

# Agricultural and Rural Development / Fisheries

## Addressing Global Food Security and Poverty



Of the eight Millennium Development Goals (MDGs), relevant goals are shown in color.

Since rising sharply in 2008, the price of food has hit peaks again in 2011 and 2012. Even after these three peaks, food prices have continued to rise. These soaring prices pose a threat to the food security of developing nations. They are particularly damaging to the urban poor and to the rural poor; such as small-scale farmers and fishers who cannot even produce and catch enough food to meet their own needs.

JICA is providing cooperation to address the issues of agricultural, maritime and rural development. The goal is to contribute to the Millennium Development Goal (MDG) of “eradicating extreme poverty and hunger” by offering aid for food production, food supply and nutrition to the residents of both rural and urban areas.

## Agricultural and Rural Development

### ● Overview of the Issue

The environment surrounding agricultural and rural development has been diversifying because of such factors as the rapid advance of globalization, climate change, skyrocketing food and crude oil prices, growing demand for biofuels, changing food preferences as personal incomes rise, the expanding participation of the private sector, global competition for farmland, and post-conflict rehabilitation. As in many developing countries, farmers account for the majority of the population and three-fourths of impoverished people live in rural areas, rural residents in developing countries are greatly affected by these changes.

### Stable Food Supply

According to an estimate by the Food and Agriculture Organization of the United Nations (FAO), the number of people in developing countries suffering from malnutrition is expected to be around 852 million during the period from 2010 to 2012, remaining at a high level. It will therefore be difficult to achieve one of the targets of Goal 1 of the MDGs, namely to “Halve, between 1990 and 2015, the proportion of people who suffer from hunger.”

Consistently providing people with the food that they need (food security) is the foundation for economic and social stability and an important policy issue. However, the food security of many developing countries is easily affected by due to such factors as insufficient capacity of government in planning and implementation, underdeveloped agricultural infrastructure, low levels of production technology, and inadequate distribution systems that threaten the food security of citizens.

Consequently, this situation results in health deterioration, causes the outflow of valuable foreign currency to pay for food imports, and accelerates urban shifts as well as the abandonment of farming. These influences in turn lead to a worsening of poverty in urban areas, a contributory factor to social and economic instability in a country.

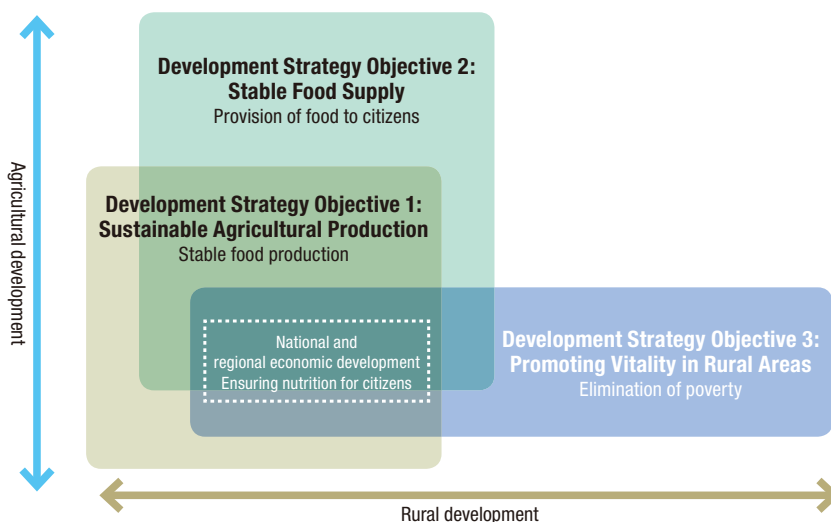
### Reducing Rural Poverty

According to the World Bank’s 2012 report, despite a decline in the proportion of people living in extreme poverty (less than \$1.25 a day), their number will still amount about 1 billion even in 2015 compared with 1.29 billion in 2008. Regionally, the world’s poor population is concentrated in Sub-Saharan Africa and South Asia. On the other hand, while self-sufficiency rates for major grains have improved somewhat and the urban middle

class is growing in such regions as South America and Southeast Asia, urban and rural disparities exist. In these regions, there is a need to devise ways to narrow the increasing economic gap between urban and rural areas.

It has been reported that the poverty reduction effect of growth driven by agriculture is at least twice that of growth driven by other industries. Moreover, in countries with lower income levels, such as in Sub-Saharan Africa, the high proportion of agriculture in the GDP means that in many cases people are pinning their hopes on agriculture as the source of economic growth.

### Agricultural and Rural Development Assistance Objectives, Philosophy and Goals



## ● JICA Activities

JICA's cooperation in agricultural and rural development aims to ensure a stable food supply to people in both rural and urban areas and reduce poverty in rural communities — thereby driving economic development at national and regional levels. Through these activities JICA strives to contribute to achieving Goal 1 of the MDGs.

For this reason JICA has established the following three specific cooperation objectives.

### 1. Sustainable Agricultural Production

Risks involving the food supply are a complex combination of short-term and long-term factors. Short-term risk factors include poor harvests owing to bad weather and accompanying speculation. Long-term factors involve population growth in emerging countries, changes in the demand structure in those countries, limitations on production resources such as land and water, vulnerability to climate change, and competition between rising demand for biofuel and food. As a result, dealing with these issues requires determining measures for each cause based on the differing circumstances of each region. JICA is aiming to achieve sustainable agricultural production in order to address these diverse problems.

In its approach to enable stable agricultural production, first, JICA provides aid for drafting agricultural policies reflecting the characteristics of the partner country's overall agricultural sector. Based on these policies, JICA provides cooperation from the perspective of the overall value chain, from production

to distribution and sales. Initiatives include establishing, maintaining, and managing infrastructures for agricultural production such as irrigation systems; improving the procurement and use of seeds, fertilizer and other agricultural production materials; and establishing and utilizing production technology for grain, livestock and other items while supporting institutional strengthening of associated organizations [→ see the Case Study on page 93].

In addition, JICA is taking action regarding increasing the resilience of agriculture to climate change. Activities include facilitating sustainable land use, developing second-generation biomass energy that does not compete with food production, establishing stockpiling systems, using agricultural statistics and introducing weather insurance, and promoting the private sector's entry into the market [→ see the Case Study below]. For example, in Myanmar, irrigation systems have been maintained by ODA Loan to improve productivity and profitability of farmers. At the same time, JICA is preparing comprehensive cooperative projects, including developing policies and systems for the promotion of irrigated agriculture, improving production technology of major crops using irrigation water, properly introducing and handling agricultural machines and materials, and facilitating cooperation with the private sector. Furthermore, along with their rising incomes, citizens of developing countries are increasingly demanding high value added agricultural and livestock products as well as taking a greater interest in such food issues as quality and safety. These issues also need to be addressed.

#### Case Study Ethiopia: Rural Resilience Enhancement Project

### For Stable Livelihoods in Drought-Resistant Rural Areas

**In 2011 drought hit the region called the Horn of Africa and exerted a serious impact on the people. Humanitarian support has battled drought crises in a repetitive manner in this region. However, JICA is now providing assistance for the end of drought crises by empowering the community.**

#### For Improving the Resilience of Rural Areas

As its first attempt, JICA is conducting a project to introduce Weather Index Insurance. In this insurance system, which serves as a drought countermeasure, insurance payouts will automatically be made to insured farmers when rainfall amounts fall below a certain value.

In this project, the number of insured farming households in 2013 was approximately 1,300, accounting for a little less than 10% of the total number of farmers within the target area. Because the introduction of Weather Index Insurance will hedge the risk of irregular rainfall, this system is expected to encourage farmers to engage in more active farming and eventually improve agricultural production in the overall area.

With regard to support for livestock farmers,

two livestock markets were constructed in the area, and they officially opened in October 2013. The goal of constructing livestock markets is to secure the opportunity for farmers to sell their livestock before the animals suffer from water or feed shortages resulting from drought. These markets allow livestock farmers to overcome drought by obtaining cash and purchasing the grain necessary for daily life. Moreover, after a drought ends, they can also purchase new animals as resources for recovering a livestock herd. In this manner, people can improve their resilience by enduring a drought while having opportunities for early recovery.

In addition, improvement of the livestock markets has also attracted buyers from the capital and neighboring cities to the markets. For livestock farmers, expansion of business opportunities will deter buyers from beating down the price of livestock; consequently such a business expansion is expected to enable farmers to enjoy favorable bargaining and also earn more money than before.



Registration of Weather Insurance for Farmers.

## 2. Stable Food Supply

Sustainable production is the premise for the provision of a stable food supply to the people of a country. In addition, ensuring a stable supply requires the establishment of food supply and demand policies for an entire country that reflect international food security. Creation of a framework for food imports and the proper use of food aid are also necessary.

Africa accounts for the largest portion of people suffering from malnutrition in the world (35% of the total population in 2011), and is in great need of expanded food production. The amount of rice consumed in Africa is growing rapidly and there are excellent prospects for achieving sustainable growth in rice production. Therefore, rice is believed to be the key to eradicating the lack of food security on the continent.

With other donors, JICA launched an initiative called the Coalition for African Rice Development (CARD) in 2008. In order to contribute to food security, the goal is to double rice production in Africa from 14 million tons to 28 million tons over the 10-year period ending in 2018. To reach this target, JICA is providing aid for the formulation of National Rice Development Strategies in the 23 rice-producing countries in Africa and for boosting rice



Harvesting rice in a project related to the Coalition for African Rice Development (CARD) in Madagascar.

production in line with the strategy of each country. In the CARD first group of 12 countries, rice production increased 48% from 14 million tons in the reference year to 20.7 million tons in 2012.

## 3. Promoting Dynamic Rural Communities

For rural development that reduces poverty, it is important to aim for social changes and invigoration in rural villages from the standpoint of developing agricultural economies and enhancing

### Case Study

#### Palestine: The Project on Improved Extension for Value-Added Agriculture in the Jordan River Rift Valley

### Profitable Agriculture for Palestine

In the Jordan River Rift Valley, Palestine, JICA is providing assistance for small and medium-scaled farmers to enjoy profitable agriculture in light of marketing needs.

#### Introduction of the EVAP Promotion Package

Agriculture is the key industry in the region around the Jordan River Rift Valley in Palestine. However, most of the small and medium-scale farmers have some issues: low levels of technology, a shortage of water resources, and insufficient fertilizer and agrochemicals.

JICA has conducted cooperative projects to ascertain the potential of the region and also to resolve the issues in a consistent way. On the basis of these achievements, JICA initiated the Project on Improved Extension for Value-Added Agriculture in the Jordan River Rift Valley (EVAP). JICA focuses on the improvement of services related to disseminating technology so that small and medium-scaled farmers can carry out agricultural production in light of market needs and increase their profitability.

In this project, a series of approaches to farmers by extension workers was introduced as an EVAP promotion package. Specifically,

this project attempts to form a network by understanding the current status, providing marketing training, and holding business forums for the farmers' group, extension workers, and people involved in the agricultural business. After that, the farmers' group draws up a farming program.

Furthermore, JICA has provided farmers with new technologies for increasing added value and also has accumulated empirical data in order to promote new technologies through business forums and daily communication with farmers.

By encouraging women's participation in the activities and also having farmers analyze the division of labor by gender, JICA facilitates a reduction of the labor load in the agricultural field as well as promoting women's participation in decision-making process.

Two years of cooperation have come to tangible fruition. For example, domestic watermelons that had fallen out of production



Local farmers, extension workers, and JICA experts delighted with a harvest of Palestinian watermelons.

due to a soil-borne virus have started to be marketed for the first time in two decades. The verified effectiveness of grafting techniques has contributed to promoting EVAP, and the governing authority also began assisting farmers with purchasing plants. In addition, since production techniques for quality organic compost have been established, farmers' groups are expecting to expand sales of the compost.

Officials of the Ministry of Agriculture have acclaimed these activities and also indicated a willingness to deploy the EVAP promotion package throughout Palestine.

the livelihood of people. Accomplishing this goal requires going beyond simply raising productivity. For instance, the distribution and sale of food must be improved, the food processing sector energized, export promotion measures strengthened, and agricultural management must also be upgraded to increase non-agricultural income and such.

Furthermore, aid is needed that brings together a diverse range of fields. Local administrative functions must be strengthened and rural infrastructures such as community roads and drinking water supplies established. The rural living environment must be improved and level of health and education for residents enhanced. Other examples of aid are the participatory development of rural areas and narrowing gender gap.

To stimulate rural development, JICA supplies aid to local administrative institutions in drafting development plans with the participation of rural residents. JICA also provides aid for the establishment of implementation systems that enable the community to raise income and improve people's livelihood, through improving the processing, distribution and sale of agricultural products [→ see the Case Study on page 39]. Moreover, for post-conflict countries, because agricultural and rural development is often a key component of aid, JICA gives priority to these activities.

For example, in Nepal, a highway connecting Katmandu and the southern region was constructed under a Grant Aid project; this transportation system successfully allows people living along the highway to enjoy better access to markets in urban areas [→ see the Case Study on page 41]. Aiming at creating synergistic effect of such a Japan's tangible support and improving the earnings of people in rural areas, JICA assists with introducing cultivation and collection systems for horticultural crops and also tightening the bond between farmers and private companies. JICA is also engaged in enhancing the administrative system, so that proper support can be provided to farmers cultivating horticultural crops. These efforts are expected to enable farmers to cultivate and sell their horticultural crops based on market information, and eventually revitalize farming communities.

## Fisheries

### ● Overview of the Issue

Fisheries resources from the oceans, rivers and lakes are important sources of food for people in developing countries. According to FAO, fishery products constitute nearly 20% of animal protein intake in developing countries and they are often among limited choices of affordable protein source. Fisheries resources are basically "open access resources" that can be harvested with simple gears. As such, the fisheries sector plays an important role in terms of providing a valuable means of livelihood for most vulnerable population such as women-headed households and those people who do not possess production assets. Developing countries account for 50% or more of the world's exports of fisheries products in value terms and 60% or more in volume terms (2010), making this industry vital to the economies of these nations.

World fisheries and aquaculture production is currently 148

million tons (2010). However, the capture production from marine waters reached a peak in the 1990s and it is believed that these resources have been almost fully utilized since then. In recent years, the stagnant capture production has been supplemented by rapidly growing aquaculture production, which now accounts for 40% of total fisheries production.

Even in the developing countries the decline in fishery resources is evident, probably due to overfishing and the destruction of the natural environment and ecosystems. However, the practice of proper management of fishery resources has not yet been sufficiently adopted by fishers. Fishers are often deprived of alternative means of livelihood and hence they have a strong tendency to prioritize immediate economic returns rather than long-term sustainable benefits. Therefore, implementing effective management of fisheries resources, which can be accepted by a majority of fishers, is a key challenge in these countries.

### ● JICA Activities

As mentioned above, lack of proper management of fisheries and deterioration of environment, which causes further decrease in valuable fisheries resources, is a major issue in the fishery sector. Fishing villages, which are often located in rural marginalized areas, also face a wide range of social issues including chronic poverty. It is hence fundamental that fisheries management issues are addressed within the overarching framework of "fishing communities (villages) development," which adequately incorporates the aspect of the livelihoods of all members of the fishing community.

JICA's cooperation in the fishery sector has three main objectives: (1) ensure the stable supply of food to local people, (2) eliminate malnutrition by providing valuable nutrition and (3) reduce poverty by providing a means of earning livelihoods to the poor. Adequate management of fisheries resources will provide a good basis for achieving these objectives and is a key to fishing village development. JICA has set the following three pillars for its cooperation.

#### 1. Vitality in Local Fishing Communities

Empowering fishing communities to alleviate chronic poverty requires a comprehensive approach. The efforts to promote sustainable fisheries resource management would be more effective if these are supplemented by activities that stabilize communities' livelihoods. These may include the promotion of alternative income generation activities such as agriculture, and the provision of education, health services and other social development programs.

JICA provides support for fisheries infrastructure development such as construction of landing ports and markets that promote efficient fish marketing as well as community members' collective actions. JICA also works to improve the capacity of fisheries organizations as well as women's group fish processing and sales activities.

#### 2. Stable Food Supply (Effective Utilization of Fisheries Resources)

Food security issues are getting more serious in a number of developing countries due mainly to rapidly growing population.

This situation inevitably puts further pressure on utilization of fisheries resources. In order to ensure sustainable supply of fish while avoiding overexploitation of resources, the fisheries sector urgently needs to make a major shift in production efforts; from “fishing” to “fish farming.” In response to such needs, JICA is now exerting efforts on promoting fish farming. In promotion of aquaculture in rural areas, JICA takes a unique approach of “farmer-to-farmer training.” In addition, JICA is assisting human resources development in aquaculture, targeting researchers, technicians and extension workers. Fish and fishery products are highly perishable. In developing countries where the distribution infrastructure is underdeveloped, post-harvest loss is an issue. JICA provides support for improvement of related facilities of fish landing, distribution and marketing for better quality and hygienic control. Such efforts are complemented by technical assistance on fish processing and preservation [ → see the Case Study below].

### 3. Appropriate Preservation and Management of Fisheries Resources

Fisheries resources are basically “renewable” resources if proper management is put in place. Having learned the lesson that government led top-down approaches may not be an effective way to promote fisheries resource management, JICA is applying a co-management approach, incorporating awareness building and capacity development among groups of fishers and facilitating collaboration mechanisms among key stakeholders.

JICA also put its emphasis on capacity development of fisheries administration for supportive policy framework and effective implementation. Collection of scientific data for informed decision-making and support for regional initiatives are also a part of this direction. With the participation of local fishers, JICA works to preserve and restore critical habitats of marine and inland water ecosystems, including seagrass beds.

#### Case Study Senegal: Program for Promoting Sustainable Fisheries

### Shifting from a Fishery of Harvest to a Fishery of Protection: Fisheries Resources Management Utilizing Japan’s Experiences

**JICA aims to establish sustainable fisheries through resource-friendly fisheries resources management and development of a value chain based on Japan’s experiences.**

#### Longstanding Support for People in Small-Scaled Fisheries

About 600,000 people or 17% of the entire working population of Senegal are engaged in the fishing industry, and marine products account for 70% of animal protein consumed by the public. In other words, the fishing industry plays a pivotal role in the economy and employment, nutrition intake of the public, and food security in the country. However, about 90% of the fish is provided by people in small-scaled fisheries; thus, this industry is very vulnerable.

For almost four decades since 1976, Japan has supported tangible and intangible aspects of the industry. Support includes infrastructure development of landing ports and markets, provision of Technical Cooperation projects and training programs, and dispatch of Japan Overseas Cooperation Volunteers. Thanks to these efforts, the fishing industry in Senegal today accounts for 13% (approximately ¥40 billion) of the country’s total exports. Octopuses caught on the coast of West Africa are exported from Senegal to Japan. However, in recent years, the catch has been declining with smaller marine products. Even worse, the distribution system has also faced several issues, such as losses after fishing, food sanitation, and preservation of freshness.

Since the late 1990s, JICA has moved forward with Technical Cooperation for fisheries resources management. In the Technical Cooperation Project on the Capacity Building for the Artisanal Fisheries Organisation and the Leaders in Fisheries Villages (2009–2013),

JICA assisted with fisher-driven resource management on the basis of Japan’s traditional co-management approach on fisheries resources. Awareness of resource management among fishers was successfully increased by promoting resource-friendly fisheries, i.e., control over excessive catch and avoiding catching small fish. As for catches of common octopus and thiof (white grouper), JICA set closed season for fishing and also provided special fishing equipment and techniques.

In the Fisheries Resources and Value Chain Development Joint Management Promotion Plan, initiated 2014, efforts will be made to maintain landing ports as well as improving the sanitary conditions and freshness of marine products that are caught by fishers engaged in fisheries resources management. JICA will also work on reducing losses after fishing, improving yield and sales price by increasing added value, and establishing marketing channels. Through establishment of a value chain, JICA will move forward with fisheries resources management by promoting fisheries that secures fishers’ earnings even if their catches are small.



Women and a JICA expert making fish products at a landing port built by Japanese aid. (Photo by Kenshiro Imamura)