

Rural Development

From Living Assistance Provided to Self-Sufficient Farmers to Improving Agricultural Production to Spur Economic Development



NERICA rice cultivated in Uganda

Population growth centered on developing countries, rapid economic growth in the newly industrializing economies of China and India, as well as the effects of climate change have all led to concerns of food supply shortages on a worldwide scale. Amidst this, those suffering the most from these effects are people living in poverty in developing countries with fragile social infrastructure. In order to improve the livelihoods of these people living in developing countries, it is crucial to pursue comprehensive as well as sustainable agricultural and rural development focused on improving the lives of rural residents, while at the same time considering harmonization with the natural environment.

With this being said, however, the challenges facing agricultural and rural development have grown more diverse in recent years. Going forward, many anticipate that agricultural and rural development will play an even more important role in addressing not only the challenge of meeting intense growth in global food (supply) demand, but also climate change, bio-energy, and reconstruction in the aftermath of conflict and unrest.

Agricultural and Rural Development

—Three Quarters of the World’s Poor Live in Rural Areas—

Supporting Agriculture Means Strengthening the Foundation of a Nation

Topic Overview

Agriculture is the steady provider of the world’s food supply, without which humankind would be lost. A stable agricultural base will directly lead to stability in a nation’s economy as well as government. In developing countries, agriculture occupies a significant percentage of a nation’s industry, while in many of these countries those employed in agriculture and related industries make up over one half of the population. Yet, at the same time, the reality is that a majority of the rural population in these countries are people living in poverty. Riots break out when food shortages occur, and many conflicts have arisen in developing countries over the use of

agricultural land.

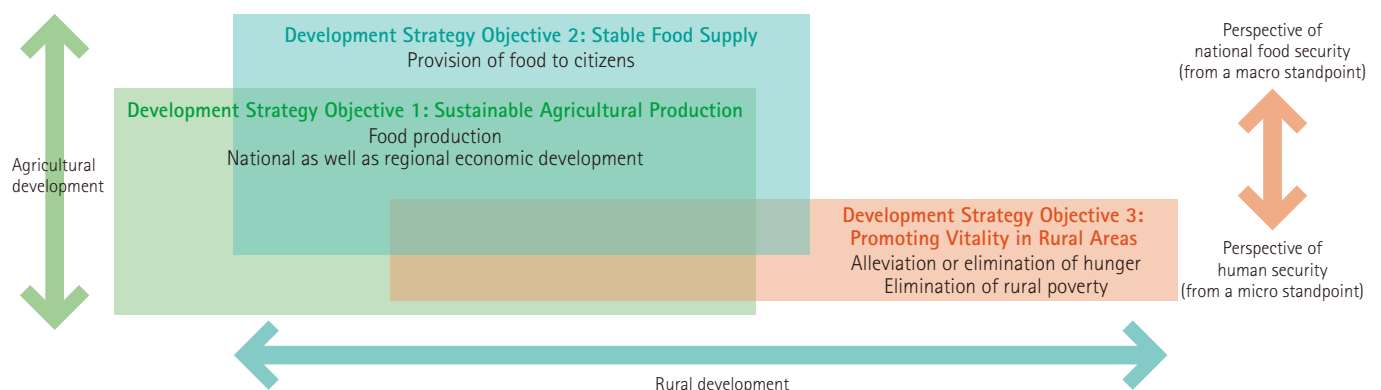
Assistance provided to agricultural industries contributes to a stronger national infrastructure, which is crucial for stability in the development of the economy and government. Furthermore, agricultural assistance also plays a significant role in promoting stability in the local community. Nearly three quarters of the world’s population living in poverty reside in rural areas, so assistance provided to agricultural industries also directly addresses the challenge of poverty prevention. Additionally, many urban people living in poverty are migrant workers or displaced farmers who trickle into cities from rural areas. Consequently, raising the living standard

in rural areas will become a key factor in deterring such urban inflows of people living in poverty. This will also have a positive effect on the problem of poverty in urban areas. Moreover, steady supplies of food to urban areas at appropriate pricing is also said to help lay the groundwork for the development of a country’s economic development.

JICA’s Initiatives

JICA has long compared agricultural development and rural development to the wheels of a car in that both are truly indispensable to one another. JICA’s objective for providing assistance in these areas is stability in food supplies, poverty reduction in rural areas and

Agricultural and Rural Development: Development Strategy Objectives and Philosophy/Goals of Assistance Programs



stability in the country as well as region. Our ultimate goal is to achieve a reduction in hunger and poverty as well as economic development through agricultural development. In order to achieve this it is vital to develop a nation's agriculture and rural areas in a sustainable manner, rather than focus on temporary increases in food production. With this in mind, JICA has established the following three development strategies:

1) Sustainability in Agricultural Production

Countries must accurately grasp their unique agricultural conditions. Assis-

tance provided by JICA for the creation and implementation of agricultural policy must be in tune with these conditions, and where necessary, JICA will take steps to help boost competitiveness as well as develop a framework for exports. Additionally, consideration must be shown toward the environment when reviewing long-term production. Such consideration also includes enhancements in agriculture-related education and expanding human resources.

2) Stability in Food Supply

In order to ensure stability in the food supply to both urban and rural areas,

on a macro level a country must secure adequate volume in supply, while on a micro level it is important to distribute this supply in a fair and efficient manner. Along with assisting in the development of a domestic distribution system and network, JICA also provides help in the development of a framework for imports and commodity reserves.

3) Promoting Vitality in Rural Areas

In order to achieve 1) and 2), JICA provides assistance in improving agricultural production, the usage/sales of agriculture products, development of dynamic economic activity and the

Example

Asia Cambodia Irrigation Technology Center Project

Aiming at Stabilizing Agricultural Production and Improving Farmers' Livelihood

In Cambodia, agriculture accounts for 43% of the GDP and 84% of the country's entire working population. While blessed with vast stretches of farmland and rich natural water resources, Cambodia's agricultural infrastructure was largely destroyed over the course of the nation's decades-long civil war and never rebuilt. As a result, the country's agricultural productivity remains far below average.

In 2006, JICA initiated the Irrigation Technology Center Project with the goal of restoring irrigation infrastructure devastated during the civil war as well as expanding human resources for the maintenance and operation of these systems. As part of this project, on-the-job-training for irrigation activities was provided to a water management group made up of local farmers at the Kandal Stung model site (Kandal Province) in April 2009. This training project involved members of the water management group participating in



Restoring an irrigation ditch in Cambodia

every stage of irrigation development—from planning and excavation to the final shaping of ditches. This season alone, the group restored over five kilometers of irrigation ditches. In addition, 38 workshops were held to provide training for irrigation engineers and technicians in the fields

of waterway and land surveys, geographical information systems (GISs), irrigation planning, design and construction, and water control, contributing to their capacity development.

From Our Expert “Having so many farmers participating in the project, I felt a solid sense of achievement”

Unsure of what to expect, the local farmers started out as if participating in an experiment. Luckily, with our success on several irrigation ditches and increased water flow, more locals became inspired in implementing the project and wanted to work on other waterways. With cooperation of leaders from local administration organizations, including the chiefs of these organizations, we were able to engage many more farming households in the project. In the end, we were able to restore over five kilometers worth of irrigation systems. With this, the district of Kandal Stung, with its major waterway restored by Japanese Grant Aid programs, has witnessed a spread of dual-crop cultivation outward from this very waterway. I am confident that farmlands surrounding the repaired waterways this time around will also see an increase in crop yields as a direct result of adopting this dual-crop cultivation technique.

Kenji Washino, Long-Term Expert (Water Management)



development of rural infrastructure, while at the same time bringing empowerment to the people.

■ Asia and Oceania

JICA is currently focusing its assistance efforts in the region on irrigation development projects in Southeast Asia, where JICA packages ODA loans with Technical Assistance, Technical Cooperation projects. Along with constructing the actual infrastructure, JICA programs also instruct area farmers on cultivation methods using irrigation as well as on maintenance practices for irrigation facilities, in the process promoting the development of an agricultural foundation combining both structural and non-structural with up-to-date facilities.

JICA-led projects ensure that local farmers participate from the planning stages, where they work side by side with JICA experts in formulating a plan of action. Incorporating the Civic Participation Model in programs means that participants can acquire the necessary technical competencies by playing

a leading role in the project. By ensuring local farmers are able to think as well as problem solve on their own, JICA aims to provide the necessary accumulation of experience and expertise to the overall development process.

In Afghanistan, decades of war and civil unrest as well as drought have resulted in agricultural production far below levels previously recorded. JICA is expanding assistance projects currently underway in the field of rice production to more rural corners of the country, with the objective of continuing the ongoing agricultural reconstruction effort.

While in India, JICA has even provided assistance for the improvement of silkworm cocoon production quality. Although the country ranks number two in the world in terms of sericulture production, the quality and volume of its cocoon cultivation decreased, as India has relied heavily on imports of high-grade silken fabrics that took up a majority of its raw silk materials. JICA made efforts to develop breeds tailored to India's unique environment and to improve breeds of mulberry, the staple

of silkworm feed. As a result, together we were able to achieve the commercial viability of new silk production using technologies oriented to local needs.

In addition, as a preventive measure related to transboundary animal diseases, JICA is expanding human resources to strengthen diagnosis technologies and monitoring networks for effective animal disease control in Cambodia, Laos, Malaysia, Myanmar, Thailand, and Viet Nam. Through its implementation of medium- to long-term assistance programs, JICA has been a staunch supporter of enhancing preventative measures addressing animal disease, including Avian influenza.

■ Central and South America

In Central and South American countries, JICA has leveraged the common language of Spanish to implement regional projects for the improvement of livestock hygiene practices. Countries included in this particular transnational project include Argentina, Paraguay, Bolivia and Uruguay. JICA has also worked to share technical manuals

Example

Asia Pakistan Punjab Participatory Irrigated-Crop Cultivation Improvement Project

Helping More Local Farmers to Take on an Active Role in Irrigation Management

Agriculture plays a crucial role in Pakistan, home to 148 million people, as the industry comprises 25% of the nation's GNP and provides jobs to over 40% of the country's labor force. Among the rural population of Pakistan, about 70% depend on farming for a living, and 40% live below the poverty line, both at a higher rate compared to their urban counterparts. In order to improve the lives of people living in poverty, and minimize disparities between regions, it is essential to further develop these rural areas.

The province of Punjab has the largest irrigated farm area in Pakistan, and relies heavily on proper irrigation. However, as the aging infrastructure built 100 years

ago began to deteriorate and lose its effectiveness, irrigation development and maintenance management have become critical areas for the provincial government to address. At the same time, the country is also shifting responsibilities of irrigation maintenance and management to the private sector.

Amidst this, JICA has launched two concurrent projects, the Punjab Participatory Irrigated-Crop Cultivation Improvement Project (Technical Cooperation Project) and the Punjab Irrigation System Improvement Project (ODA Loan Project).

The Technical Cooperation Project follows up on a prior Technical Cooperation project, through which irrigation associations and farmers' organizations were created and organized. To further enhance the functionality of these existing irrigation associations and farmers' organizations, teaching manuals on water-saving irrigation techniques were created and training was provided to officials from administrative agencies, who will in turn assist local farmers in various areas of irrigation. Furthermore, the project included demonstrations on water-saving irrigation in the designated model area of

terminal waterways within areas of the ODA Loan Project, as well as the launch and development of a farmers' organization outside the designated model area.

On the other hand, while honoring the national government's authority and ownership of land, JICA implemented the ODA Loan Project that focused on raising irrigation efficiency through repairing old and deteriorated waterways and leveling of farmlands as well as provided financial assistance that will aid in the large-scale promotion of water-saving irrigation techniques introduced through Technical Cooperation projects.

Through integrated operation of Technical Cooperation and ODA loan projects, JICA is confident that after the project period has ended, the government of Pakistan will continue to build on the framework set in place for the sustainable spread of similar projects throughout the nation.

Additionally, assistance programs geared toward indigenous peoples and agricultural practices that preserve the natural environment form pertinent parts of JICA activities in Central and South America. JICA has achieved great success in assistance projects in Dominica and the Dominican Republic, by utilizing organic materials such as bokashi fertilizer and wood acid, and in Guatemala through its assistance projects targeting small farmers.

Furthermore, triangular cooperation efforts between newly industrializing countries in South America have also grown in popularity, as JICA is in the process of furthering cooperative efforts between Brazil, one of the BRICs nations, and Portuguese-speaking nations in Africa.



Test station for water-saving irrigation



Training program for a local farmer organization in Faisalabad



Irrigation canal in Bahawalnagar

created in Spanish for this project with other countries in the region by encouraging the posting of this data on websites. Through this, we are actively moving to implement beneficial technologies and information sharing on a regional basis.

In addition, agricultural pursuits that take into consideration concerns for the environment together with support for the indigenous population are pronounced throughout the region. In specific terms, a project that utilizes such organic materials as bokashi fertilizer and wood vinegar in Dominica and a small farmer support project in Guatemala have produced outstanding results.

Furthermore, triangular cooperation with the more developed countries of South America is becoming increasingly prevalent. With respect to Brazil, a nation that is often included in a group of fast-growing developing economies referred to as the BRICs, signs of cooperative endeavors with Portuguese-speaking African countries (PALOP) are steadily emerging.

■ The Middle East

Vast stretches of the Middle East consist of arid or semi-arid lands, and yet agriculture, as a means to ensure food supply and acquire foreign currency

through trade, plays an important role in the policy of many countries in the region. Since most water resources are used for agriculture, the depletion of subterranean water by the massive water intake and the accumulation of saline in topsoil resulting from ineffective irrigation methods both pose major concerns in the region. Experts also point out that climate change will cause the reduction of river flow rates in the future. Amidst this dire outlook for the water environment, JICA is leading programs in Syria, the Palestinian Authority and Egypt that support the development of irrigation infrastructure and water-saving irrigation technologies as well as improvements in farm management to promote more efficient use of water in agriculture and to implement sustainable agricultural practices.

In the area of animal husbandry, small-scale commercial breeding of livestock in the Middle East is largely conducted alongside farming or nomadic herding/pastured grazing on pasture land that extends across arid regions. JICA has long implemented programs in Iran and the Palestinian Authority that include support for improved soil quality in arid regions by means of utilizing livestock waste products in agriculture and assistance for

enhancing productivity through improved hygienic conditions of livestock and feeding technologies.

Through these programs, JICA aims to improve the lives of small farming families and increase food production in the region where a tight supply-demand balance in food supply as well as a decrease in the food self-sufficiency ratio are predicted.

■ Africa

In Africa, nearly 70% of the population lives in rural areas, and of this a staggering 90% work in agriculture. Agriculture is also positioned as the most important industry for the African economy in that it accounts for approximately 15% of GDP and occupies a large percentage of the continent's exports.

Consequently, the development of rural areas, where anywhere from 65% to 90% of the population live in poverty, represents an extremely critical means to furthering the goal of outright poverty reduction.

Africa, however, is faced with a severe natural environment where unsteady and uncertain rainfall as well as poor soil fertility prevails. Furthermore, traditional African farming, the mainstay of agricultural practices in the region, relies on rainwater and generally

Example

The Middle East Palestinian Authority "Feasibility Study on Water Resource Development and Management in the Jordan Valley"

"Technical Cooperation for Strengthening Support System Focusing on Sustainable Agriculture"

Improved Promotion of Sustainable Agricultural Techniques Saving Small-Scale Farmers

The Palestinian Authority faces an ever-worsening poverty index while the unemployment rate exceeds 60%. Those who earn only less than US\$2 a day and who remain inevitably in poverty make up more than 40% of the population.

In the Jordan Valley area of the Palestinian Authority, agriculture accounts for only 12% of the Palestinian GDP but involves approximately 70% of the region's entire workforce. It is evident that agriculture plays a pivotal role in the area's stability and continual development. Farm produce cultivated in this area includes squash, eggplant, tomatoes, bananas, dates, grain, pasture grass, and herbs, in addition to livestock farming. This area is

one of the areas with flat ground and fertile soil for farming on the west bank of the Jordan River. However, as the Jordan Valley is situated in a semi-arid zone with insufficient natural water resources and local farmers lack adequate expertise to address this situation, they have become a roadblock to the area's further growth and development.

To tackle this problem, JICA began the feasibility study and planning of strategies for the more efficient use of agricultural water and existing water resources, and JICA has conducted the project, which aims to establish the base for extension activities to farmers, enhancing the linkage between research and extension activities for promoting the agriculture with water-saving and soil conservation farming. These efforts will contribute to improve productivity and raise incomes for small farmers in the area and to achieve the goal of the concept of "Corridor for Peace and Prosperity"* through international cooperation for agricultural development.

* On his visit to the Middle East in July 2006, then Japanese Prime Minister Junichiro Koizumi advocated this concept. This concept targets economic development of the Jordan Valley area through regional cooperation in the agricultural field between Japan, Israel, the Palestinian Authority and Jordan by means of strategic utilization of official development assistance provided by the Japanese government.



Research and promotional activities on a demo farm

focuses on risk dispersal/avoidance as the result of its “Low Input, Low Production” and “Many Varieties, Low Production” nature. As a result, the productivity of land in Africa remains stuck at extremely low levels, and with changes in rainfall conditions, production volumes experience large volatility on an annual basis. Although experiencing an increase, the production volume of grain is still unable to keep pace with the rapid rise in demand attributed to rapid population growth, as grain import volumes from other regions continue to grow at the substantial pace of 3% to 4% per year. In light of its ever-growing population, which is in the upper 2% range, and from the standpoint

of food security, bolstering productivity of primary grains and ensuring stability in supply are fast becoming urgent tasks facing the continent.

While on the other hand, growth in consumption primarily in urban areas, in particular, has been extraordinary, as today, Africa imports nearly 7 million tons of polished rice annually. At the Fourth Tokyo International Conference on African Development (TICAD IV), JICA together with donors established an ambitious goal to promote rice cultivation in Africa, to double production on the continent over the next 10 years through the Coalition for African Rice Development (CARD) Initiative and other means.

Additionally, JICA believes that it is vital to develop infrastructure that can both ensure safe drinking water and roads necessary for mobility as well as promote diverse economic activity in the region, including everything from farm waste disposal and processing industries to handicraft industries and simple trading practices, in addition to improving agricultural production. These are the keys to promoting vitality in rural areas and with this the elimination of hunger and poverty in the region. Furthermore, empowering people through better organization methods and lifting healthcare and educational standards also represent keys to the future of a prosperous Africa.

Coalition for African Rice Development (CARD) Initiative Doubling Rice Production in Africa

JICA presented the CARD Initiative at the Fourth Tokyo International Conference on African Development (TICAD IV). As the objective calls for a 100% increase in the production of rice, which as mentioned above has seen extraordinary growth in consumption primarily centered on urban areas, in the span of 10 years, JICA formed a discussion group together with related donors in the hopes of better harmonizing cooperative assistance efforts in the promotion of rice cultivation in Africa.

The JICA Research Institute in Japan played host to the 2nd CARD General Meeting in June 2009, welcoming a large audience of nearly 140 participants representing African nations, Asian nations as well as donors. Proceedings began with speeches from AGRA's Chairperson of the Board* President and former UN Secretary General Kofi Annan and JICA President Sadako Ogata, followed by presentations from each African nation regarding their National Rice Development

Strategy (NRDS). Donors and third countries also introduced their assistance policy and efforts in South-South cooperation, respectively. Going forward, plans call for full-scale efforts to begin in each African nation in order to reach the goal of doubling rice production on the continent.

* AGRA: Board of the Alliance for a Green Revolution in Africa (AGRA)



The 2nd CARD General Meeting attracted nearly 140 participants.



Rice fields in Africa with the backdrop of the continent's highest peak, Mt. Kilimanjaro

Fisheries —Fisheries Need Most to Recoup Bountiful Resources—

Helping Spread the Idea of Resource Management to Fishing Communities

Topic Overview

Harvested from oceans, rivers and lakes, fishery products represent a relatively inexpensive and precious source of protein for the people of developing countries. According to statistics released by the Food and Agriculture Organization of the United Nations (FAO),

people in developing countries depend on fishery products for 20% of their intake of animal proteins. Moreover, fishing does not require expensive production methods or land, and so is an industry in which just about anyone can work and produce. As a result, fishing has grown to become an important

means for ensuring the livelihoods of people living in poverty and women in developing countries.

Accordingly, the fisheries industry represents an important industry supporting developing countries, but because of over-fishing and environmental degradation in these regions, fishery

resources are dwindling, with some fishing grounds having already been completely exhausted. Yet, unlike mineral resources, which decline only by the amount mined, fishery resources are a renewable and effective resource that can be used sustainably for generations, if catches are kept within limits. Unfortunately, the idea of resource management has yet to permeate in those working in the fisheries industry in developing countries, as poverty tends to make people favor immediate profits. Returning fishery resources to their bountiful past and avoiding the pitfalls of over-fishing are major challenges facing the planet going forward.

JICA's Initiatives

Many developing countries do not have systems or organizations in place to serve as a framework for the management of fishery resources at the community level like Japan does through its fisheries cooperatives and fishing rights.

Additionally, often only a few capitalists or fishery product buyers hold the real power, and so small fishing communities have not had the opportu-

nity to cultivate the idea of resource management, which leads to the over-exploitation of fishing grounds.

JICA has established the following three Development Objectives, which it supports through assistance programs

1) Promotion of Vitality in Local Fishing Communities

JICA works to develop a resource management system based on the principle of local participation by forming fishing organizations and reducing costs through shared work and responsibilities, which also helps to rejuvenate local fishing communities and improve the livelihoods of local fishermen. Another key element of JICA assistance programs under this category is the effective use of unused resources, as JICA also works to diversify and improve income levels by promoting aquaculture and added-value fishery products like processed goods.

2) Effective Utilization of Fishery Resources

Fishery products lose freshness quickly, and yet developing countries lack the necessary refrigeration facilities for distribution and sales or

preserving freshness. This coupled with low awareness concerning appropriate quality control practices results in nearly one third of all fishery products unfit for use in food applications. To address these challenges, JICA has been developing the infrastructure necessary for improving distribution networks and providing instruction in related technologies, such as processing, as well as proper handling of freshly caught fishery products.

3) Preservation and Management of Fishery Resources

Fishery resources are renewable, but in order to use them in a sustainable manner, we need to protect quotas on catches to meet predetermined limits. Long-term efforts also must be made focused on raising awareness of resource management practices in order to stop overexploitation of fishing grounds. JICA, through the Bountiful Shoreline Project in Vanuatu (see below), is making an effort to increase resources by developing breeding processes targeting shellfish that are easy to harvest and thus subject to depletion.

Example

Fisheries Vanuatu Bountiful Shoreline Project

Recouping Rich Shoreline Resources through the Effort of Local Peoples

Vanuatu is an archipelago in the South Pacific Ocean consisting of over 80 large and small islands. The country has a population of around 220 thousand and roughly the same land area as Niigata Prefecture in Japan. The magnificent cobalt blue colored ocean serves as a backdrop to the Island of Efate, where the nation's capital Port Vila can be found, as well as its many outlying islands, which are blessed with a rich natural environment.

Some 80% of Vanuatu's population lives in villages or outlying, more isolated islands, half of whom live self-sufficiently. The main staple of the people's diet is a type of vegetable belonging to the potato family, while fish and shellfish caught off the coast have long formed the core source of protein. Because coastal fishery resources have been depleted in recent years due to

overexploitation, JICA, with the goal of recovering these resources, implemented the Bountiful Shoreline Project in March 2006. The second phase of this project began in 2009.

Under the instruction of two long-term specialists in aquaculture technologies and coastal resource management dispatched from Japan, JICA together with the local people implemented an intermediate breeding program for juvenile shellfish, growing these safely until they reached a releasable size. The shellfish, including Trochus and Great Green Turban, have been used not only as a food staple, but are also sold as a raw material for buttons and mother of pearl, providing additional sources of income for the local people. In assistance programs targeting shoreline resource management and the propagation of these resources, JICA proposes methods after close discussions with local communities where local people form the core of any project, with the aim to empower the local people themselves—long the major benefactors of their local waters—to revitalize their once-rich shorelines through their own efforts.



Above: Cage protecting juvenile shells from non-native predators

Below: Monitoring the harvest of adult shells