of member countries in the Pacific



SUBREGIONAL OVERVIEW



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Fresh fruit and vegetables being sold in the market place in Honiara in the Solomon Islands

Providing support to Pacific Island countries in achieving the Sustainable Development Goals – Pacific multi-country

FAO has established a Multi-Country Programming Framework with its Pacific Islands members: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, the Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu.

The framework focuses on three common areas of interventions that will deliver the following outputs:

- The development and promotion of evidence-based recommendations to incentivize The production and consumption of safe and healthy food.
- The promotion of sustainable and climate-smart practices to help build resilient agriculture, fisheries and forestry production systems.
- The identification and promotion of food control and business practices to facilitate efficient agrifood value chains that provide safe, nutritious and affordable food.

Due to their geographic and economic isolation, many small island developing states (SIDS) depend on remote markets for their food supplies, and face heavy costs for energy, infrastructure, transportation, communication and servicing. These high costs curtail opportunities for private sector development – which is needed to stimulate domestic food production – resulting in SIDS' further reliance on imported processed foods. Compared with SIDS in other regions, these vulnerabilities apply to Pacific SIDS in a more pronounced way, due to their significant distance from main economic markets, and the remoteness of dispersed islands and atolls within a single country.

Pacific SIDS suffer from the triple burden of malnutrition, where undernutrition, micronutrient deficiencies, and obesity co-exist in the population. Diabetes and other non-communicable diseases (NCDs) are on the rise. Among the 13 Pacific SIDS, ten have populations where more than 75 percent of the people are overweight (WHO 2017). Similarly, ten countries have a prevalence



rate of adult obesity that exceeds 40 percent of their populations (FAO State of Food Security and Nutrition in the World 2019). It is estimated that 75 percent of adult deaths in the Pacific Islands region are caused by NCDs.

This alarming situation in the Pacific is caused largely by the consumption of processed and imported foods that are high in sugar, salt and fat, with limited intake of fresh fruits and vegetables. The burden of disease not only appears as personal costs to individuals, but also to healthcare costs, which are creating increasing stress on communities and government budgets.

The complexity and magnitude of these challenges are daunting and far too great for any one sector, organization or country to address on its own. Countries have called for closer international cooperation and a more integrated approach so that all stakeholders can play their part in supporting SIDS in achieving the Sustainable Development Goals (SDGs).

The SIDS Accelerated Modalities of Action (SAMOA) Pathway has underscored the need for a more integrated approach to sustainable development as emphasized in the 2030 Agenda for Sustainable Development. The pathway has called for strengthened international cooperation and partnerships,

with adequate investment and coordinated implementation, to address and halt the persistent development challenges of SIDS, including food security and nutrition.

As a key follow-up to the SAMOA Pathway, the Global Action Programme on Food Security and Nutrition in Small Island Developing States (GAP) was developed in 2017 by FAO and partners to accelerate action on food security and nutrition in SIDS, as a tangible contribution to the integrated implementation of the 2030 Agenda for Sustainable Development. The Pacific has since adapted GAP through a Pacific-relevant framework of work called the “Joint Action Framework for Food Security and Nutrition in the Pacific Islands”. Under this framework, FAO is collaborating closely with the World Health Organization, the United Nations Children’s Fund, the Pacific Community and other partners to jointly address food security and nutrition challenges in the region.

Each Pacific SIDS identified food security and nutrition as a national priority. This has resulted in a strong interest in and commitment to monitoring and reporting on Sustainable Development Goal (SDG) 2 – Zero Hunger. One of the main challenges, however, that all Pacific SIDS face is the lack of data and evidence base. Data are particularly scarce in relation to the two key indicators

for monitoring SDG Target 2.1: the prevalence of undernourishment – and the prevalence of moderate or severe food insecurity based on the food insecurity experience scale.

In this context, and among all SDG indicators for which FAO serves as custodian, FAO has prioritized its assistance in supporting Pacific Island governments to collect, analyse and utilize data relating to SDGs 2.1.1 and 2.1.2.

In several countries, FAO assisted with building capacity in food data analysis through the following activities:

- reviewing and analysing food data collected from household income and expenditure surveys (HIESs) in Cook Islands, Niue and Tuvalu;
- analysing the 2018 HIES results for Samoa and deriving preliminary estimates of SDGs 2.1.1 and 2.1.2, and other indicators on food consumption at the national level and by population group; and
- analysing food data from the Marshall Islands HIES survey.

An analysis of data on the food insecurity experience scale (FIES) was conducted in several member countries, consisting of:

- deriving and analysing the FIES through data collected in the 2018 Tonga Labour Force Survey, 2018 HIES in Samoa and the Marshall Islands, the 2016 Agriculture Census in the Federated States of Micronesia (FSM), and the 2017 Agriculture Survey in Solomon Islands;
- checking the validity of the preliminary FIES data collected in Fiji, Vanuatu and Kiribati; and
- providing further recommendations on the use of the FIES module in national surveys.

Capacity building and technical advice remained the central theme of the support to member states in 2019.

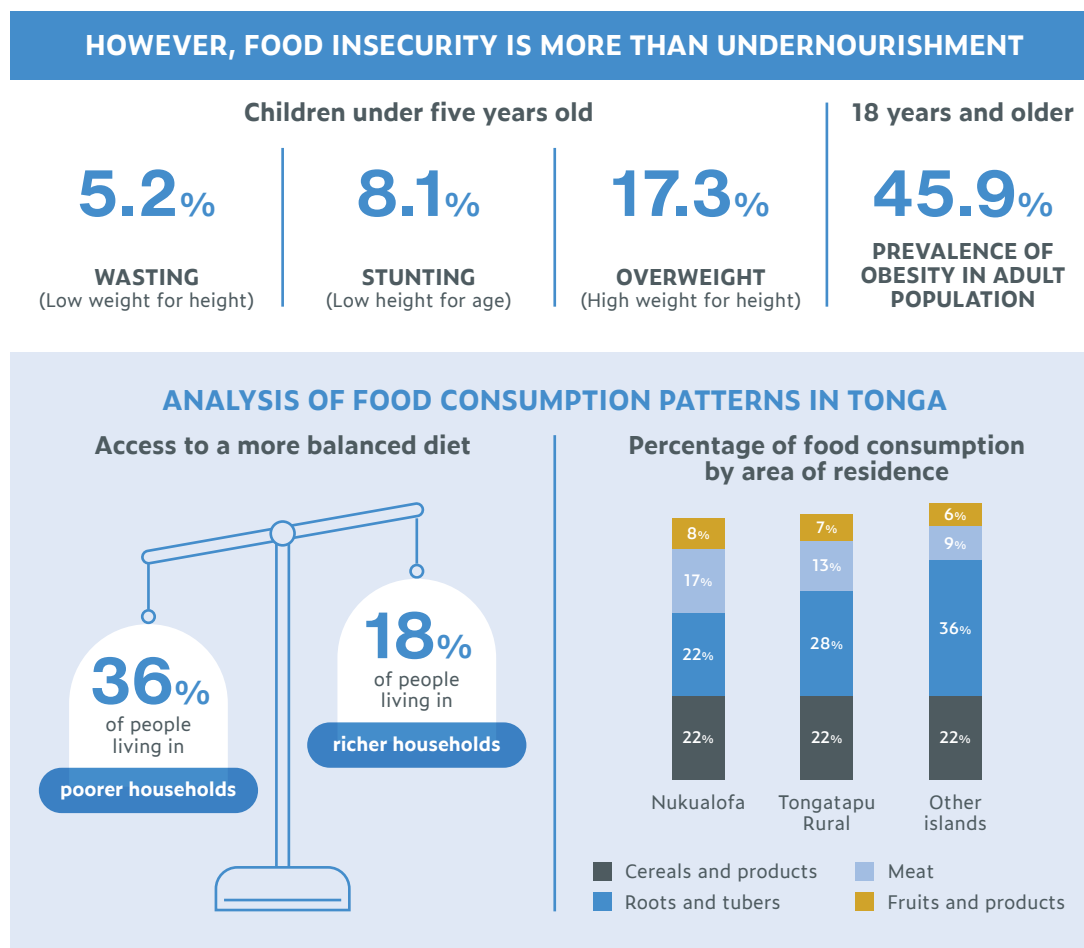
- FIES training of statisticians from Tonga and Samoa was carried out in Samoa.

- In-depth training of a statistician from the Samoa Bureau of Statistics was carried out on analysing survey data and using FAO methodologies and tools to estimate SDG Target 2.1 indicators.
- Technical training was provided in Fiji to national statisticians from Cook Islands, Fiji, Nauru, Niue and Tuvalu on analysing survey data to inform SDG Target 2.1.
- A workshop was conducted on SDG Target 2.1, describing the preliminary estimates and food consumption patterns in Samoa. Samoa is the first Pacific Island country to present a timely estimate of both SDG 2.1.1 and 2.1.2, using the same survey methodology.

In an effort to build a robust baseline of data for agriculture, food security and nutrition, FAO has been providing technical assistance in preparation for agriculture censuses in Fiji, Niue and Samoa. For instance, in the three countries, census questionnaires were developed for the first time using the cost-effective data collection approach Computer Assisted Personal Interviews (CAPI). The census work plan and budget were approved by each government, while user consultations, which included the participation of the private sector and community representatives, were conducted.

The pilot census was conducted successfully, with results evaluated and adjustments made for questionnaires and manuals. In Fiji, technical assistance on census preparation facilitated access to resources allocated under the European Union budget support under the sector. On the other hand, the unique challenges these countries face, as SIDS with limited pools of technical personnel and capacity, could serve as valuable lessons learned that are applicable to other Pacific SIDS in preparing for agriculture censuses in future. Consequently, building national capacity remains the priority objective under the support, and national partners have been encouraged to take part throughout the process, including in the initial CAPI design tasks.

Figure 1: Tonga Food Profile



Partnerships for Pacific statistics

One of the key partners with whom FAO collaborates on data and statistics is the Pacific Community (SPC). This partnership was formalized as the Pacific Strategic Plan for Agricultural and Fisheries Statistics, which was launched in 2018. The objectives of the 10-year strategy are to:

- make high-quality and regionally comparable statistics available;
- integrate agriculture statistics into statistical systems;
- disseminate data and increase awareness on the importance of agricultural statistics; and
- build strong capacity for compiling and using agricultural data.

In line with the spirit of that strategy, and to ensure the sustainability of the efforts in the region, FAO provided focused support to further strengthen SPC's statistical capacity in collecting and analysing SDG Target 2.1 indicators, as well as other food security and nutrition indicators. Specifically, FAO has:

- carried out a month-long, hands-on training of SPC statisticians on analysing survey data, and FAO methodologies and tools to estimate SDG Target 2.1 indicators;
- reviewed the Pacific Nutrients Database and aligned it with the Classification of Individual Consumption According to Purpose, and expanded it for further use in processing HIES in Pacific Island countries;

- built technical consensus on tools, methodologies and training materials to be utilized for SDG 2.1; and
- analysed and presented the results of the Marshall Islands 2018 survey to the third meeting of the Pacific Statistics Methods Board.

FAO supported the production of reader-friendly information materials based on the technical analyses highlighted above. For example, in Tonga, a Food Security Profile was developed and disseminated for advocacy and information (see Figure 1). A similar profile has been launched in Samoa for wide dissemination and policy advocacy purposes. Increasing efforts will be made to facilitate dissemination of information to the wider public in order to influence policy formulation and implementation.

While efforts have been made to build national and regional capacities for collecting and analysing SDG 2.1-related data, it will take more time to see concrete results of such evidence based on policies and behaviour changes.

The initiative in Tonga sees SDG 2.1-related data as a new “common language” –

a language that can be spoken by all member states to exchange knowledge and identify solutions, and a language that allows SIDS to be part of the global data analysis rather than being exceptions due to their unique status.

The systematic training, collection and analysis of SDG 2.1 data provides a unique opportunity for Pacific member states to share and compare unique challenges as SIDS, and to identify good policy options. The availability of updated data allows member states to speak the same language and benefit from additional investments for SDG achievements.

The initiative makes major contributions to SDG 2 (Zero Hunger) and SDG 3 (Good Health and Well-being), but will eventually also address SDG 1 (No Poverty) and other key goals such as SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). Most importantly, the Multi-Country Programming Framework serves as a tool to highlight vulnerable populations in the Pacific, and thus influence, politically by 2030, a wide range of actors, including national governments, civil society, regional organizations, donors and the United Nations.



Solar PV modules like these in Fiji offer renewable energy and contribute to SDG 13



Conclusion

The Asia and Pacific region is vast. From Afghanistan and the Islamic Republic of Iran in the far west, across the subregions of South Asia and East and Southeast Asia and far out into the Pacific – this most populated region of the world is also the most undernourished.

While there is much work to do to meet the 2030 SDG Agenda – particularly the goals to defeat poverty and hunger – and to do so in ways that cause no further damage to our world and its environment – progress is being made. The achievements in this publication have proved that.

So what comes next? The answer should be obvious. It's what we do collectively. It's the big steps that will count. Because a single step is a baby step.

The steps we take we must take together, as multi-lateral organizations of the UN, as government policy makers, as business people, as leaders in civil society, as smallholder

farmers, fishers, herders, consumers and others. Those steps we take in unison will determine our future.

December 2030 is not far away and yet nearly half a billion people remain undernourished in this region. The achievements illustrated in this booklet have plenty of good practices embedded. FAO encourages you to study these carefully and consider their feasibility for adaptation within your own circumstances. For our part, FAO offers our continued support in efforts to adapt and scale up these achievements, as appropriate, country-by-country across the region.

Zero Hunger and an end to poverty by 2030 are reachable!





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