

# The Integrated Watershed Management in Inland Valleys in the Republic of Ghana



Project Sites Kumasi

## 1. Background of Project

Agriculture is one of Ghana's priority sectors in its development plan. Government policy aims at ensuring food self-sufficiency in the major staples products, including rice, for the purpose of food security and adequate nutrition. On the other hand, inland valleys found commonly in Ghana, have been cited as having the appropriate ecology for wetland rice cultivation because of their favorable hydrological and soil conditions. However, measures to develop the land into rice fields have not been established so far. Based on this background, the government of Ghana asked the government of Japan to undertake collaborative research work to address rice production in an integrated approach involving all of the various eco-technology systems within a inland valley watershed area.

## 2. Project Overview

### (1) Period of Cooperation

5 August 1997 – 4 August 2000

### (2) Type of Cooperation

Research Cooperation

### (3) Partner Country's Implementing Organization

Council for Scientific and Industrial Research (CSIR), Crops Research Institute (CRI), Ministry of Food and Agriculture (MOFA)

### (4) Narrative Summary

#### 1) Overall Goal

The small-scale farmers of the project area develop strong interest in participating in the synthetic development of agriculture based on eco-technology.

#### 2) Project Purpose

The eco-technology development plan is formulated, which is conformed to the agricultural, ecological, and social systems for the small-scale collec-

tive water areas.

### 3) Outputs

- The project steering committee is established.
- Equipment for field observation, equipment for agriculture, and others are supplied in CRI.
- Technology transfer is carried out to CRI and the staff of the related organization.
- The practical research and the evaluation are carried out in the four areas of eco-technology (water, soil, crop, forestry and farm village life).
- Based on the actual results from practical research in the four areas of eco-technology, there are found to be various elements that become the key to participation approaches.

### 4) Inputs

#### Japanese Side

Long-term experts	4
Short-term experts	13
Trainees received	10
Equipment	

#### Ghanaian Side

Researchers	14
Secretary and driver	2
Office and facilities	

## 3. Members of Evaluation Team

### Team Leader;

Noriko SUZUKI, Africa Division, Regional Department 4 (Africa, Middle East and Europe), JICA

### Technical Instructions;

Junji TAKAHASHI, Senior Advisor, JICA

### Evaluation Coordination:

Nana HOSOI, Africa Division, Regional Department 4 (Africa, Middle East and Europe), JICA

### Project Evaluation:

Takahiro MIYOSHI, Fukuyama Consultants Co., Ltd.

## 4. Period of Evaluation

22 August 2000 – 7 September 2000

## 5. Results of Evaluation

### (1) Relevance

This project has focused on assistance in the development of rice fields in inland valley watersheds. It has met the needs of the Government of Ghana, which enforces policies related to improving the food self-sufficiency rate. According to interviews, the local farmers have high expectations about rice cultivation in the inland valley watersheds. Therefore, this project satisfies their needs.

### (2) Effectiveness

In this project, the watershed management techniques based on eco-technology in the four areas – water and soil, crop, forestry, and rural life – have been developed. An action research team on each field created output such as manuals and final reports describing the results in the four areas submitted to related organizations, including JICA. Therefore, the initial goals of this project have been achieved for the most part.

### (3) Efficiency

In this project, each team had different counterpart organizations under the CSIR. Thus, at the beginning of the project, the research activities were carried out with little synergy among the participating organizations. There were partly delays and changes in personnel assignment on both the Japan and Ghana sides because the research plan for each team was not fixed. These issues, which are related to efficiency at the early stages of this project, were identified and improved at the time of the mid-term evaluation. Although some could not be used by the lack of electric power, equipment was prepared for the most part as scheduled.

### (4) Impact

As this project was a research cooperation, the direct target area was very small. Thus, impacts such as the large changes that were brought widely for the natural environment and the life of the local residents, were not observed. However, after finding that the rice crop yields in the fields increased to four to five times that of the conventional ways of cultivation, the farmers at the site started to be extremely interested in the project. Therefore, the impact on the farmers was high.

### (5) Sustainability

As the test field requires only light maintenance of the waterways and dykes, the Ghanaians will be able to maintain it by themselves. Through this project, the research capability of the Ghanaian side is definitely strengthened and the sustainability is demonstrated through the produc-



Rice planting in an inland valley rice field

tion of the manual and the guideline. Regarding the future activities plan on the Ghanaian side, the European Union is being asked for funding to assist in further research using the test field, and the World Bank's aid is also considered to extend activities to the farmers through the micro credit. These reveal the Ghanaian trend of sustainability.

## 6. Lessons Learned and Recommendations

### (1) Lessons Learned

In a project aiming at "comprehensive development," such as this one, the concerned organizations should be closely tied to each other, and they need to share a common understanding of the work plan and progress management. Since researches often fail to garner tangible results, it would be desirable to clarify the concrete research results beforehand. It is also important to set concrete indicators to facilitate the achievement of results and the monitoring.

### (2) Recommendations

It is recommended that the research result of this project be shared between a concerned organization such as the SCIR and MOFA, and that the rice cultivation techniques in inland valley watersheds be widely disseminated through MOFA to the small-scale farmers.

## 7. Follow-up Situation

At the mid-term evaluation in January 1999, the period up to March 2001 was set as the follow-up period to finalize the research results.

In February 2001, an international workshop was held to extend the research results to the neighboring countries with the participation of West African countries and international organizations such as the International Institute of Tropical Agriculture (IITA) and FAO.

# The Project for Construction of Sekondi Fishing Port



Project Sites Sekondi

## 1. Background of Project

Fishing ports in the Republic of Ghana do not have loading facilities or ice machines except for one. This poor condition of fishing harbors causes serious problems in terms of the quality of fish catches. The Sekondi fishing port, the central port in the western part of the country, did not have an adequate quay for coastal fishery boats. Therefore, brokers conducted business with those coastal boats from a position of anchorage off the coast. Since those brokers were using small canoes, trading of the fishing catch was very limited in terms of both variety and quantity. Moreover, the lack of oil filling stations and other facilities has been reflected in their poor performance in terms of efficiency and quality control. Additionally, the shallow waters of the port have often led to damage to the bottom of fishing boats. Because of the frequent necessity to repair fishing boats, fishermen tend to be beset with financially difficult situations. The existence of poorly operating fishing ports is closely related to the severe financial condition of fishermen. The government of the Republic of Ghana made a request to the Japanese Government for Grant Aid in order to reconstruct the Sekondi port. The Ghanaian Government is hoping that the Sekondi port will play a major role in promoting the fishing industry in western Ghana.

## 2. Project Overview

### (1) Period of Cooperation

FY 1997 – FY1998

### (2) Type of Cooperation

Grant Aid

### (3) Partner Country's Implementing Organization

Ghana Ports and Harbors Authority (GPHA)

### (4) Narrative Summary

#### 1) Overall Goal

The fishing catch is increased in order to supply food for the people, and job opportunity is secured through development in fisheries industry.

### 2) Project Purpose

By constructing appropriate fishing port facilities at the Sekondi Port, the fishing industry becomes efficient in its business performance.

### 3) Outputs

- The fishing port (shipping quay, apron, canoe jetty, breakwater, seabed dredging in port, bank protection, and so on) is improved.
- The fishing-related facilities (administration buildings, lavatories, ice making plant and ice storage facility, fish handling shed, water supply system, security light system, clear and waste water systems) are improved.
- Ice making plant is provided.
- The maintenance and managing system for the fishing port facility and equipment is well operated.

### 4) Inputs

#### Japanese Side

Grant	1.698 billion yen (E/N amount)
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#### Ghanaian Side

Land	
Facilities and roads	

## 3. Members of Evaluation Team

### Coordination and management research:

Shigetada KAYUMI, Senior Advisor, JICA

### Grant aid cooperation:

Masayasu ITO, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs,

### Facility research:

Azusa KIKAWADA, Japan International Cooperation System

## 4. Period of Evaluation

3 June 2000 – 11 June 2000

## 5. Results of Evaluation

### (1) Relevance

The Mid-term Agriculture Developmental Plan 1991 – 2000 stated that the Republic of Ghana focused on 1) expanding the fishing catch for national food supply, 2) diversifying economic structure in the rural area and creating additional job opportunities in the fishing industry, 3) promoting sustainable development for inland water and marine fisheries. This project purpose is set up based on the Ghana's national developmental policy.

### (2) Effectiveness

Since the establishment of the new fishing port, large fishing boats are able to come alongside the quay to load the fishing catches. The fishing catches are loaded directly into refrigerated cars, and transferred to inland areas and storehouses for export. The statistical data provided by the control office of Sekondi fishing port shows that 5,876 containers were loaded from 51 steel fishing boats since the opening of the new port. To the best of the knowledge of the control office, there are no reported cases of scraping or damage to the bottom of ships. It is due to securing depth of the shipping route in the port. It is reported that 25 coastal fishing boats and 4 steel fishing boats were newly registered after the opening of the new port, taking advantage of the efficient facilities installed.

### (3) Efficiency

Generally speaking, this project is regarded as being efficiently operated, minimizing negative impact due to the political conditions and the weather. In most of the stages, the project was estimated as efficiently carried out considering the timing of providing labor forces, supplying equipment for construction, the quality of construction, and its completion.

### (4) Impact

Investment of private capital has commenced in the area. For example, filling stations for fishing boats are established, restaurants are opened at the port and its surrounding areas since the construction of the port. This port is even becoming a new tourist attraction in Sekondi because of its great view and its modern architecture. Tourism has become a newly developing business in the area. Moreover, various companies such as refrigeration businesses have been attracted to this area.

Anticipating an unfavorable impact on some of the fish brokers, there had been some movement against the construction, involving the fishermen's and retailer's association. The mediation with those people was held by the control office of the fishing port in 2000. The loading at the port from the coastal fishery boats alongside of the quay began taking place after the mediation.

### (5) Sustainability

Sekondi fishing port has attained profitability, and the port is well managed financially. The GPHA is planning to establish a fish market on adjoining land, which is to be



The new canoe dock adjoining the newly-created fish market

completed in June 2000. With the completion of the market, it will be possible to trade fresh fish on a clean concrete floor with a roof. The fishing catches will keep their freshness because they will be loaded from the ship into iced compartments made by an ice making plant. This is a great benefit for not only fishermen but also for fish brokers and consumers.

## 6. Lessons Learned and Recommendations

### (1) Lessons Learned

The project has brought about a concern in which fish brokers lose their jobs because of the new fishing port and provoked an opposition movement. Sometimes implementing a project brings about both positive and negative results. Therefore, it is important to have talks with the concerned people to predict the expected negative impact at the planning stage. If any negative effects are foreseen, the recipient government should be advised to solve them before starting a project.

### (2) Recommendations

Generally speaking, the construction of a port changes its environment, through for example, the erosion of the coastline and water pollution. Such changes do not appear in a short period of time. It is important to be aware of environmental changes of the area by conducting periodical monitoring. Moreover, it is suggested that the GPHA collects various data such as the kinds of boats that come alongside the quay and the amount of fishing catch offloaded. They need to identify the effects of the project by doing so.