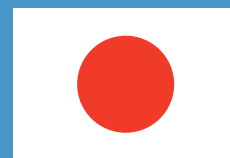




Food and Agriculture  
Organization of the  
United Nations



**JAPAN AND FAO**

**PARTNERING**  
**TO**  
**END HUNGER**  
**AND**  
**CARE FOR THE EARTH**





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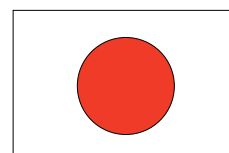
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## ACRONYMS AND ABBREVIATIONS

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<b>AMICAF</b>	Analysis and Mapping of Impacts under Climate Change for Adaptation and Food Security
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>CARD</b>	Coalition for African Rice Development
<b>CCRF</b>	Code of Conduct for Responsible Fisheries
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>GIAHS</b>	Globally Important Agricultural Heritage Systems
<b>HPAI</b>	Highly Pathogenic Avian Influenza
<b>IPPC</b>	International Plant Protection Convention
<b>ITPGR</b>	International Treaty on Plant Genetic Resources for Food and Agriculture
<b>IUU</b>	Illegal, Unreported, and Unregulated
<b>JICA</b>	Japanese International Cooperation Agency
<b>SO</b>	Strategic Objective
<b>SOFI</b>	State of Food Insecurity in the World
<b>SSC</b>	South-South Cooperation
<b>UNFF</b>	United Nations Forum on Forests

## INTRODUCTION



*An employee displaying corn at an animal feed processing plant. Herat province, Afghanistan (©FAO/Shah Marai).*

For several decades, Japan has been among the Food and Agriculture Organization of the United Nations' (FAO) foremost partners in feeding the hungry and caring for the earth. The country ranks second in assessed contributions to FAO's regular budget, and fourth in terms of voluntary contributions in 2012-2013. It is also among the top contributors to the 2 500 ongoing field programmes, with a total value of nearly USD 800 million.

Generous funding is only one way in which the Government of Japan assists in the advancement of FAO's work. It also provides expertise in the fields of agriculture, fisheries and forestry, contributing valuable human resources to various FAO projects.

The country's unwavering support stems from its full alignment with FAO's Strategic Objectives (SOs) to make agriculture, forestry and fisheries more productive and sustainable.

Japan engages with FAO over the entire spectrum of the Organization's activities, from emergency response to natural disasters or situations of conflict, to the sustainment of its core mission out in the world's fields, forests and seas.

The Government of Japan supports FAO in Africa, Asia, Latin America and in the Middle East. It stands at FAO's side in the assemblies that govern the guidelines of the Organization's normative work, and more recently in the fight to mitigate and adapt to climate change.

FAO looks forward to many more years of working with Japan, striving together, as in the past, to eradicate hunger and promote the sustainable management of resources. ■

## TOGETHER IN EMERGENCIES

When Typhoon Haiyan hit the central region of the Republic of the Philippines on 8 November 2013, killing 6 300 people and destroying 600 000 ha of farmland, one of the major international donors to come forward to help FAO assist afflicted farming populations was the Government of Japan.

Itself one of the countries most affected by natural disasters, including earthquakes, typhoons and volcanic eruptions, Japan has been, for more than three decades, at the forefront of international relief efforts whenever a disaster hits.



*Ms Rosalia Garredo and her family relied mainly on coconut farming before the typhoon hit. Alternative sources of income aim to increase resilience to natural disasters. Palo, Leyte, Philippines (©FAO/L. Liwanag).*

For many of the millions of people impacted by natural calamities every year, Japan's engagement and generosity often make a monumental difference. The country's commitment, demonstrated by continual funding of FAO emergency field operations, is increasingly critical today as climate change amplifies the frequency and intensity of extreme weather events, especially in the world's most vulnerable countries.





*L: Damage to coconut plantations. Panaytan, Philippines (©FAO/A. Aduna).*



*R: Medium size fishing boats lined up for repair. Iloilo province, Philippines (©FAO/A. Aduna).*

By choice, Japan channels a significant part of its contributions towards emergency relief and recovery efforts through FAO's Emergency and Rehabilitation Programme that has grown from USD 160 million in 2002 to over USD 400 million at its peak in 2011. Japan has played a significant role in ensuring that growth. In 2014, it was the fourth most generous national contributor to the Programme, with USD 30.4 million donated on a voluntary basis.

Japan shares FAO's view in that, to be effective, emergency assistance must be timely and well-focused in order for people, who in many cases lost all of their assets, to be able to pick themselves up and start over again.

## **I REACHING FARMERS IN TIME**

If farmers are forced to skip a harvest because they have lost their seeds, a downward spiral of poverty and malnutrition can begin and food insecurity and poverty quickly become chronic. It is therefore essential to ensure that planting materials reach farmers on time, together with appropriate tools, if needed.

However, in some cases, such as when damage is too extensive, the solution may be to provide farmers with alternate means of livelihood.

That is the approach behind a Japan-funded project in the Philippines, where some 33 million coconut trees were damaged or destroyed by Typhoon Haiyan, affecting the livelihoods of over 1 million coconut farmers. Coconut trees take six to eight years to become productive, in which case the coconut farmers, most of whom relied solely on the trees for their livelihoods, urgently needed an alternative way to earn a living.



*Farmers planting rice on the island of Leyte, one of the worst-hit regions by Typhoon Haiyan. Near Tacloban, Leyte, Philippines (©FAO/James Belgrave).*

*"Selling vegetables at the market and raising poultry will help me stay independent until my trees are productive again", says Ms Rosalia Garredo, one of 6 000 vulnerable coconut farmers who received vegetable seeds and poultry from the USD 3 million Japan-funded project.*

## **I FAO AND JAPAN IN CONFLICT ZONES**

The loss of life and the ravage caused by natural disasters are often dwarfed by the scale of destruction and suffering brought about by wars and civil strife – catastrophes caused by humans. Many of these often go unreported.

In various war-torn countries, most victims do not die from bullets or bombs but from hunger and malnutrition, as farmers flee their fields and are unable to cultivate them. It is not long before local, regional and national food systems collapse.

As with natural disasters, timely intervention in conflict areas is crucial if domestic food production is to be maintained. A case in point is the Gaza Strip, where recurrent conflict has hampered fishing activities and forced many of its farmers to abandon their land.

According to FAO estimates, hostilities last summer resulted in substantial direct damage to Gaza's 17 000 ha of cropland as well as much of its agricultural infrastructure, including greenhouses, irrigation systems, animal farms, fodder stocks and fishing boats.

*It is urgent to provide assistance to the most vulnerable households before their already declining level of productive capacity becomes irreversible. It is equally imperative to increase the monitoring of external shocks affecting Palestinians and develop a coordinated response framework focused on resilient livelihoods and disaster risk reduction for food and nutrition security (Excerpt from the West Bank and Gaza Strip's Project Document).*

In the West Bank and Gaza Strip, a USD 4 million FAO-Japan project has provided emergency rehabilitation to farming infrastructure, but it also looks beyond such short-term interventions and has successfully implemented activities aimed at building resilient and long-term livelihoods for farmers, herders and fishers. Cash assistance, as well as the provision of direct in-kind support, including the establishment of water harvesting and storage units, helped 2 382 farming, fishing

and animal herding households in 160 locations throughout the West Bank and Gaza Strip recover their productive assets and reinforce their capacities.

Through the project's fish-farming component, 120 aquaculture ponds were built and stocked with 400 000 fingerlings. Beneficiaries were then trained on fish-farming techniques and marketing – areas in which Japan has outstanding expertise – offering them a sustainable livelihood.

Furthermore, the project, through multiple interventions, preserved job opportunities for 2 065 beneficiaries and secured new job opportunities for 334 farming households, helping to maintain and increase their household income.

## **I BUILDING RESILIENCE**

Japan is supporting FAO in building resilience in African countries, where threatening levels of food insecurity result not only from climatic hazards but also from ongoing internal conflicts. In late 2014 early 2015, the impact of increased conflict in the Republic of Somalia was compounded by floods and – only two years after the end of the famine which killed 260 000 people in the southern part of the country – 730 000 Somalis are estimated to be facing acute food insecurity.

Japanese funding is helping FAO implement a holistic fisheries programme in Somalia, moving fishing effort away from fragile reef-based fisheries on to oceanic tuna species, attracted to offshore Fisheries Aggregation Devices.

FAO is training displaced people, often the most food insecure in Somalia, in drying these new fish species, for both consumption and retail sale, creating new sustainable employment and sources of nutrition for one of the most vulnerable groups within Somali society.

“If we’ve learned anything from the devastation of the 2011 famine, it’s that early warning signs must lead to immediate action,” says





*Internally displaced persons drying fish. Bossaso, Somalia (©FAO/Mike Savins).*

Mr Bukar Tijani, FAO Assistant Director-General and Regional Representative for Africa. “We know from experience that quick responses to early warnings are crucial to prevent disaster and are less costly than emergency responses to full-blown humanitarian crises,” he adds.

Currently, many of the food security indicators across Somalia resemble or are worse than those seen in the pre-famine period in 2010. Nonetheless, FAO and Japan are working to avoid another famine by equipping Somalis to face the challenges that may lie ahead. ■

## HELPING EMPOWER AFRICA

With the “Yokohama Declaration” and “Yokohama Action Plan”, which concluded the Fifth Tokyo International Conference on African Development in June 2013, Japan intended to support African countries through JPY 3.2 trillion (approximately USD 32 billion), including a contribution from Japan’s Official Development Assistance amounting to JPY 1.4 trillion (approximately USD 14 billion) from 2013-2017.

The Plan’s farming component aims to help increase agricultural production and productivity, especially for rice cultivation, as well as promote a “farming as business” approach for 50 000 small farmers.

Implementing the Plan will require unwavering commitment. The needs of the African development agenda have become more diverse in recent years, given new challenges such as climate change and global financial and economic crises.

*“To meet such great and diverse development needs, building strong partnerships among donor countries and agencies and scaling up development outcomes is considered vital for efficient and effective development cooperation,”* stated the Japanese International Cooperation Agency (JICA).

FAO considers Japan as an essential ally in promoting growth in sub-Saharan Africa, which represents the greatest food security challenge in the world today.



L: Young siluruses are introduced to their new habitat. Koloni, Mali (©FAO/Benoit Geers).



R: Tilapias are preferred in the West African diet, they are also a rich protein source. Koloni, Mali (©FAO/Benoit Geers).

## IMPROVING FOOD SECURITY IN WEST AFRICA



*A poultry farm worker carrying cartons of eggs. N'Djamena, Chad (©FAO/Sia Kambou).*

To meet challenges in West Africa, FAO is currently implementing a USD 2 million project funded by Japan to protect and strengthen the livelihoods of the most vulnerable populations in four countries: the Republic of Cabo Verde, the Republic of the Gambia, the Republic of Guinea-Bissau and the Republic of Senegal.

In order to benefit 166 000 small farmers and pastoralists (of which 88 000 are women) through the project, participants are provided with a “starting stock”, including small ruminants, poultry and pigs and animal feed. Veterinary drugs are also provided to ensure animal health, as well as technical support and expert advice from agricultural extension services.

In addition, some farmers are receiving improved seed varieties of cowpea, groundnut and rice, as well as fertilizer. In the long run, this will allow beneficiaries to accumulate a sufficient surplus of production to enter the market as small entrepreneurs.

For the first time, the Government of Japan is supporting FAO's efforts in Mali to assist food-insecure households and improve their access to food during the 2014/2015 campaign.

The food security situation in Mali is still extremely fragile. Given the socio-political instability, particularly in the northern region of the country, and the highest number of floods registered over a period of five years, the lives of over 3 million people have been affected. In Mali, the agricultural sector represents 80 percent of the active population and 23 percent of the national trade balance. However, in the past few years, recurrent droughts and floods have negatively impacted small-scale farming and food security in the country. It is therefore essential for FAO to provide quality seeds and agriculture inputs to vulnerable families that have lost their assets, in order to reinforce food and nutritional security and quickly increase the resilience of the vulnerable population.

The project focuses on three main areas: to support (i) agricultural crops production; (ii) rehabilitation of aquaculture; and (iii) promotion of market gardening. Distribution of cereal seeds and mineral fertilizers allowed vulnerable family farmers to resume their activities. Fisher folks who experienced significant losses during the conflict received a stock of 70 000 fingerlings and fishing materials. Training sessions on fish-farming techniques were also organized. Vegetable production support mainly targeted women's associations so as to improve the quality of household diets and incomes.

Nonetheless, currently over one in four people in sub-Saharan Africa remain chronically hungry; this requires colossal, continuing and collective efforts on behalf of African countries and their partners to reverse such a trend. According to FAO's 2014 State of Food Insecurity in the World (SOFI), the number of undernourished people increased from 176 million to 214 million between 1991 and 2013 as the population almost doubled, creating the need to supply food for some 450 million additional people.



*Sub-Saharan Africa still has the highest prevalence of hunger in the world. However, rapid economic growth is fuelling optimism, with African leaders committing to achieve zero hunger by 2025.*

*"In Africa, there has been insufficient progress towards international hunger targets, especially in the sub-Saharan region," as indicated by SOFI. However, while the region has the highest prevalence of hunger compared with any other region in the world, some progress has been made, as undernourishment declined from 33.3 to 23.8 percent between 1991 and 2013.*

## **I WITH NEW CHALLENGES, INCREASED COMMITMENT**

Further and perhaps greater challenges lie ahead. By 2050, the population in sub-Saharan Africa is expected to double to more than 2 billion people; this will require a 100 percent increase in the



*L: A farmer adding granules of fertilizer to crops. Malawi (©FAO/Jon Spaul).*



*R: Workers preparing for distribution of animal feed to local inhabitants for their malnourished livestock. Dibissi, Burkina Faso (©FAO/Issouf Sanogo).*

food supply. The task will not be made any easier in the face of climate change, as higher temperatures and extreme weather will hamper food production in various tropical regions.



*A farmer using a power tiller to prepare paddies for a rice seed crop. Banzon, Burkina Faso (©FAO/Giulio Napolitano).*

Despite the increasingly challenging situation, a new season of increased political commitment to promote food security in Africa is starting to yield concrete results. Strong economic growth (seven of the ten fastest-growing economies in the world are in Africa) has encouraged African leaders to commit to eradicating hunger in the continent by 2025, a goal that substantially raises the bar compared with previous objectives. There is also greater recognition of the importance of ensuring peace and stability, the lack of which has contributed to the spread of hunger.

FAO and the Government of Japan believe that with a predominantly young and rural population, with over 11 million youth expected to enter labour markets over the next decade, Africa's agriculture sector can be a catalyst for inclusive growth, shared prosperity and improved livelihoods in the region.

## **| SOUTH-SOUTH COOPERATION**

Ensuring long-term food security essentially hinges on the transfer of knowledge and expertise. In order to make such expertise available, FAO and the Government of Japan favour the vector of South-South Cooperation (SSC), in which countries of the global South mutually share and exchange key development solutions, including experiences, technology and resources. This is increasingly complementing the traditional development aid model in which industrialized countries would support the emerging economies of the South.

The Government of Japan has had a pioneering role in promoting and developing SSC over the past two decades, as well as in Triangular Cooperation arrangements, which involve partnerships regarding programmes or projects between two or more developing countries supported by one or more developed country or multilateral organization.

FAO also has extensive expertise in the field, having organized or facilitated SSC and Triangular Cooperation projects involving over 1 900 Southern experts and technicians in more than 80 countries.

Recent or ongoing Japanese funded projects in Africa illustrate FAO and Japan's commitment to southern-led development efforts, and the effectiveness of the FAO-Japan partnership in promoting SSC programmes.

Through a recently concluded, four-year, USD 6 million project, key rice-growing and aquaculture technologies developed in Japan and successfully applied in seven Asian countries were shared with 29 African countries through 16 regional and national workshops, as well as field visits, led by over 50 experts from seven Asian countries. These workshops have provided significant contributions to the formulation, review or implementation of the National Rice Development Strategy and the National Aquaculture Development Strategy. More than 1 500 participants, including farmers, private sectors and governments, have benefited from these capacity development activities.

## **I DOUBLING AFRICA'S RICE HARVEST**

The venture has given added strength to efforts to double African rice production between 2008 and 2018 through an initiative known as the Coalition for African Rice Development (CARD)<sup>1</sup>, including helping to disseminate New Rice for Africa, a high-yielding hybrid rice in Africa. JICA, which believes that rice holds the key to Africa's food security, is a founding partner of CARD together with the Alliance for a Green Revolution in Africa, founded by the Rockefeller and Bill and Melinda Gates foundations.



*A farmer harvesting a rice seed multiplication crop. Banzon, Burkina Faso (©FAO/Giulio Napolitano).*

SSC is gaining momentum as it has convincingly demonstrated its effectiveness in helping developing countries to jump-start and

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<sup>1</sup> The Members of CARD are Benin, Burkina Faso, Cameroon, the Central African Republic, Côte d'Ivoire, the Democratic Republic of the Congo, Ethiopia, the Gambia, Ghana, Guinea, Kenya, Liberia, Madagascar, Mali, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Togo, Uganda and Zambia.





*A woman farmer transplanting rice in a field. Narok, Kenya (©FAO/Ami Vitale).*

benefit from innovations, lessons and good practices tried and tested elsewhere in southern countries. Another example of such cooperation is a closely related five-year USD 2.5 million project aimed at strengthening agricultural statistics in the CARD countries. This project draws on the experience previously gained by Asian countries in this field. The objective is to improve capacity of selected CARD countries for timely collection and provision of reliable statistics on rice at the field level. ■

## FAO AND JAPAN IN AFGHANISTAN

Afghanistan became a member of FAO in 1949. However, the harsh environment and decades of conflict have caused the country to have one of the world's highest levels of undernutrition and poverty. National efforts have focused on improving food production, off-farm employment and trade.



*Intake structure diverting water from the Kamati River for irrigation. Folangi Valley, Bamyan, Afghanistan (©FAO/H. Farhadi).*

In partnership with FAO, the Government of Japan has played a leading role in these efforts. Since 2010, Japan has contributed over USD 100 million to FAO's agricultural interventions in Afghanistan and provided significant support to irrigation development estimated at USD 58 million.

Irrigation is essential for agriculture and key to food security in drought-prone Afghanistan. Much of the country's irrigation infrastructure was destroyed by war and civil strife. The irrigated area prior to the conflict was of 3.2 million ha, which was reduced to half of this amount in 2002. The problem is exacerbated by the poor maintenance of the existing infrastructure and irrigation canals.

Since 2010, Japan and FAO have rehabilitated irrigation installations on over 23 000 ha of land around Kabul and neighbouring areas, thus far benefiting some 10 000 farmers. This is contributing to boost wheat production, the country's staple food, which increased by some 2 percent between 2009 and 2013. Ultimately, the aim is to increase yields from 2 to 2.8 tonnes per ha (40 percent increase).

## **I ACTIVE PARTNERSHIP**

*"Afghanistan's irrigation system suffered over the past three decades not only because of a lack of investment, but also because people were moving away from the rural areas, leaving no one to maintain the systems or transfer indigenous skills to the younger generation,"* explains Mr Pasquale Steduto, former head of FAO's Water Development and Management Unit.

*"When there was a flood, for instance, there was no one to repair or clean up damaged canals or dams. Therefore, farmers in rural areas were not able to get enough water to cultivate their fields. As a result, they produced fewer crops."*

*Japan has contributed more than USD 100 million to FAO's agricultural interventions in Afghanistan over the last five years, including support to irrigation worth USD 58 million.*

Therefore, FAO and Japan are not only helping to rehabilitate traditional and modern irrigation systems, they are also working to improve the knowledge and skills that farmers need to run and maintain these systems. Farmers are being taught improved water methods, and shown how to operate and manage the systems.

Capacity building is also being provided to the government technicians and officials involved, who are being assisted in the use of modern design and management methods.



## **■ MICRO HYDROPOWER**

In addition to irrigation, FAO and Japan are also constructing a series of community-based micro hydropower stations for the sustainable generation of electricity. In addition to the benefits flowing from improved water supply, the micro power stations are improving villagers' lives by bringing electricity to their households and promoting rural and economic development.



*Mahipar Micro hydro project (25KW) which serves 260 households. Kabul, Afghanistan (© FAO/IM Ayoubi).*

Farmers are also being provided with quality seeds, which is vital to secure improved crops. A separate, USD 11 million Japan-funded initiative completed in 2014 delivered improved, certified wheat seeds to 80 000 vulnerable households dependent on rainfed farming. They included 15 000 households affected by conflict and natural disasters, who were assisted with rehabilitation kits containing fertilizer and hand tools in addition to the seeds. Farmers also received training in improved crop husbandry.



## **LIVESTOCK FARMERS**

In addition to supporting farmers in terms of irrigation and seeds, Japanese funding in Afghanistan has also been promoting other types of farming activities. For instance, in a project announced in November 2014, Japan will contribute USD 18 million through FAO to boost the resilience and livelihoods of Afghani livestock farmers. The project aims to prevent animal disease outbreaks and emergencies that threaten the livelihoods of livestock farmers, especially the food security of nomad communities, which are heavily reliant on livestock.

Because early detection and warning systems are essential in preventing disease, the project will establish a network of local focal points and community-based animal health and extension workers, who will be trained in early disease detection in sheep, goats and cattle – the base of Afghanistan’s livestock production – and help set up a system of rapid response to outbreaks.

This on-farm livestock healthcare system will include a vaccination programme against animal diseases such as Foot-and-Mouth disease. The project will be jointly implemented by FAO and the Ministry of Agriculture, Irrigation and Livestock of Afghanistan.

Finally, through a related, recently completed USD 11 million project, FAO and Japan delivered 7 500 tonnes of animal feed and veterinary drugs to 37 500 vulnerable herders in flood- and conflict-affected areas in Afghanistan. The project also delivered important support to improve feeding and processing facilities in Afghan dairy cooperatives.

Provision of animal feed is often the only way to secure the livelihoods of herders and farming families who depend on livestock. In fact, loss of livestock for most of these families implies losing their only source of food and income. ■

## JAPAN'S SUPPORT TO FAO NORMATIVE WORK AND KNOWLEDGE DISSEMINATION

Japan firmly supports FAO's normative work, which helps establish the rules that govern the international food system, facilitate trade and protect consumers and the environment. Japan provides not only financial assistance but also valuable technical expertise.

Specifically, FAO's normative activities contribute to produce:

- scientific or technical standards, methods and approaches that can be applied by countries;
- policy-oriented norms and standards for international agreements and conventions organized by FAO and debated in global fora;
- databases and information systems at the global level; and
- studies, reports and information in preparation of the above.

FAO's best-known normative work is that carried out by the *Codex Alimentarius* Commission. The body was established by FAO and the World Health Organization in 1963 to develop harmonized international food standards, guidelines and codes of practice to protect the health of consumers, and ensure fair practices in the USD 200 billion annual world food trade.

Currently, Japan is funding a series of workshops and training courses designed to strengthen the capacity of the countries of the Association of Southeast Asian Nations (ASEAN) to contribute to creating Codex standards and implement them once these have been adopted. This will promote increased ASEAN participation in Codex and increased protection for ASEAN consumers. Recent workshops dealt with issues such as food traceability and guarding against potentially lethal Mycotoxin, or fungal, contamination in food products.

*Globalization of trade and possible changing pest risks associated with climate change are just a few of the issues that are causing a potential increase in the spread of plant pests which could threaten global food production, forests and wild flora*



4 July 2013, Codex Alimentarius 50th Anniversary Side Event: Success Stories, Challenges and Priorities. Rome, Italy (©FAO/Alessandra Benedetti).

Japan is also supporting the work of Codex by providing the Commission's Secretariat with a resident expert to advise on food issues such as safety, production and existing regulations, as well as on ways to improve the Commission's work.

## **I DEFENCE AGAINST PLANT PESTS**

Similarly, Japan is fielding an international plant quarantine officer with the FAO-based Secretariat of the International Plant Protection Convention (IPPC) to support developing countries, and Asian countries in particular, in improving their own and collective defences against plant pests.

Globalization of trade and possible changing pest risks associated with climate change are just a few of the issues that are causing a potential increase in the spread of plant pests, which could threaten global food production, forests and wild flora. The IPPC is thus being called on to shoulder an ever-increasing workload in its mission of managing growing pest risks and developing the necessary international standards and technical guidance. Japan's provision of expert human resources is most valuable in this context.

## **| SUSTAINABLE USE OF PLANT GENETIC RESOURCES**

Access to Plant Genetic Resources is essential in developing improved crop varieties to enhance their productivity against unpredictable environmental changes and in a sustainable manner. Important here are those lesser known, local plant varieties which often feature traits that make them particularly nutritious or resistant to harsh climate conditions.

In October 2013, Japan acceded to International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR), which helps nations to cooperate in utilizing plant biodiversity to bolster their food and nutrition security. The Treaty ensures that benefits deriving from the use of Plant Genetic Resources are shared equitably among providers. Japan is also funding a project aimed at supporting the ratification and the implementation of ITPGR in Asian countries.



*L: A worker at the Provincial Center for Seeds and Seedlings watering plants.  
Hoa Binh, Viet Nam (©FAO/Hoang Dinh Nam).*



*R: Farmers recording technical data on the crops of experimental rice varieties planted for comparison.  
Mu Riem Hamlet, Viet Nam (©FAO/Hoang Dinh Nam).*

## **| ANIMAL DISEASE**

Just as with plant pests, globalization and climate change are also responsible for the spread of dangerous animal diseases from country to country. For instance, 18 countries in Asia have experienced outbreaks of Highly Pathogenic Avian Influenza (HPAI), or bird flu, since 2004, at a huge cost to their economies.

Early warning and response based on accurate and timely information is key in preventing or containing such outbreaks. Japan is providing the funds needed to improve and expand existing information-sharing mechanisms in Asia, which are coordinated by FAO. The intervention serves to minimize the risk of HPAI and other transboundary animal diseases, preserving farmers' livelihoods and helping bolster food security.

## **| AGRICULTURAL INFORMATION**

Improved information sharing is also being promoted in agricultural markets in Thailand and the Philippines, which are supported by a further Japan-funded project currently being implemented through FAO.

This is part of the FAO-based Transfer of Knowledge and Capacity Building activity run by the Agricultural Market Information System, a G-20 initiative launched in June 2011 in an attempt to reduce food price volatility.

The aim is to improve the two countries' capacity to collect high-quality data on agricultural production and stocks, especially of rice, their most important crop. This will be achieved principally by training staff in National Statistical Offices and Ministries of Agriculture in order for them to better access and apply improved methodologies.

In addition, Japan is contributing to the Global Strategy to Improve Agricultural and Rural Statistics by providing knowledge through expertise. ■



## ADAPTING TO CLIMATE CHANGE

Japan, which has become one of the most energy-efficient countries in the world, is spending more than USD 5 billion a year between 2013 and 2015 on support to developing countries to cope with climate change, with a special focus on small island states. The higher temperatures and extreme weather events accompanying climate change are expected to impact tropical and sub-tropical countries in particular.

FAO leads with its development of “climate smart agriculture”, an approach towards the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change, which promotes practices that increase farm productivity and incomes while making agriculture more resilient to climate change and contributing to mitigation through lower farm sector emissions.

FAO and Japan have come together in a trailblazing initiative known as Analysis and Mapping of Impacts under Climate Change for Adaptation and Food Security (AMICAF), which, as its title suggests, combines vulnerability assessment and mapping with measures to bolster food security in the face of advancing climate stresses.

*Japan is spending more than USD 5 billion a year between 2013 and 2015 on support to developing countries to cope with climate change, with a specific focus on small island states.*

The three-year project, entirely funded by Japan, is currently being implemented in the Philippines and the Republic of Peru, but a follow-up initiative, in which the Philippines and Peru will deliver their newly-acquired climate change expertise to neighbouring countries, has just started and will last until 2017. Together, the two projects are worth some USD 4 million.

The overall objective of both projects is, on the one hand to build the capacity of national institutions to assess the impact of climate change at provincial and community levels, prepare local communities

for action, and propose policies to support adaptation, and on the other hand to help farmers adapt to climate change by introducing them to some of the best performing climate-smart options.



*Multi-stress tolerant GSR rice is tested side by side with farmer's variety in AMICAF sites. Caraga, Philippines (©FAO/R. Sandoval).*

In impact assessment, FAO is using its very own Modelling System for Agricultural Impacts of Climate Change system, an array of models and utilities designed to gauge future consequences through simulations of crop yields and water availability.

As for field activities, farmers in the Philippines involved in the project are testing a new drought- and flood-resistant rice, the Green Super Rice, which was developed by the International Rice Research Institute and several rice scientists. Farmers participating in the project in Camarines Sur, province of the Philippines, confirmed they will be happy to plant the new rice varieties after obtaining test yields of up to 10 tonnes per hectare in the Climate Smart Farmers' Field Schools run by AMICAF. ■

## SUSTAINABLE AGRICULTURE, FORESTRY AND FISHERIES

A world leader in the field of environmental protection and sustainability, Japan gives active and generous support to measures being taken under FAO's Strategic Objective to increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner.

An island nation with a long fishing tradition and a food culture extensively based on fish and seafood, Japan is also rich in mountains and forestry. For those reasons, it has always followed forestry and fisheries issues closely at FAO in view of their environmental importance.



*To maximize crop cultivation and due to scarce land availability, vegetables are often grown above a pond using netting. Khulna, Bangladesh (©FAO/Munir Uz Zaman).*

### HERITAGE AT RISK

The Government of Japan is currently funding a major conservation initiative launched by FAO, the Globally Important Agricultural Heritage Systems (GIAHS) to identify and safeguard the many unique and ingenious ways that the world's agriculturalists have developed to produce food for themselves and others in harmony with the natural environment.



Systems like Ifugao rice terraces, Philippines, or the Atlas Mountains Oases System in Morocco, for example, contain high levels of agricultural biodiversity and associated biological diversity and are also important storehouses of indigenous knowledge.

Protecting and sustaining such diverse social and agroecosystems represents a departure from the traditional environmentalist approach, which privileged conservation of wild biodiversity in enclosed reserves. A new awareness has more recently been gaining ground, however, of the importance of agricultural biodiversity for a number of reasons, including the fact that farmland occupies some 40 percent of the world's land area.



*Ifugao rice terraces. Philippines. (©FAO/Mary Jane dela Cruz).*

Some indigenous agricultural systems have already been lost, and if this continues, there is a serious risk that many more of these systems and their heritage will soon disappear. Without critical global attention and interventions that promote the maintenance of these alternative systems and maintain their viability, it is likely that losses will accelerate.

Japan, with its own ancient and varied agricultural heritage, is contributing financial and human resources to helping FAO make

a detailed assessment of potential systems and sites for inclusion in the GIAHS list. This draws largely on a number of existing studies, field surveys and other sources of information. This will also include some consultation workshops with selected local and national stakeholders to determine needs, challenges and opportunities in conserving agricultural heritage systems.

## **FISHERIES**

Global fish production has been growing steadily in the last five decades to meet increasing demand. Fisheries contribute greatly to the world as food and income. To keep responding to this demand, fisheries need to be conducted in a sustainable manner. However, fisheries have been a major concern to the international community for almost two decades, with widespread signs of overexploitation, Illegal, Unreported, and Unregulated (IUU) fishing, environmental degradation and reduced socio-economic benefits. While progress has been made in some areas, considerable efforts are still required to improve the situation of fisheries worldwide.

Unanimously adopted by FAO members in 1995, the Code of Conduct for Responsible Fisheries (CCRF) sets out principles and international standards of behaviour for the effective conservation, management and development of living aquatic resources in the full respect of ecosystems and biodiversity.

Japan has been funding a series of projects that aim to strengthen the implementation of the CCRF at international, regional and national levels including the development of tools to cope with threats such as IUU fishing, overfishing and climate change to contribute sustainable fisheries.

Overcapacity is one of the greatest concerns in the world's marine fisheries. The problem is that too many vessels with too much harvesting power lead to overfishing and depletion of stocks. The project is therefore providing assistance to governments in developing National Plans of Action to regulate their fishing capacity.



*L: Fish for sale at the local fish market. Banda Aceh, Indonesia (©FAO/Adek Berry).*



*R: Harvesting a tuna on a small-scale tuna fishing boat. Island of S. Nicolau, Cabo Verde (©FAO/Mario Marzot).*

Activities aimed at improving the management and conservation of shark populations and at reducing mortality among sea turtles, whose populations have declined dramatically in recent decades, are also being undertaken.

One area of special concern is that of deep-sea fisheries, which have special management challenges. While general international guidelines were adopted in 2008 to sustainably manage deep sea and high sea fisheries stocks and protect vulnerable marine ecosystems, specific technical assistance for their implementation has been missing.

One of the main objectives of the current Japan-funded projects is therefore to develop such guidance and disseminate related documentation to raise awareness on best practices.

Similarly, technical guidelines on the management of the Marine Protected Areas were set up to contribute to the conservation of marine resources and surrounding habitats.

Other ongoing fisheries initiatives financed by Japan include support to FAO in strengthening the role and impact of the Convention on International Trade in Endangered Species of Wild Fauna and Flora in relation to aquatic species at risk of overexploitation. The Convention operates to ensure that international trade in wild animals and plants does not threaten their survival.



*Fisherfolk pulling in their nets. Praia, Island of Santiago, Cabo Verde (©FAO/Mario Manzot).*

Climate change is modifying the distribution and productivity of marine and freshwater species and is already affecting biological processes and altering food webs. In addition, fisheries, and aquaculture-dependent economies, coastal communities and fishers and fishfarmers are expected to experience the effects of climate change in a variety of ways. One of the supported projects has been conducting in-depth studies to improve knowledge of the likely implications of climate change on fisheries and aquaculture and how FAO Members can best respond to the threats and opportunities through sector-specific vulnerability assessments and adaptation options.



## **FORESTRY**

One of the most important ways in which forests protect the environment relates to soil and water resources. Forests conserve water by increasing infiltration, reducing runoff velocity and surface erosion and decreasing sedimentation. They also play a role in filtering water pollutants, regulating water flow, moderating floods, enhancing precipitation and mitigating salinity.

It has thus become extremely important that countries are able to gather, analyse and present information on the extent and condition of forests with protective functions.

A two-year project being implemented in three pilot countries – the United Mexican States, Nepal and Viet Nam – with Japanese funding and expertise, aims to consolidate information on the soil and water conservation functions of forests. This will enable policy-makers and practitioners to make evidence-based decisions in the planning and management of their forests.

The project has now produced a field manual for data collection on the protective functions of forests for soil and water and is testing alternative approaches for scientific clarity and economic efficiency. One of these approaches is based on the Japan Forestry Agency's National forestry Inventory Manual.

## **FOREST INSTRUMENT**

In 2007, the United Nations General Assembly adopted a “Non-legally binding instrument on all types of forests” negotiated through the United Nations Forum on Forests (UNFF) and known as the “Forest Instrument”, aimed at boosting the implementation of sustainable forest management to maintain and enhance the economic, social and environmental values of all types of forests through a series of policies and measures.

Awareness among developing countries has been growing regarding the importance of effective forest management in mitigating climate

change, but many nations lacked sufficient knowledge of the instrument, including the implementation of its provisions and the monitoring of progress achieved.




*L: Teak (Tectona grandis) 15-year-old plantation. Chepo, Panama (©FAO/Arvydas Lebedys).*

*R: Teak sawlogs from 15-year-old plantation, ready to be loaded into containers for export to India. Chepo, Panama (©FAO/Arvydas Lebedys).*

A three-year FAO project financed by Japan has successfully filled this gap by helping strengthen the capacities of developing countries to comply with the commitments made by countries in the Forest Instrument. As a result of awareness and capacity building initiatives organized by FAO, the number of countries reporting in 2013 to the UNFF on their progress in implementing the Forest Instrument has grown significantly. At the UNFF's last meeting in 2013, 57 countries submitted progress reports – two and half times more than those from the previous session two years before. ■





*"The latest hunger figures show that the number of hungry has gone down. However, we will need an exceptional level of collaboration to bring the hunger number down to zero. We cannot afford not to strengthen our cooperation to meet the challenges that bring us together. There is too much at stake."*

***José Graziano da Silva, FAO Director-General***

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