

## 付 属 資 料

1. 討議議事録 (R/D)、ミニッツ
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1. 討議議事録 (R/D)、ミニッツ

RECORD OF DISCUSSIONS  
BETWEEN THE JAPANESE PROJECT DESIGN TEAM  
AND MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT  
OF THE REPUBLIC OF CÔTE D'IVOIRE  
ON JAPANESE TECHNICAL COOPERATION  
FOR  
THE FARMING SYSTEMS IMPROVEMENT PROJECT  
FOR IRRIGATED RICE CULTIVATION IN THE REPUBLIC OF CÔTE D'IVOIRE (PhaseII)

The Japanese Project Design Team (hereinafter referred to as "the Team"), organized by Japan International Cooperation Agency, visited the Republic of Côte d'Ivoire from September 2 to 8, 2002 for the purpose of working out the details of the technical cooperation program concerning the Farming Systems Improvement Project for Irrigated Rice Cultivation in the Republic of Côte d'Ivoire (PhaseII).

During its stay in the Republic of Côte d'Ivoire, the Team exchanged views and had a series of discussions with the Ivorian authorities concerned on desirable measures to be taken by both Japanese and Ivorian Governments for successful implementation of the above-mentioned project.

As a result of the discussions, the Team and the Ministry of Agriculture and Rural Development agreed to recommend to their respective governments the matters referred to in the document attached hereto.

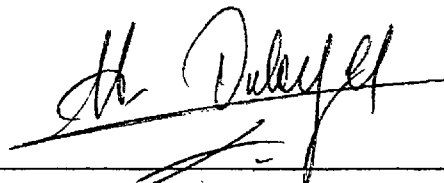
Done in duplicate in English and French languages, each text being equally authentic. In case of any divergence of interpretation, the English text shall prevail.

Abidjan, September 5, 2002

鈴木 信毅

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Mr. Shinki SUZUKI  
Leader,  
Japanese Project Design Team,  
Japan International Cooperation Agency,  
Japan



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Mr. OULAYE Hubert,  
Minister of Work and Public Service  
For  
Minster of Agriculture and Rural  
Development,  
Republic of Côte d'Ivoire

ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of the Republic of Côte d'Ivoire will implement the Farming Systems Improvement Project for Irrigated Agriculture in the Republic of Côte d'Ivoire (Phase II) (hereinafter referred to as "the Project") in cooperation with the Government of Japan.
2. The Project will be implemented in accordance with the Master Plan, which is given in Annex I.

II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

In accordance with the laws and regulations in force in Japan, the Government of Japan will take, at its own expense, the following measures through the Japan International Cooperation Agency (hereinafter referred to as "JICA") according to the normal procedures under the technical cooperation scheme of Japan.

1. DISPATCH OF JAPANESE EXPERTS

The Government of Japan will provide the services of Japanese experts as listed in Annex II.

2. PROVISION OF MACHINERY AND EQUIPMENT

The Government of Japan will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The equipment will become the property of the Government of the Republic of Côte d'Ivoire upon being delivered CIF (cost, insurance and freight) to the Ivorian authorities concerned at the ports and/ or airports of disembarkation.

3. TRAINING OF IVORIAN PERSONNEL IN JAPAN

The Government of Japan will receive Ivorian personnel connected with the Project for technical training in Japan.



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III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF  
CÔTE D'IVOIRE

1. The Government of the Republic of Côte d'Ivoire will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through the full and active involvement in the Project of all related authorities, beneficiary groups and institutions.
2. The Government of the Republic of Côte d'Ivoire will ensure that the technologies and knowledge acquired by the Ivorian nationals as a result of Japanese technical cooperation will contribute to economic and social development of the Republic of Côte d'Ivoire.
3. The Government of the Republic of Côte d'Ivoire will grant in the Republic of Côte d'Ivoire, privileges, exemptions and benefits as listed in Annex IV, and will grant privileges, exemptions and benefits no less favorable than those granted to experts of the third countries or international organizations performing similar missions to the Japanese Experts referred to in II-1 above and their families.
4. The Government of the Republic of Côte d'Ivoire will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.
5. The Government of the Republic of Côte d'Ivoire will take necessary measures to ensure that the knowledge and experience acquired by the Ivorian personnel through technical training in Japan will be utilized effectively in the implementation of the Project.
6. In accordance with the laws and regulations in force in the Republic of Côte d'Ivoire, the Government of the Republic of Côte d'Ivoire will take necessary measures to provide at its own expense for the Project:
  - (1) Services of the Ivorian counterpart personnel and administrative personnel as listed in Annex V;
  - (2) Land, buildings and facilities as listed in Annex VI;
  - (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare

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parts and any other materials necessary for the implementation of the Project other than the Equipment provided through JICA under II-2 above;

- (4) Means of transport and travel allowances for the Japanese experts for official travel within the Republic of Côte d'Ivoire; and
- (5) Suitably furnished accommodations for the Japanese experts and their families.

7. In accordance with the laws and regulations in force in the Republic of Côte d'Ivoire, the Government of the Republic of Côte d'Ivoire will take necessary measures to meet:

- (1) Expenses necessary for transportation within the Republic of Côte d'Ivoire of the Equipment referred to in II-2 above, as well as for the installation, operation and maintenance thereof;
- (2) Customs duties, internal taxes and any other charges imposed in the Republic of Côte d'Ivoire on the Equipment referred to in II-2 above; and
- (3) Operating expenses necessary for the implementation of the Project.

#### IV. ADMINISTRATION OF THE PROJECT

1. The Deputy Minister of the Ministry of Agriculture and Rural Development (hereinafter referred to as "MINADER"), as the Project Director, will bear overall authority and responsibility for the administration and implementation of the Project.
2. The General Director of the National Supporting Agency for Rural Development (hereinafter referred to as "ANADER"), as the Project Manager, will bear overall responsibility for the managerial and technical matters of the Project.
3. The Director of the Centre\*, who will be appointed by the General Director of ANADER, as the Sub-Project Manager, will bear direct responsibility for the managerial and technical matters of the Project.  
\*Centre = Irrigated Rice Development Centre (IRDC), as listed in AnnexVIII
4. The Secretary General, who will be appointed by the Deputy Minister of MINADER, will bear responsibility for programming and coordination of the Project.
5. The Japanese Chief Advisor will provide necessary recommendations and advice to the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.

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6. The Japanese experts will give necessary technical guidance and advice to the Ivorian counterpart personnel on technical matters pertaining to the implementation of the Project.
7. For the effective and successful implementation of the Project, a Joint Coordinating Committee will be established where functions and composition are described in Annex VII.
8. The organization chart of the Project is shown in Annex VIII.

## V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by the two governments through JICA and the Ivorian authorities concerned at the middle and during the last six months of the cooperation term in order to examine the level of achievement.

## VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Republic of Côte d'Ivoire shall bear claims, if any arise, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Republic of Côte d'Ivoire except for those arising from the willful misconduct or gross negligence of the Japanese experts.

## VII. MUTUAL CONSULTATION

There will be mutual consultation between the two governments on any major issues arising from, or in connection with, this Attached Document.



VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of the Republic of Côte d'Ivoire, the Government of the Republic of Côte d'Ivoire will take appropriate measures to make the Project widely known to the people of the Republic of Côte d'Ivoire.

IX. TERM OF COOPERATION

The duration of technical cooperation for the Project under this attached document will be five (5) years effective November 1, 2002.

- Annex I MASTER PLAN
- Annex II LIST OF JAPANESE EXPERTS
- Annex III LIST OF MACHINERY AND EQUIPMENT
- Annex IV PRIVILEGES, EXEMPTIONS AND BENEFITS FOR JAPANESE EXPERTS
- Annex V LIST OF IVORIAN COUNTERPART PERSONNEL AND ADMINISTRATIVE PERSONNEL
- Annex VI LIST OF LAND, BUILDINGS AND FACILITIES
- Annex VII JOINT COORDINATING COMMITTEE
- Annex VIII ORGANIZATION CHART OF THE PROJECT





MASTER PLAN

(1) Super-Goal

- Rice production increases in the Republic of Côte d'Ivoire.
- Methods for improving farming systems centered on irrigated rice cultivation are diffused in West Africa.

(2) Overall Goal

- Methods for improving farming systems centered on irrigated rice cultivation are diffused in the Republic of Côte d'Ivoire.
- Income of irrigated rice farmers is improved in "Région des Lacs".

(3) Project Purpose

- Methods for improving farming systems centered on irrigated rice cultivation are applied in "Région des Lacs".

(4) Outputs

1. Cultivation technologies of irrigated rice are improved at Irrigated Rice Development Centre (IRDC).
2. Improvement methods are verified for the irrigated rice farming systems at the model sites.
3. Training is conducted at the Centre. (This includes its administration such as programming, coordination, implementation, etc.)
4. Extension is carried out to diffuse the improved farming systems by the extension workers trained at the Centre.

(5) Activities

- 1-1 Improving the standard of irrigated rice cultivation
- 1-2 Improving the technologies of post-harvest operations
- 1-3 Studying the methods of improving the farming systems
- 1-4 Making technical manuals
  
- 2-1 Verifying the standards of irrigated rice cultivation
- 2-2 Verifying the improved technology of post-harvest operations
- 2-3 Supporting the planning of farm management and its implementation carried out by the organizations of farmers
  
- 3-1 Programming the training
- 3-2 Conducting the training



3-3 Evaluating the training

4-1 Supporting for programming the extension activities of agricultural extension workers

4-2 Supporting activities of the extension

4-3 Evaluating the extension program

\*note : In the Project, "farming systems" is defined as farm management at the individual farmer's level, such as planting planning, agricultural production, cooperative activities and selling production etc..



LIST OF JAPANESE EXPERTS

1. Long-term Experts

- (1) Chief Advisor
- (2) Coordinator / Training
- (3) Irrigated Rice Cultivation
- (4) Farmers' Organisation
- (5) Farm Management

Note: The coordinator may serve concurrently as an expert in the field of Training.

2. Short-term Expert(s)

Short-term experts will be dispatched as necessary during implementation of the Project according to requirement within the framework of the Project.



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LIST OF MACHINERY AND EQUIPMENT

Part of the machinery and equipment necessary for the effective implementation of the Project will be provided by the Japanese side within the budget allocated for technical cooperation.

The main items of machinery and equipment expected to be provided are as follows:

1. Equipment, machinery, instrument, tools and materials necessary for the implementation of the Project.
  
2. Vehicles

Note: 1) The use of the above-mentioned Equipment is limited to the transfer of technology by the Japanese experts.

2) Contents, specifications and quality of the above-mentioned Equipment will be decided through mutual consultations within the allocated budget of the Japanese fiscal year.



Annex IV

PRIVILEGES, EXEMPTIONS AND BENEFITS FOR JAPANESE EXPERTS

1. Exemptions from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad.
2. Exemptions from import duties and any other charges imported on personal and household affects (including one vehicles per expert) that may be brought into the Republic of Côte d'Ivoire from abroad.
3. Assistance through all available means to obtain medical services and other necessary assistance for the Japanese experts and their families.
4. Issuance of identification cards to the Japanese experts and their families to secure the cooperation of all governmental organisations necessary for the experts to fulfill their duties.
5. Issuance of entry and exit visas upon application for the Japanese Experts and their families free of charge.



Annex V

LIST OF IVORIAN COUNTERPART PERSONNEL AND ADMINISTRATIVE PERSONNEL

1. Project Director (Deputy Minister of MINADER)
2. Project Manager (General Director of ANADER)
3. General Secretary (appointed by the Deputy Minister of MINADER)
4. Sub Project Manager (appointed by the General Director of ANADER)
5. Counterpart Personnel in the following fields:
  - (1) Agricultural Infrastructure
  - (2) Water Management
  - (3) Irrigated Rice Cultivation
  - (4) Farm Management
  - (5) Farmers' Organization
  - (6) Agricultural Marketing
  - (7) Field Crops
  - (8) Agricultural Machinery
  - (9) Training Coordination
  - (10) Other related fields in accordance with the fields of the short-term experts
6. Administrative and support Personnel
  - (1) Administrative Personnel (Project Office)
  - (2) Secretaries / Typists
  - (3) Drivers
  - (4) Other support staff mutually agreed up on as necessary



LIST OF LAND, BUILDINGS AND FACILITIES

1. Land, buildings and facilities for the implementation of the Project
2. Rooms and space necessary for installation and storage of the Equipment
3. Office space and necessary facilities for the Project
4. Utilities such as electricity, gas, water, telephone and furniture and running expense which are necessary for the Project
5. Other facilities mutually agreed upon as necessary



JOINT COORDINATING COMMITTEE

The Joint Coordinating Committee is established for the purpose of effective and smooth implementation of the Project.

1. Functions

The Joint Coordinating Committee will meet at least once a year and whenever the need arises, and has the following functions:

- (1) Approving the Annual Work Plan under the framework of this Record of Discussions.
- (2) Reviewing the overall progress of the Project in accordance with the Annual Work Plan and the Record of Discussions.
- (3) Reviewing those measures taken by the Government of Japan:
  - 1) Dispatch of Japanese experts
  - 2) Acceptance of Ivorian counterpart personnel in Japan for training, and
  - 3) Provision of machinery and equipment
- (4) Reviewing those measures taken by the Government of the Republic of Côte d'Ivoire:
  - 1) Allocation of necessary budget (including the expenses for preparation and management of experimental farm and demo-farms)
  - 2) Assignment of necessary counterpart personnel, and
  - 3) Utilization of machinery and equipment provided by the Government of Japan
- (5) Giving recommendations to both Governments of the Republic of Côte d'Ivoire and Japan on the following:
  - 1) Budgetary matters,
  - 2) Necessary cooperation of related organizations, and
  - 3) Other measures to be taken by both sides.
- (6) Coordinating the relationship among authorities concerned.





## 2. Composition of the Committee

### (1) Chairperson

Minister, MINADER

### (2) Members

#### 1) Ivorian side

- a. Project Director, Deputy Minister of MINADER
- b. Project Manager, General Director of ANADER
- c. Representative(s), MINADER
- d. Representative(s), Ministry of State, Ministry for Foreign Affairs and Ivorian Nationals in Foreign Countries (MEMREIE)
- e. Representative(s), Ministry of State, Ministry of Economy and Finance (MEMEF)
- f. Representative(s), Ministry of Foreign Trade (MCE)
- g. Representative(s), Ministry of Domestic Trade (MCI)
- h. Representative(s), Ministry for Women and Children (MFFE)
- i. Representative(s), National Rice Project (PNR)
- j. Representative(s), ANADER
- k. Representative(s), National Rice Farmers Association of Côte d'Ivoire (ANARIZ-CI)
- l. Director, Yamoussoukro branch office, MINADER
- m. Representative of Rice farmers at the model sites

#### 2) Japanese side

- a. Chief Advisor
- b. Coordinator
- c. Experts assigned to the Project
- d. Other Japanese experts and persons concerned dispatched by JICA, when necessary
- e. Resident Representative, JICA Côte d'Ivoire Office
- f. Official(s) of the Embassy of Japan in Côte d'Ivoire

#### 3) Personnel authorized by both sides



### 3. Steering Committee

Steering Committee is established under the Joint Coordinating Committee and will meet as necessary.

#### 1) Functions

- a. Monitoring the activities of the Project.
- b. Confirming its progress according to the programme
- c. Discussing matters for effective implementation of the Project

#### 2) Membres

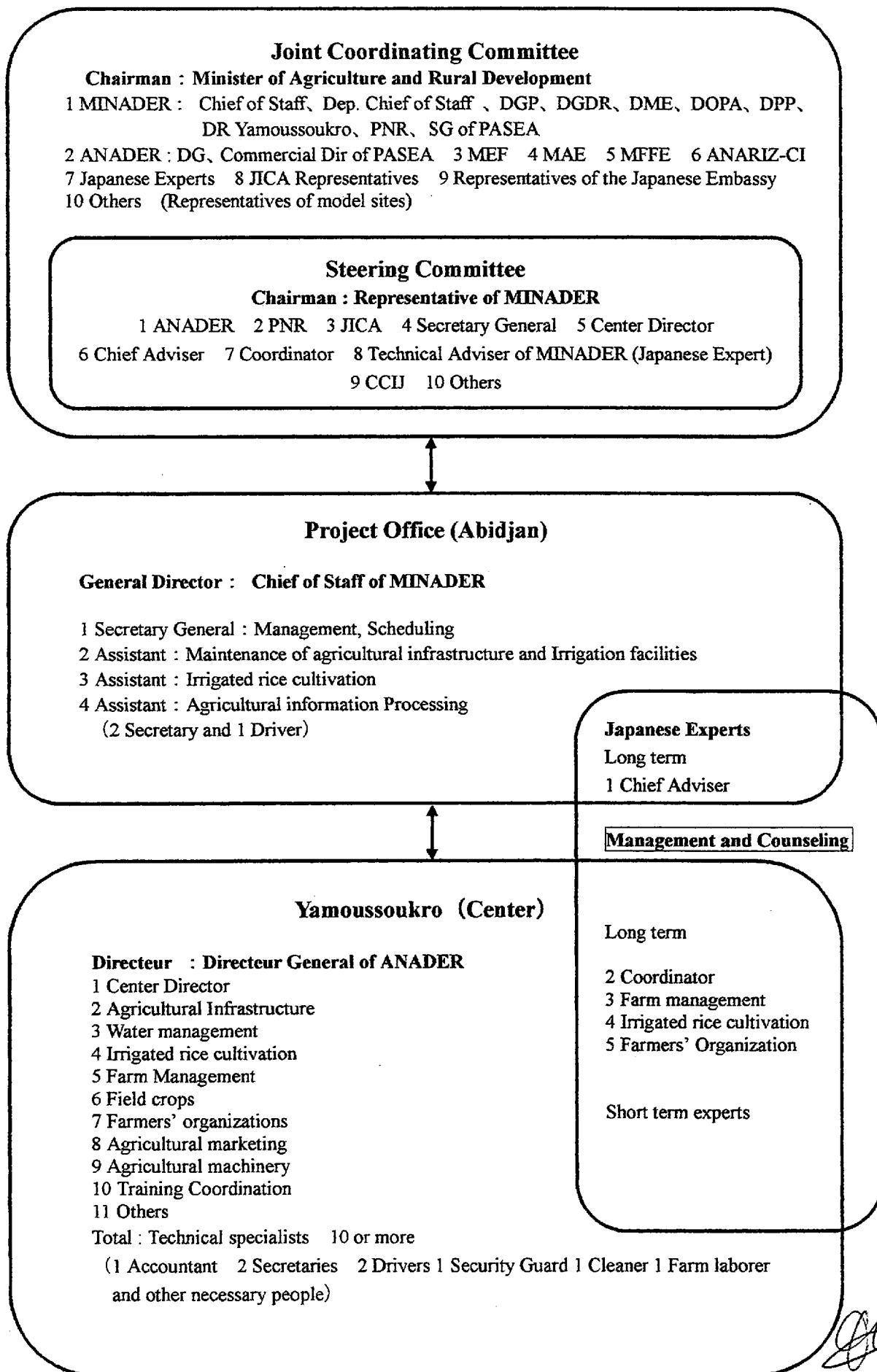
- a. Representative(s), DPP, MINADER (Chairperson)
- b. Project Manager, Ivorien-Japanese Cooperation Unit, MINADER
- c. Representative(s), ANADER
- d. Representative(s), National Rice Project (PNR)
- e. Resident Representative, JICA Côte d'Ivoire Office
- f. Representative(s), the Project
  - General Secretary Chief Advisor
  - Director of the Centre
  - Chief Advisor
  - Coordinator
- g. Technical Advisor in MINADER (Japanese expert)

Note:

Person(s) who is / are nominated by the chairperson may attend the joint committee meeting.



**AnnexVIII Organizational chart of the Project**



MINUTES OF MEETING  
BETWEEN THE JAPANESE PROJECT DESIGN TEAM  
AND MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT  
OF THE REPUBLIC OF CÔTE D'IVOIRE  
ON JAPANESE TECHNICAL COOPERATION  
FOR  
THE FARMING SYSTEMS IMPROVEMENT PROJECT  
FOR IRRIGATED RICE CULTIVATION IN THE REPUBLIC OF CÔTE D'IVOIRE  
(PhaseII)

The Japanese Project Design Team (hereinafter referred to as "the Team"), organized by Japan International Cooperation Agency, visited the Republic of Côte d'Ivoire from September 2 to 8, 2002 for the purpose of working out the details of the technical cooperation program concerning the Farming Systems Improvement Project for Irrigated Rice Cultivation in the Republic of Côte d'Ivoire (PhaseII) (hereinafter referred to as "the Project").

During its stay in the Republic of Côte d'Ivoire, the Team exchanged views and had a series of discussions with the Ivorian authorities concerned on desirable measures to be taken by both Governments for successful implementation of the above-mentioned project. As a result of the discussions, the Team and the Ivorian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Done in duplicate in the English and French languages, each text being equally authentic. In case of any divergence of interpretation, the English text shall prevail.

Abidjan, September 5, 2002

鈴木 信毅

Mr. Shinki SUZUKI,  
Leader,  
Japanese Project Design Team,  
Japan International Cooperation Agency,  
Japan



Mr. OULAYE Hubert,  
Minister of Work and Public Service  
For  
Minster of Agriculture and Rural  
Development  
Republic of Côte d'Ivoire

## **1 Project Management**

### **1-1 Concept of the Project**

Ivorian government prioritises the Centre as an established capital of research, development and training under the Ivorian government, for further development of policies and strategies in agricultural sector, especially in the promotion of irrigated rice cultivation.

Japan's technical cooperation is based on the concept of human resource development. As such, this Project intends to enhance the capacity of the Centre staff to improve the farming systems on the irrigated rice.

The Team also emphasises that the purpose of our cooperation is technical support in line with the future vision of the Centre as defined by the Ivorian Government.

The Project aims to further strengthen the technical capacity of the Centre through supports to activities of developing and verifying the methods to improve farming system for the promotion of irrigated rice cultivation in the three model sites, and further dissemination in the target area.

The implementation chart of the Project is shown in Annex I.

### **1-2 Project Framework**

The Project Design Matrix and the Plan of Operations are shown in Annex II and III, respectively. The Joint Coordinating Committee (hereinafter referred to as "JCC") will be held at least once a year and at anytime when necessity arises to discuss on the results and situations of the Project activities, as well as the budget of the Project for every fiscal year. The Project Design Matrix and the Plan of Operations can be modified within the framework of the R/D with the approval of the JCC.

### **1-3 Project Document**

The Japanese side and the Ivorian side have jointly prepared the Project Document for the Implementation of the Project as shown in ANNEXIV. It is important to share consensus on any issues related to the Project, such as its background, strategy, purpose, activities, outputs, and expected impacts, therefore the Document will be used to for this purpose. Its summary will also be open to the public in the Republic of Côte d'Ivoire and Japan to secure the accountability.

## **2 Project Sites**

### **2-1 Project Office**



Ivoirian side keeps the Project office in Ministry of Agriculture and Rural Development(hereinafter referred to as “MINADER”).

## 2-2 The Centre

MINADER authorized the Centre as the “Irrigated Rice Development Centre” under the supervision of “Directeur de Cabinet du MINADER”(Director of Cabinet ; MINADER”), so that the Centre will continue to play an important role, even after the completion of the Project, for the promotion of rice production in the Republic of Côte d’Ivoire. The activities of the Centre will not be confined to the activities of the area where Japanese technical assistance covers, as MINADER holds its ownership and bears costs for operations of the Centre.

## 2-3 Model Sites

The following three villages in “Région des Lacs” are selected as the Model Sites for the Project:

- 1) Anongblin (Urban, In-flow water from rivers, Multi-tribal);
- 2) Séman-Djamalabo (Rural, Dam, Single-tribal); and,
- 3) N’dakonankro-Kpoussoussou (Urban, Dam, Multi-tribal).

Under the Project, the Model Sites are established for the purpose of developing, piloting and verifying effective methods of farming systems improvement (including guidance/instruction on farm management, development of effective technology/techniques, support to initiating and/or administering collective actions, assisting commercial activities, etc.). At the same time, those sites need to have natural and socio-economic characteristic(s) that represent ones in “Région des Lacs” as well as ones in Côte d’Ivoire, in view of replicability of the experiences/lessons learnt from the activities in the Model Sites. The Model Sites are also required to be a standard level of agricultural infrastructure and technical aptitude in order to maximise impact of the Project interventions.

Note) The following were the selection criteria of model sites:

- Natural condition (Impact of Biology and ecosystem, Aptitude for agricultural development)
- Socio-economic condition (Socio-cultural constraints, Economic condition, Ownership, Sustainability, Cohesiveness of producer, Preparedness, Gender balance, Marginalisation)
- Condition in agricultural technology / infrastructure (Typicalness, Aptitude in agricultural technology, Potential for development, Maintenance of



infrastructure, Agricultural equipment)

#### **2-4 Target Area**

Target Area is “Région des Lacs”. Improvement methods are verified for the irrigated rice farming systems at the Model Sites, involving irrigated rice farmers. The alternative methods/techniques will be disseminated through training activities at the Centre to agricultural extension workers, who work under organisations with access to irrigated rice farmers in “Région des Lacs”.

#### **3 Measures to be take by Ivorian Side for the smooth implementation of the Project**

- 1) MINADER will bear the responsibility for rehabilitating the reservoir built by Projet Riz Centre (PRC) in the model site of the Project, so that the outcome of the Project on the farm field level can be sustained.
- 2) In view of the farmers group in the model sites of the Project, MINADER will keep the responsibility for promoting agricultural extension activities to Coopération Régionale des Riziculteurs (CORERIZ) as an important target farmers group.
- 3) MINADER will put priority to allocate necessary budget for conducting the training activities of the Centre directly related to the Project by cost-sharing with Japanese side, so that the training activities of the Centre will secure its sustainability.

And Japanese side will not bear the cost of the Centre which is not directly related to the technical cooperation by the Project.

#### **4 Others**

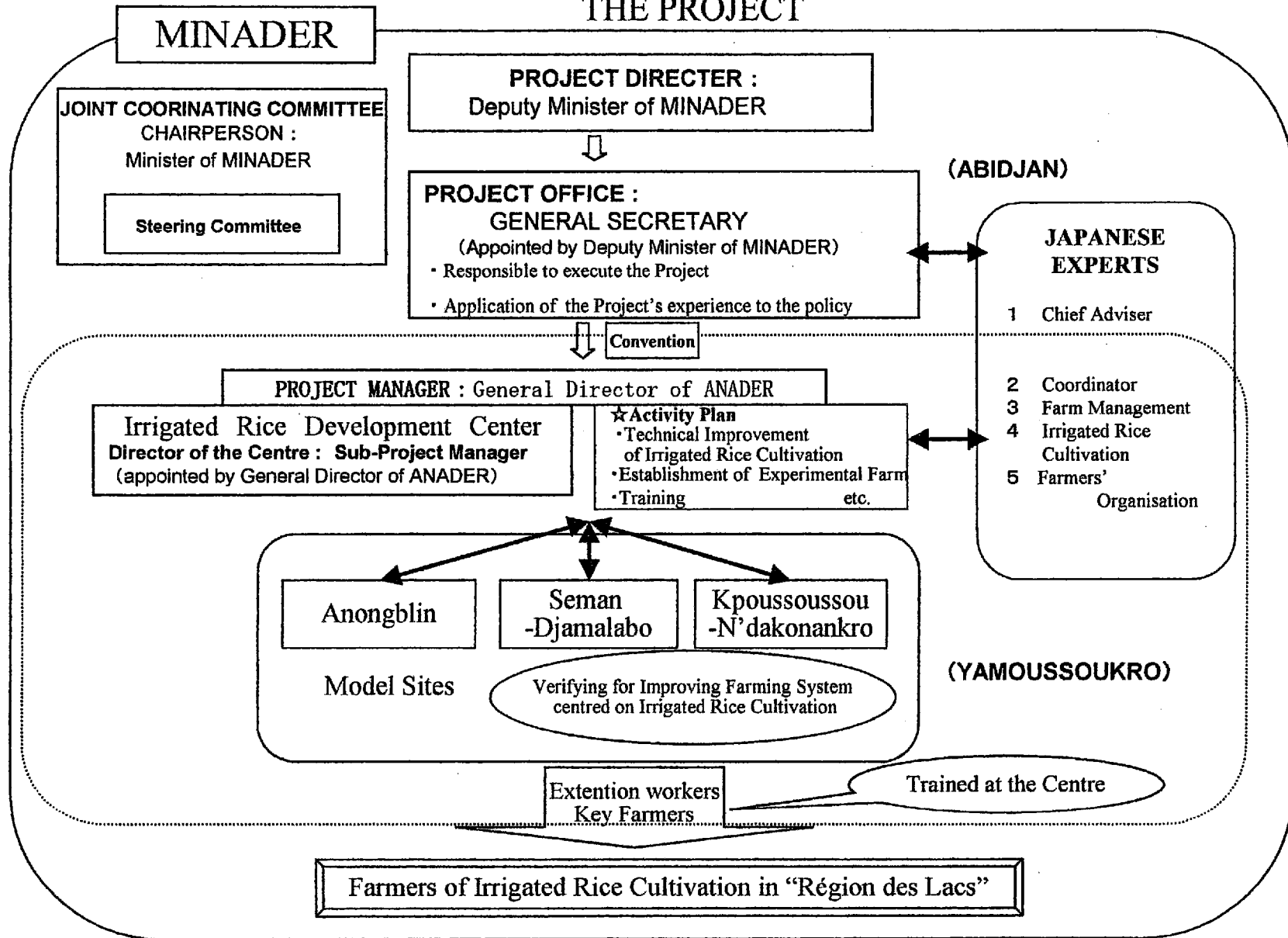
Ivorian Side requested Japanese two experts (Chief advisor and Coordinator) to prolong until the day before of commencement of the Project (31 October 2002), in order to conduct follow-up of the preparatory Phase Project (Phase I).



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Annex I

# IMPLEMENTATION CHART OF THE PROJECT



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**Farming Systems Improvement Project For Irrigated Rice Cultivation in the Republic of Côte d'Ivoire (Phase II)**

- 1. Project duration: 5 years
- 2. Executing organizations: MINADER, ANADER
- 3. Target groups: Extension workers (belonging to ANADER and other organizations), Irrigated rice producers
- 4. Area of intervention: The Lakes Region of the Republic of Côte d'Ivoire

NARRATIVE SURMMARY	INDICATORS	MEANS OF VERIFICATION	EXTERNAL CONDITIONS
<b>SUPPER GOAL</b> 1. Rice production increases in the Republic of Côte d'Ivoire 2. Methods for improving farming systems centered on irrigated rice cultivation are diffused in West Africa.			
<b>OVERALL GOAL</b> 1. Methods for improving farming systems centered on irrigated rice cultivation are diffused in the Republic of Côte d'Ivoire. 2. The income of irrigated rice farmers is improved in "Région des Lacs"	1. The number of irrigated rice farmers who apply the techniques developed at the Center doubles in Côte d'Ivoire during 2007-2012. 2. The number of irrigated rice farmers whose income is increased by applying improved technologies increases by 50 % in "Region des Lacs" during 2007-2012.	• Project Reports	
<b>PROJECT PURPOSE</b> Methods for improving farming systems centered on irrigated rice cultivation are applied in "Région des Lacs".	By 2007, 30% of irrigated rice farmers apply the technologies for improving farming systems.	• Project Reports	• The Ivorian Government continues to finance the training programs even after the completion of the project. • The economic factors such as the price of agricultural products do not radically change. • Natural catastrophe does not occur. • The government takes measures to reduce rice import
<b>RESULTS</b> 1. Cultivation technologies of irrigated rice are improved at Irrigated Rice Development Centre (IRDC). 2. Improvement methods are verified for the irrigated rice farming systems at the model sites. 3. Training is conducted at the Center. (This includes its administration such as programming, coordination, implementation, etc.) 4. Extension is carried out to diffuse the improved farming systems by the extension workers trained at the Centre.	• cf. See Indicators attached	• Project Reports	• The agricultural policy, which designates ANADER as the pillar extension services organization, does not change. • Farmers continue to work on their farms at the model sites.
<b>ACTIVITIES</b> 1-1 Improving the standard of irrigated rice cultivation 1-2 Improving the technologies of post-harvest operations 1-3 Studying the methods of improving the farming systems 1-4 Making technical manuals  2-1 Verifying the standards of irrigated rice cultivation 2-2 Verifying the improved technology of post-harvest operations 2-3 Supporting the planning of farm management and its implementation carried out by the organizations of farmers  3-1 Programning the training 3-2 Conducting the training 3-3 Evaluating the training  4-1 Supporting for programning the activities of extension workers 4-2 Supporting activities of the extension 4-3 Evaluating the extension program	<b>IN PUTS</b> Japan 1. Long-term experts - Chief Adviser - Coordinator/training - Irrigated rice cultivation - Farmers' organizations - Farm management 2. Short-term experts 3. Training of counterparts in Japan 4. Equipments	Cote d'ivoire 1. Counterparts (Project Office) - General Secretary - Assistant (Irrigated rice cultivation) - Assistant (Maintenance of agricultural infrastructure and irrigation facilities) - Assistant (Agricultural information processing)  2. Budget for project operations  (The Centre) - Director - Agricultural infrastructure - Water management - Irrigated rice cultivation - Farm management - Farmers' organizations - Agricultural Marketing - Field crops - Agricultural machinery - Training coordinator - Others	• Ethnic confrontation does not affect negatively the mutual cooperation among farmers. • The internal antagonism due to a dispute on the land does not erupt. • The appropriate use of rice fields is continually guaranteed. • The Government is committed to ensuring the repair of main irrigation infrastructure at the model sites.  <b>PRELIMINARY CONDITIONS</b> • The agricultural policy for self-sufficiency in rice does not change. • MINADER implements the extension policy in favor of rice farmers. • The necessary basic data are available.



## Indicators

Title	Indicators	Means of verification
<b>SUPPER GOAL</b>		
<b>Overall Objectives</b>	<ol style="list-style-type: none"> <li>1. The number of irrigated rice farmers who apply the techniques developed at the Center doubles in Côte d'Ivoire during 2007-2012.</li> <li>2. The number of irrigated rice farmers whose income is increased by applying improved technologies increases by 50 % in "Region des Lacs" during 2007-2012.</li> </ol>	- Project Reports
<b>Specific Objectives</b>	By 2007, 30% of irrigated rice farmers apply the technologies for improving farming systems.	- Project Reports
<b>Results</b>	<p><b>Result 1</b></p> <ol style="list-style-type: none"> <li>(1) Two (2) irrigated rice cultivation standards are improved at the Centre by 2007.</li> <li>(2) Post-harvest technologies are improved at the Center by 2007.</li> <li>(3) Two (2) kinds of diversified cropping systems are developed at the Center by 2007.</li> <li>(4) Six (6) training manuals are made at the Center by 2007.</li> </ol> <p><b>Result 2</b></p> <ol style="list-style-type: none"> <li>(1) During 2003-2007, 50% of the techniques improved at the Center are verified at the model sites.</li> </ol> <p><b>Result 3</b></p> <ol style="list-style-type: none"> <li>(1) Five (5) training courses are conducted at the Centre during 2004-2007.</li> <li>(2) The Centre trains 120 rice farmers (on-site training), 80 rice farmers and 80 extension workers at the Centre.</li> <li>(3) Sixty percent (60 %) of the participants are satisfied with the quality of the training.</li> </ol> <p><b>Result 4</b></p> <ol style="list-style-type: none"> <li>(1) Seventy-five percent (75%) of the extension workers trained at the Centre disseminate the technologies.</li> </ol>	<p>-Project Reports</p> <p>Id.</p> <p>Id.</p> <p>Id.</p>



Annex III

PLAN OF OPERATION

1) 1. Cultivation technologies of irrigated rice are improved at the Irrigated Rice Development Center

ACTIVITIES	RESULTS EXPECTED (INDEX)	CALENDER					PRINCIPAL PERSON* IN CHARGE
		1st	2nd	3rd	4th	5th	
1-1) Improving the standard of irrigated rice cultivation							
1-1-1) Plan of experiment	Annual plan of experiment (beginning of every year)	—	—	—	—	—	Rice, Ai, Wa, Am, FS, Fc, TC
1-1-2) Plan of utilization of pilot field to experiment	Annual plan of utilization of pilot field to experiment (beginning of every year)	—	—	—	—	—	Rice, Ai, Wa, Am
1-1-3) Establish of pilot field in Center	Operation report	—	—	—	—	—	Ai, Am
1-1-4) Documentation & Research	Technical standard report in model sites is presented	—	—	—	—	—	Rice, Ai, Wa, Am
1-1-5) Verifying experiment of standard technologies (direct seeding) at Center	Quarter report Manual of technical standard of rice cultivation (1-5-1)	—	—	—	—	—	Rice, Ai, Wa, Am
1-1-6) Verifying experiment of standard technologies (planting) at Center	Quarter report Manual of technical standard of rice cultivation (1-5-1)	—	—	—	—	—	Rice, Ai, Wa, Am
1-1-7) Evaluating of experiment	Quarter report Report of evaluation of experiment (annual)	..... (quarter) .....					Rice, Ai, Wa, Am, FS, Fc, TC
1-2) Improving the technologies of post-harvest operations							
1-2-1) Research about la quality of production	Research report (1st, 4th)	—			—		FS, AGM, FO
1-2-2) Fixing a standard of paddy rice quality of PASEA	Fixing a standard of paddy rice quality (1st) Renewal of standard (1st)	—			—		FS, AGM, Rice, FO
1-2-3) Fixing a standard of white rice quality of PASEA	Fixing a standard of paddy rice quality (2nd) Renewal of standard (4th)	—			—		FS, AGM, Rice, FO
1-2-4) Improving of threshing operation	Quarter report Manual of post-harvest operation (1-5-2)	—	—	—			FS, Rice, Am
1-2-5) Improving of drying operation	Quarter report Manual of post-harvest operation (1-5-2)	—	—	—			FS, Rice
1-2-6) Improving of winnow operation	Quarter report Manual of post-harvest operation (1-5-2)	—	—	—			FS, Rice
1-2-7) Improving of polishing operation	Quarter report Manual of post-harvest operation (1-5-2)	—	—	—			FS, Rice, Am

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Annex III  
PLAN OF OPERATION

1) 1. Cultivation technologies of irrigated rice are improved at the Irrigated Rice Development Center

ACTIVITES	RESULTS EXPECTED (INDEX)	CALENDER					PRINCIPAL PERSON* IN CHARGE
		1st	2nd	3rd	4th	5th	
1-2-8) Improving of conservating operation	Quarter report Manual of post-harvest operation (1-5-2)	█	█				FS, AGM,FO
1-2-9) Research about the distribution and market of rice	Research report is presented (1st) Monitoring report is presented (3rd,4th,5th)	█		█	█	█	AGM, FO, FS, Rice
1-2-10) Renewal of technologies	Renewal of manua for another sites			█	█	█	FS, AGM, Rice, FO, Am
1-3) Studying the methods of improving the farming systems							
1-3-1) Full research about the farming system in the model sites	Cost necessary for farming system and for existence are commanded (1st,3rd,5th)	█		█		█	FS, Fc, FO
1-3-2) Make up the administration note	Administration note is tested in the model sites (1st)	█					FS, Fc, FO
1-3-3) Formulation of calender on the standard cultivation	Formulation of calender is presented (1st) 50% of members make up the general calender (2nd)	█	█				FS, Fc, Rice
1-3-4) Establishment of methods to analysis the farming systems	Manuel of administration of farming system is presented (1-5-3)	█	█	█			FS, FO
1-3-5) Establishment of planing methods the farming system	Manuel of administration of farming systems is presented (1-5-3)	█	█				FS, FO
1-3-6) Renewal the methods	Renewal of manuals for another sites			█	█	█	FS, FO
1-4) Making technical manuals							
1-4-1) Manual of the technical standard of rice cultivation	Technical standards of manual are applicated in the model sites (2ed)		█				Rice, AI, Wa, Am,
1-4-2) Manual of the post -harvest operations of rice	Techniques developed of manual are applicated in the model sites (2ed)		█				FS, Rice, FO, Wa, Am
1-4-3) Manual of the farming system	Methods of manual are applicated in the modal sites (2nd)		█				FS,FO, Fc
1-4-4) Manual of the administration of farmer's organisation	Methods of manual are applicated in the modal sites (2nd)		█				FO, FS, Fc

PERSON IN CHARGE\* : DC = Director of Center, Rice=Irrigated Rice Cultivation, AI =Agricultural Infrastructure , Wa =Warer ManageAmnt, Am = Agricultural Machinery, FS= Farme Management, Fc = Field Crops, FO = Farmer's Organizations, AGM=Agricultural Marketing, TC =Training Coordinator



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Annex III  
PLAN OF OPERATION

2) Improvement methods are verified for the irrigated rice farming systems at the model sites

ACTIVITES	RESULTS EXPECTED (INDEX)	CALENDER					PRINCIPAL PERSON* IN CHARGE
		1st	2nd	3rd	4th	5th	
2-3) Supporting the planning of farm management and its implementation carried out by the organizations of farmers							
2-3-1) Establishment of rice cultivation calender by farmer's organization(include the guidance)	Farmer's organization make up the annual calender of rice cultivation (3rd year)	■	■	■	■		FO, FS, Rice,
2-3-2) Establishment of overall cultivation calender by member of organization (include the guidance)	50% of member of farmer's organization make up the annual calender (3rd), 75% (5th)	■	■	■	■		FS, FO,
2-3-3) Supporting the establishment of committee	Some committees are established in the organization (3rd). Activity report of committee is presented (3rd).	■	■	■			FO
2-3-4) Slot the communal purchase into the rice cultivation calender	75% of member gain by communal purchase (3rd). Cost of materials for rice cultivation fall 5% (1st) and 10% (5th).	■	■	■			FO, AGM
2-3-5) Slot the communal work into the rice cultivation calender	75% of member participate at communal work (3rd). Maintenance of irrigation canal is prevailed regular. Cost of employment fall 20% compared with 2001 (3rd).	■	■	■			FO, Rice, AI, Wa, Am
2-3-6) Plan the training cultivation technique	75% of member participate at training (2nd)	■	■				Rice, AI, WA, Am, FO
2-3-7) Plan of finance	Farmer's organization establish a method of finance (3rd). Farmer's organization have a account for administration. (2e). Organization contract for finance with investor.(3rd).	■	■	■			FO, AGM
2-3-8) Slot the communal sale into the rice cultivation calender	75% of member participate communal sale (3rd). Net amount of rice increase 10% compared with 2001 (3rd).	■	■	■			AGM, FO
2-3-9) Plan, monitoring and evaluating the administration of the organization	75% of member follow calender of organization (5th). Evaluation report of extension activities is presented (3e).		■	■	■	■	TC, FS, FO

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Annex III  
PLAN OF OPERATION

3) Training is conducted at the Center

ACTIVITES	RESULTS EXPECTED (INDEX)	CALENDER					PRINCIPAL PERSON* IN CHARGE
		1st	2nd	3rd	4th	5th	
3-1) Programming the training							
3-1-1) Elaboration of the master plan of training in the Center	Master plan for training in the Center (2nd)	█	█				DC, TC, Cellule
3-1-2) Make up the annual calender of the training	Master plan for training in the Center (3rd, 4th, 5th)		█	█	█	█	DC, TC
3-1-3) Make up the training program	Master plan for training in the Center (3rd, 4th, 5th)		█	█	█	█	DC, TC, FS
3-1-4) Elaboration the contents of program	Timetable of training is made up (every time)		█	█	█	█	All of the Counterparts of Center
3-1-5) Preparation machinery and materials	Materials for training are prepared (4th)	█	█	█	█	█	DC, TC, Cellule
3-1-6) Make up the manuals of training in the Center	Manuals is used in training (3rd)		█	█			All of the Counterparts of Center except DC
3-1-7) Campaign to recruitment the assembly	Number of candidate of training arrive at (3rd) Extension worker except ANADER participate at the training (5th)			█	█	█	TC, OP, Cellule
3-1-8) Selection of assembly	Assembly of training are selected (3rd) Extension worker except ANADER participate at the training (5th)			█	█	█	TC, OP, FS, Cellule
3-2) Conducting the training							
3-2-1) Training of the farming system	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per (5th)			█	█	█	FS
3-2-2) Technical training of rice cultivation	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per (5th)			█	█	█	Rice
3-2-3) Training the devepoment of meadow	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per (5th)			█	█	█	Am
3-2-4) Training of water management	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per (5th)			█	█	█	Wa
3-2-5) Training of utilisation et maintenance of cultivator	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per (5th)			█	█	█	Am
3-2-6) Training of administration of farmer's organization	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per (5th)			█	█	█	OP



Annex III  
PLAN OF OPERATION

3) Training is conducted at the Center

ACTIVITES	RESULTS EXPECTED (INDEX)	CALENDER					PRINCIPAL PERSON* IN CHARGE
		1st	2nd	3rd	4th	5th	
3-2-7) Technical training of post-harvest	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per.(5th)			█	█	█	FS
3-2-8) Training of marketing	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per.(5th)			█	█	█	AGM
3-2-9) Training of agricultural extension	More than 10 member or extension worker participate at the training (3rd), 20per. (4th), 20per.(5th)				█	█	TC
3-2-10) Training for leaders of extension	More than 5 extension worker participate at the training(4th), 20per. (5th)					█	All of the Counterparts of Center except DC
3-3) Evaluating the training							
3-3-1) Evaluating of training by assemblys	Research result is tallied on data base (4th) Evaluation repport is presented (4th)			█	█	█	DC,TC, OP
3-3-2) Tracing research about application of contents diffused	Research result is tallied on data base (4th) Evaluation repport is presented (4th)				█	█	TC, OP, FS, Rice,
3-3-3) Analyses of research datas	Evaluation repport is presented (4th)				█	█	TC, FS
3-3-4) Reviewing the contents of training	Evaluation repport is presented (4th)				█	█	All of the Counterparts of Center
3-3-5) Renewal of manuals	Manuals of training id made up (5th)					█	All of the Counterparts of Center except DC

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Annex III

PLAN OF OPERATION

4) Extension is carried out to diffuse the improved farming systems by the extension workers trained at the Center

ACTIVITES	RESULTS EXPECTED (INDEX)	CALENDER					PRINCIPAL PERSON* IN CHARGE	
		1st	2nd	3rd	4th	5th		
4-1) Supporting for programming the activities of extension workers								
4-1-1) Supporting the documentation & the research in the area covered by assembly	75% of assembly presents extension program of their areas (4th)				█	█	█	FS, OP, Rice, Fc, Com
4-1-2) Advice on the planing of on farm training	75% of assembly presents extension program of their areas (4th)				█	█	█	TC, Rice, Am, Wa, Am, Fc, OP
4-1-3) Advice on training calender	75% of assembly presents extension program of their areas (4th)				█	█	█	TC, Rice, Am, Wa, Am, Fc, OP
4-2) Supporting activities of the extension								
4-2-1) Supporting the planing of farming system by farmer's organization	Farmer's organization in the sites make up annual calender of rice cultivation (4th)				█	█	█	OP, Com, FS
4-2-2) Supervision of the rice cultivation standard training on the farm	50% of member participate at training by assembly trained in the Centerdes (4th)				█	█	█	TC, Rice, Am, Wa, Am
4-2-3) Advice for complementary training	75% of member practice the technical standard (5th)				█	█	█	TC, Rice, Am, Wa, Am, Fc, FS, OP
4-3) Evaluating the extension program								
4-3-1) Evaluating of training contents by assembly	Monitoring and evaluating repport of after-training is presented by counter-part of Center(4th)				█	█	█	TC, FS
4-3-2) Analyses of the result acquired by extension activities	Monitoring and evaluating repport of after-training is presented by counter-part of Center(4th)				█	█	█	TC, FS, OP, Rice, Am, Wa, Am, Fc
4-3-3) Analyses of problemes came out after the training	Monitoring and evaluating repport of after-training is presented by counter-part of Center(4th)				█	█	█	TC, FS, OP, Rice, Am, Wa, Am, Fc
4-3-4) Amendement of the programme of training on the farm	Manuels and contents of training is renewed (5th)				█	█	█	TC, Rice, Am, Wa, Am, Fc

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Annex IV

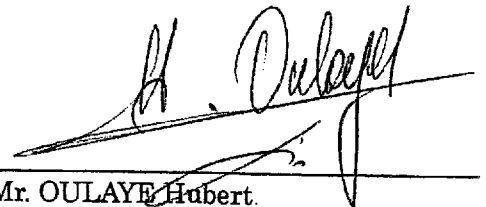
Farming Systems Improvement Project  
For Irrigated Rice Cultivation  
In The Republic of Côte d'Ivoire (Phase II)

Project Document

Abidjan, 5 September 2002

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## 1 INTRODUCTION

Increasing rice production and attaining food self-sufficiency thanks to the development of rice cultivation as been designated, a long time ago, as the priority of the government of the Republic of Cote d'Ivoire (hereinafter referred to as « Cote d'Ivoire »), in order to guarantee food security, improve government finances and alleviate poverty through rural development.

It is against this background that in 1987 the government of Cote d'Ivoire made a request to the Japanese Government for a unilateral financial cooperation concerning the establishment of a training centre for mechanized agriculture, in order to contribute to increased rice production and promote the dissemination of rice cultivation techniques through the study of mechanization techniques and irrigated rice farming. Thus, in 1990, the said centre was created in the town of Grand-Lahou, situated in the southern part of the country.

In March of the same year, a request for the creation of a « Training Centre for Irrigated Rice Cultivation in Cote d'Ivoire » (hereinafter referred to as « CFMAG ») was made to the Japanese Government, with this Centre as the foundation in view of putting in place a technical study program for trainees and farmers. This program was put in place in August 1992 for a period of 5 years, and it ended following the realization of its objectives.

Meanwhile, in 1996, based on the accomplishments of the CFMAG, the Government of Cote d'Ivoire made another request for a « Program for the development of Irrigated rice cultivation », in the central and north central regions of the country, which are the major areas for development of rice cultivation, coupled with need to measure the increase in rice cultivation based on extension services techniques of irrigated rice farms mainly trough the transfer of techniques in the form of a local tutelage.

On receiving the request, JICA (Japanese International Cooperation Agency) sent in three survey missions starting from 1998. However, there were several internal problems linked to the setting up of an effective cooperation concerning notably budgetary measures on the part of Ivorian Government and the deployment of personnel. This is why it was decided in December 1999 in agreement with the Ivorian Government to set up, effective from March 2000, a prior two-year program called " Small-scale Irrigated Farming Systems Improvement Project " (hereinafter referred to as « PASEA »).

The concrete objective of PASEA is to « apply, on a model site, the methods and programs suitable for the farming systems improvement project ». Thus, many activities were conducted, as soon as the study of the farming systems was put in place, in order to solve the problem of effective cooperation which occurred during this study, while preparing the conduct and proposals of the activities of the Second Program.

During this period, due to the degradation of political and social conditions in Cote d'Ivoire, the progress of the project witnessed a considerable setback as it was running behind schedule. Thus, a six-month extension of the project became

necessary. However, during the closing of the study and the investigation sessions in April 2002, it was noted that in spite of previous problems the preparation of an effective cooperation has progressed considerably.

This project report is one hand the presentation of the concrete results of the programs conducted by PASEA and hopes on the other hand to describe the validity, the fundamental principles and conditions for the realization of PASEA's Second Program.

## 2 BACKGROUND TO PROJECT IMPLEMENTATION

### 2.1 SOCIOLOGICAL DATA ON CÔTE D'IVOIRE

Since it gained sustainability in 1960, Cote d'Ivoire assume a certain political and economic leadership position in West Africa and built good and solid relations with numerous countries, notably France, the former colonial master during the period of colonial rule. During the 70s, the country witnessed an average growth rate in the excess of 7% of its GDP (Gross Domestic Product) thanks to income generated from increased cocoa and coffee production as the major export-oriented products and for which the value on internal commodity markets were then very high. The phenomenon was referred to as the « Ivorian miracle ».

However, as from the end of the 70s, due to the worsening political situation as a result of the fall in the prices of cocoa and coffee on international commodity markets, the growth rate started to decline.

Throughout the 80s, the Government of Cote d'Ivoire carried out diverse structural adjustment policies, including the reduction of prices paid to cocoa and coffee producers. However, the growth rate recorded in 1987 was negative (-0.2%) and the average growth rate up to 1993 was -0.1%.

Thus, the Ivorian Government embarked in 1994, as prescribed by the World Bank, and in conjunction with other CFA Franc zone countries, on a 50% devaluation of its currency. Following this devaluation, the income generated from exports started to increase and the country came out of economic doldrums, which hitherto seemed to be endless. Up until 1998, the average growth rate reached 5.3%. However, in 1998, due to « bad management » of the Bedie administration, the World Bank and the IMF suspended their financial aid to the country. In December 1999, a coup d'état struck for the first time since the attained sustainability and even though a civilian government was reinstated the following year, the growth rate for 2000 was -2.7% (Table 1).

Against this economic backdrop, since years before sustainability up until today, Agriculture, the nucleus of the primary sector, has been the driving force behind Cote d'Ivoire's economy. As indicated in Table 2, the place of agriculture in the GDP tends to decline but it still represents after all about 25% of the GDP and agricultural production alone for the year 2000 stood at about 21% of the GDP.

In addition, the percentage of agricultural production in the overall exports rose to 60.4% on the average from 1995 to 2000. According to demographic statistics conducted in 1998(RGPH-98) out of 5.710.000 people which make up the total working population of above 15 years of age, 54% -in other words 3.090.000 of them-work in the agricultural sector.

Moreover, according to the same demographic statistics, the Ivorian population which stood at 15.366.672 ten years ago, has increased by 4.500.000, representing an average demographic increase of 3.3% per annum. The population of Abidjan, which is the economic hub of the country, represents 18.7% of the total population that is 2.880.000 people. Thus, the population has increased by 950.000 during the



past ten years. The population of other major cities also increased remarkably on average by 4.1% annually such that the national rate of urbanization has now reached 42.5%.

These figures highlight the exodus of farmers to urban centres. The uncontrolled expansion of big urban centres can be considered as one of the causes of diverse social problems such as the crime rate, environmental pollution or the emergence of a new class of urban poor.

The « Framework Paper on Economic, Social, and Cultural Policy 2001-2005 » adopted in 2001 by the government as one of its principal objectives in terms of economic revitalization, the review, and the reactivation of the agricultural policy. This is why the Agricultural Centre occupies such an important place in the Cote d'Ivoire's economic development. In addition, the development of this centre is indispensable to the development of Cote d'Ivoire since on the social scene, the resolution of issues inherent to big cities depends on the imperative development of village-based agriculture.

**Table 1 Changes in GDP growth rates (Unit %)**

1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
-0.2	1.0	2.4	-1.2	0.0	-0.6	-0.4	2.2	7.0	6.7	5.7	4.8	1.6	-2.7

Source: INS (National Institute of Statistics) « PROVISIONAL ACCOUNTS 1998-1999 », « YEARBOOK OF ECONOMIC STATISTICS VOLUME 4 ».

**Table 2 Comparative structure of GDP by sector of production (Unit : %)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Primary sector	29.5	30.3	29.1	28.0	25.3	24.5	25.1	24.2	24.1	22.0	24.1
Secondary sector	23.8	22.4	22.7	22.5	21.0	20.6	19.3	21.6	23.0	24.2	23.5
Tertiary sector	42.0	42.8	42.9	44.7	49.6	43.5	44.5	44.1	44.0	46.7	48.6

Source: INS « REVISED NATIONAL ACCOUNTS ACCORDING TO SNC93 FROM 1986 TO 1996 », « PROVISIONAL ACCOUNTS 1998-1999 », « YEARBOOK OF ECONOMIC STATISTICS VOLUME 4 ».

## 2.2 CONDITIONS GOVERNING THE DEVELOPMENT SECTORS CONCERNED

In the Ivorian agricultural sectors, cocoa and coffee production and exports have occupied the major role. For the year 2000 alone, cocoa exports represented 28,5% of total export receipts (including finished products), and the percentage of coffee production rose to 8.4%(including finished products). In terms of production volume, 1.450.000 tons of cocoas were produced in 2000 representing 1.6 times the volume produced in 1995. Concerning coffee, the record level production of 366.000 tons recorded in 1981 was repeated in 2000 with the volume of 380.000 tons produced. It is hoped that in the agricultural sectors, the importance of cocoa and coffee production will be further promoted.

However, the Ivorian Government has recognized a long time ago, the need to free its economy from dependence on cocoa and coffee production and to formulate

new policies for promoting other crops apart from cocoa and coffee. Oil palm, cotton flower, natural rubber, banana, pineapple and cashew nuts all represent the various types of products which may be commercialised. Thus, their influence on the economy is increasing and contributing to the success of the agricultural diversification policy.

On the other hand, though the government proposed a policy aimed at attaining food sufficiency, to secure food security for the population, it did not initiate any concrete and sustainable or effective measure for rice production, which is the staple food of the country.

In the 70s, thanks to the government's protective intervention policy, the country attained food sufficiency temporarily. But later on, due to financial bankruptcy, government aid relented, the farmers who were used to depending on the government continued to shy away from rice cultivation with the attendant consequence of considerable volumes of imports.

In addition, as indicated above, much as the urban population was increasing, the demand for rice, which was easy to store and meet, became an increasing theme of social grievances. Since 1996, due to the policy of the liberalization of the sale of agricultural products, contrary to the projections of the governmental plan of reducing rice imports by way of increasing the national production of rice, the volumes of imports as indicated in Table 3, rose out of proportion and reached 640.000 tons in 2001, that is, CFA F95.400.000.000 (about 16.800.000.000 Japanese yen). This increase, in spite of the rise of the value of coffee grain exports in 1999, impacted remarkably on the national finance of Cote d'Ivoire.

Meanwhile, the figures for rice production published by the Ministry of Agriculture and Rural Development (MINADER) showed that it rose to about 950.000 tons in 2000 (Table 4).

Concerning the volume of paddy-field productions in Cote d'Ivoire, more than 90% of the cultivated lands are paddy fields for which irrigation depend on rain water (dry paddy-fields and irrigated paddy-fields by natural rainfall in the small plains in the interior of the country). The production fluctuates considerably depending on weather conditions. In addition, due to the use of low-yielding methods of cultivation soil yields are on the average 1 to 1.5 ton per hectare. This is why the development of rice cultivation though the use of diverse irrigation techniques and capable of providing reliably stable production, and the with the high-yielding rates of the lands thanks to the possibility of double harvest annually, and thanks to better water management which are essential measures for rice production and food self-sufficiency in Cote d'Ivoire.

**Table 3 Volume and value of rice imports (Unit: for the volume of imports, 1000 t, for the value of imports, CFAF1.000.000)**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Volume of imports	343	387	253	406	314	471	518	423	441	641
Value of imports	28.987	32.996	42.016	67.072	54.172	73.703	83.420	68.496	69.556	95.351

Source : MINADER « YEARBOOK OF AGRICULTURAL STATISTICS 1994, 1995, 1997 », PNR (National Rice Project ) « RICE INFO Issues 3, 5, 8, 11 », INS « YEARBOOK OF ECONOMIC STATISTICS VOLUME 4 ».

**Table 4 Volume of rice production (Brown rice) (Unit : 1.000 t)**

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
687	657	660	676	701	1045	1216	1263	917	935	954

Source : MINADER « YEARBOOK OF AGRICULTURAL STATISTICS 1994 », INS «YEARBOOK OF ECONOMIC STATISTICS VOLUME 4 ».

### 2.3 STRATEGY OF THE IVORIAN GOVERNMENT

The « Master Plan of Agricultural Development 1992-2015 » initiated in 1993 is the foundation of Cote d'Ivoire's agricultural policy up till today. However, the conditions for regular and specific data collection allowing for objective evaluation of attained objectives being particularly faulty, the realization of this program did not amount to anything in the final analysis.

In the nearest future, it may be necessary to draw up another master plan, which would be more effective, and realistic based on the review of objectives and the analysis of data collected during the 2001 agricultural census. However, in as much as the development of rice cultivation is for many reasons mentioned above, a priority of the Ivorian agricultural policy, the Japanese technical cooperation will certainly make a considerable contribution in this area.

The fundamental objectives and strategies are as follows:

#### *Fundamental objectives*

1. Improving productivity and the competitiveness
2. Look out for self-sufficiency and food security
3. Diversification of agricultural production
4. Development of sea and lagoon fishing
5. Restoration of forest resources

#### Strategy for achieving these objectives

1. Government disengagement
2. Return of youths to agricultural production.
3. Promoting peasant farming and local dynamisms
4. Training and education for peasant farmers

5. Putting in place the maintenance of farmlands and a soil policy
6. Development of applied research

The master plan outlined above makes reference to the country's dependence on rice imports (from 50 to 60% of annual rice consumption volumes), due to the recent sudden increase in rice consumption, especially in big cities. This is why the development of rice cultivation occupies a high-priority position in the perspective of improving the country's food self-sufficiency rates. Below is the plan of action for the development of rice cultivation.

1. Revitalizing the productivity effort thanks to the modernization of production systems and increase in productivity through better mobilization of the producers.
  - (1) Promotion of irrigated rice farming in the swampy small plain areas and big plains areas
  - (2) Repair of existing irrigation layout and the creation of new irrigation layouts when land constraints demand it.
  - (3) Dissemination of research outcomes concerning production techniques, seedlings and inputs suitable for each area in order to stabilize and strengthen the development of rice cultivation.
2. Completion of government disengagement
  - (1) Effective privatisation of agro-allied rice farms
  - (2) Coverage of expenses by the rice farmers of input expenses (manure, fertilizers) and the management cost of irrigated perimeters (maintenance of secondary roads and water pumping expenses)
3. Harmonization of competitive conditions between the national rice and the imported rice
  - (1) Hike of the rate of taxation for the first –class white rice and cargo rice
  - (2) Abolition of the transportation harmonization systems for imported rice
4. Coherence management of rice import and local rice production policy
  - (1) Adequate regulations to reduce the percentage of imported rice in national rice consumption to the barest minimum
5. Establishment of a crosscutting organization for the management of the sector.

The programs of actions are as follows:

1. Improving cultivation techniques through extension services and the development of techniques which require low-levels of inputs
2. Strengthening and stabilizing cultivation in order to improve the competitiveness of local rice
3. Securing national rice production through the development of a significant irrigated cultivation sector (20% of production volume in 2000) which will ensure a permanent production base
4. Privatisation of rice farms after settlement of debts.
5. Promotion of small-size rice farms with compact units having a capacity of less than one ton per hour
6. Maximum utilization of storage facilities to ensure good conditions for the storage and conservation of paddy rice prior to processing

7. Support for cooperative organizations for the construction of silos for the intermediate storage of paddy rice so as to reduce losses and improve the quality of processed rice.

Moreover, in 1997 "Development of Rice Cultivation in the perspective of food self-sufficiency." It reaffirmed with renewed vigour the need to attain food sufficiency, and proposed to achieve in 10 years the fundamental objectives of reducing the degree of dependence towards the foreign countries for rice supply, the attain food sufficiency, and outlined the following two objectives:

1. Increase by 8% annually the production of paddy rice, to attain 2.236.000 tons by 2005.
2. Secure production through the stabilization of farms, increasing significantly irrigated rice cultivation at the annual rate of 13.7%, and by organizing a national market for paddy rice so as to ensure an increased collection through the formal sector at the annual rate of 9.6%.

In addition, in comparison with the production objectives of the Master Plan for Agricultural Development (in 2000), the volume of production was reviewed from 1.996.000 to 1.455.000 tons, the average harvest volume per hectare from 2.34 to 1.85 tons, and the cultivated surface area from 852.500 to 796.000 hectares.

#### 2.4 OTHER PAST AND PRESENT ACTIVITIES RELATIVE TO THE AREA CONCERNED CONDUCTED BY THE GOVERNMENT AND OTHER INSTITUTIONS

Cote d'Ivoire benefits from cooperation with many foreign governments and diverse international institutions and in the past it executed numerous rice cultivation promotion projects. Here are a few examples:

1. The development plan for irrigated rice cultivation in the Centre and north central part of the country  
Institution financing the European Development Fund  
project:  
Targeted regions :                   Regions of Katiola, Dabakala, Sakassou and Bouaké in the central part of the country; and the Regions of Tiébissou, Yamoussoukro, and Dimbokro in the central part of the country.  
Duration of the project :           1997 – 2001  
Programs implemented :           Basic preparation of irrigated rice cultivation, help for the organization of farmers  
Objectives :                           Contributed to increased rice cultivation thanks to the rehabilitation of irrigation equipment, rehabilitation and enlargement of farms and the organization of farmers.  
Content of programs :               (1) Repair of dams, rehabilitation of 1.384 hectares of irrigated rice fields, preparation (enlargement) of 767 hectares of new irrigated rice fields  
  (2) Setting up of a "Local agricultural cooperative society in rice cultivation"

bringing together all the associations in each of the areas and allocating the necessary credit to each association for technical research and for the creation of framers' organizations.

2. Plan for setting up of rice cultivation in the « Guiguidou » Region  
 Institution financing the Government of the People's Republic of China project:
  - Targeted regions : Southern part of the country, Department of Divo, « Guiguidou » Region
  - Duration of the project : 1995-1999
  - Programs implemented : Basic preparation for irrigated rice cultivation
  - Objectives : Contribute to the reduction of volumes of imported rice and improving conditions for food self-sufficiency (supply of required rice quantity to meet the demand)
  - Content of programs : Setting up of small-scale farms and the preparation of new irrigated rice fields. Construction of two dams, preparation of 500 ha of irrigated paddy rice farms (cultivated surface area of 442 ha), Construction of agricultural feeder roads and access routes, construction of an experimental farm of 5 ha, barns, rice -cleaning mills, sheds for drying rice, sending of experts (in irrigation, cultivation, and agricultural machines) preparation and enlargement of 767 ha of new irrigated paddy rice farms.
  
3. Development plan for irrigated rice cultivation in the north of the country  
 Institution financing the Deutsche Gesellschaft für Technische Zusammenarbeit GmbH, Public company of the German Technical Cooperation (GTZ) project :
  - Targeted Regions : Departments of Korhogo, Boundiali and Ferkessédougou in the north of the country
  - Duration of the project : 1994-1997 (First phase), 1998-2000 (Second phase)
  - Programs implemented : Basic preparation for irrigated rice cultivation (Rehabilitation), training and organization of farmers
  - Objectives : Contribute to increasing the income of farmers and promoting rice production thanks to the stabilization of rice cultivation in the above-mentioned regions
  - Content of programs : Basic equipment (already existing installations, meeting halls) in 13 areas making a total of 3.000 ha with the participation of local farmers and aid for training and for the organization of farmers. Basic equipment such as irrigation facilities was also installed. However, as much

as possible, the priority of the program is to train the farmers so that they could be organized among themselves and be able to conduct maintenance and equipment management on their own without seeking for outside help.

4. Aid program for the setting up and preservation of food sufficiency in developing countries

Institution financing the World Food Program (WFP)

project:

Regions targeted : Zanzan Region in the northeast, the Worodougou Region in the northwest, the Vallée du Bandama Region in the north central area and the N'Zi-Comoé Region in the central part of the country.

Duration of the project : 1999-2002

Programs implemented : Maintenance of small-scale irrigation equipment

Objectives : Establishment and preservation of food security of farmers in the poorest regions of the country (food self-sufficiency, production diversification).

Content of the programs : the Implementation of the « Food-for-Work » system of rice storage by the Japanese Government, development of small-scale rice fields with the participation of the local population.

The Japanese Government has put in place a technical cooperation (CFMAG) focusing on studies and development as well as grant-in-aid financial cooperation, which was inaugurated by the Hydro-Agricultural Development Project in the north central part of Cote d'Ivoire (Lokapli Project) and conducted through aid for increasing food production (2KR). The Japanese rice cultivation techniques are very popular for their very high standards. The cooperation with Cote d'Ivoire in this area is thus particularly of high importance, in view of the fact that the diverse know-how of European countries in terms of rice cultivation is clearly inadequate. Notably, Cote d'Ivoire is full of high expectations in terms of results in areas such as aid to foster the organization of farmers or the efficient agricultural extension services techniques such as irrigation techniques.

### 3 DEVELOPMENT ISSUES AND THE CURRENT SITUATION

#### 3.1 FRAMEWORK AND ORGANIZATION OF ISSUES CONCERNED

##### 1 – *Legal and institutional framework*

The Master Plan for Agricultural Development is aimed at promoting rice cultivation and outlines in this perspective the production objectives such as the volumes of harvests per hectares or the size of cultivated areas. Moreover, as an integral part of food cultivation development, it is also a program for the development

of rice cultivation. However, the concrete measures implemented were unfortunately not highly realistic. This is why MINADER is today working toward developing, with support of JICA, a new plan for rice cultivation development. This program includes, among other concrete measures, the establishment of rice cultivation supervision and management, and the creation of a development fund for rice cultivation.

The policy of providing aid to farmers is based on promoting liberalization measures. Thus, its approach is far removed from aid and comfortable protection given to farmers in the past. The objective of this policy is to progressively transfer to producers the responsibilities of providing needed services to farmers who were hitherto funded by the government. In this perspective, it is indispensable for farmers to acquire the required level of techniques and to foster their development sustainability as managers of agricultural enterprises. In addition, the government is pursuing the organization and the harmonization of laws relating to agriculture, in the framework of strengthening the strategy for farmers' organizations and cooperatives. Among the principal laws concerned is the "Ivorian Fund for Agricultural activities"(FINCA) aimed at supporting enterprises which provide services to farmers: passing of the law on agricultural cooperative unions (passed into law in 1997 and enforced by the regulations of 1998) or better still, the review of the law on farmlands (passed into law and enforced by the regulations of 1999).

Concerning the enforcement of the law on farmlands, the creation of a land use register has just been launched in priority areas, but it would take more time before the protection of farmers' property rights on farmlands was applied with a view to strengthening Peasant Farmers' Organizations (OPA) <sup>1</sup>. These laws promote a humane and economically viable organization in an atmosphere of a deregulated market. They are designed to collect and protect the economic benefits of farmers. However, out of the 553 professional farmers' organizations, which are currently authorized to operate, only 17 of them are actively committed to rice cultivation. Most of the organizations were created with the support of foreign projects<sup>2</sup>. And presently, their management capacity as well as their financial standing is remarkably limited in comparison with the organizations in charge of exporting products such as cotton, cocoa or coffee<sup>3</sup>. In addition, concerning the financial reserves of FINCA, the original concept was the creation of a Fund with its responsibilities being shared between producer groups. Meanwhile, since no consensus was reached up till now among them, its implementation is currently at a standstill.

## 2 – Organizational framework

The rice cultivation development projects are currently organized as follows: All the projects relating to rice cultivation development (in particular those relating to mechanised farming and maintenance of agricultural equipment) are under the supervision of the PNR management (National Rice Program, established in 1996). The projects relating to farmers and extension services are managed by ANADER.

<sup>1</sup> The OPA are the « organizations » which carry out needed activities for farmers and operates based on the sharing of costs among farmers ». The organizations include, by major categories, agricultural cooperatives, agricultural trade unions, agricultural, organizations, etc.

<sup>2</sup> They are basically organizations created within the framework of the PRN of the GTZ (5 projects in the Savannah Region), BOAD projects (3 projects in the Mountain Regions), the Chinese project of « Guiguidou » and of PRC project of EDF ( four projects in the Lakes Region and the Vallee du Bandama Region).

<sup>3</sup> Verified by the Deputy Director of OPAC and the manager of PASEA's agricultural projects.



Concerning research-oriented projects, the National Centre supervises them for Agricultural Research (CNRA). The PNR is a specialized body for rice cultivation which is attached to the MINADER's cabinet office and which has the status of a permanent project. ANADER and the CNRA are responsible for all the various crops. In addition, since their management was privatised in 1999, they can develop projects by obtaining funds from the government.

In Côte d'Ivoire, there are no specialized extension services projects in irrigated rice cultivation. The techniques relating to this discipline are integrated in a single general-purpose category of agricultural extension services projects. It is the cabinet office of MINADER, which decides which types of measures, should be taken in the area of extension services. Other bodies such as the Directorate of Planning and Programs (DPP), or the PNR also participate in these projects. The development of extension methods is not the exclusive preserve of ANADER's Department of Extension Services and Research/Development (DVRD). Moreover, some of the organization which train extension workers are ANADER's CFMAG, MINADER's DPP, private companies, all kinds of projects, the CNRA or better still the WARDA, to mention only a few. It is the project managers themselves –be it ANADER, OPA, NGOs, private companies, diverse projects- who set the syllabus of their training. The actual sharing of roles and duties during an extension services project is carried out the current personnel who occupy managerial or technical positions and who belong to the body, which might have initiated the said extension, services project.

ANADER is made up of many layers of extension services projects and occupies a central position in the area of agricultural extension service in Cote d'Ivoire. Based on a structural adjustment of the country's agricultural sector as directed by the World Bank, its objectives include the discovery of viable services, the reorganization of farmers' organizations, notably for the purpose of reducing the personnel. In addition, ANADER hopes to carry out reforms in the area of extension systems and methods. Private organizations, NGOs, OPAs, and other institutions participate in the realization of extension missions. In spite of this, as far as irrigated rice cultivation services are concerned, the available time for conducting these services as well as the regions involved in the project are limited. Moreover, the cooperation ties and role sharing between the various role players involved at different levels of agricultural extension do not seem to be defined efficiently and effectively. To this end, the realization of future projects seems to require a clearer definition.

### 3.2 THE CURRENT SITUATION AND PROBLEMS ENCOUNTERED IN THE CONCERNED DEVELOPMENT MISSIONS

The history of rice cultivation in Côte d'Ivoire is a long one. But it was only in the 60s that irrigated rice cultivation was introduced, for the first time, into Cote d'Ivoire by Taiwan in the framework of technology transfer. Rice cultivation witnessed a boom in the 70s and almost all the small-size irrigation dams are still used in irrigation areas of the country today. Table 5 shows in detail the irrigation surface areas according to the type of irrigation used.

**Table 5 Analytical descriptions of rice field surface areas according to the type of irrigation**

Type of Irrigation	Surface areas of irrigated rice fields
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Small-size Irrigation (water tank irrigation)	About 7.000 ha (33%)
Small water fall, swampy irrigation	About 13.000 ha (62%)
Irrigation by pumping	About 1.000 ha (5%)
Total	About 21.000 ha

In irrigation areas by small dams, the type of irrigation is the following: the banks of the river are generally made up of land fills with a principal water pumping canal on each side of the river, and in the central part of the principal drainage canal. In addition, the farms are generally irrigated by immersion.

In the small river irrigation areas, the surface area, generally on the scale of less than a few hectares, is irrigated by distribution and the transportation of water is done thanks to canals around the river. This type of irrigation is used all over the country over a surface area of about 13.000 ha, representing 62% of the total surface areas of rice fields.

The Republic of Cote d'Ivoire comprises in all 579 irrigation dams (including the small-size dams and water tanks), of which 147 of them are irrigation dams (about 25% of the total number of dams). Among these irrigation dams, 68 of them are used for rice field irrigation (about 46% of irrigation dams). The other irrigation dams are used for the cultivation of sugarcane, banana, vegetables, etc.

Most irrigation dams used in rice cultivation (57 dams that is 84% of irrigation dams for rice cultivation) are built on the basin of River Bandama (an approximately 9.7000-km square basin over a length of 1.050 km), the longest river in Cote d'Ivoire which flows in the north central part of the country. The average volume of water storage in rice cultivation irrigation dams is about 5.000.000 m<sup>3</sup>, (the biggest dam has a capacity of 60.000.000 m<sup>3</sup> while the smallest has a capacity of 150.000 m<sup>3</sup>). On the other hand, the average irrigated surface area is 102 ha (the biggest irrigated area being 500 ha and the smallest being 10 ha) (Master Plan Study on Integrated Water Resources Management in the Republic of Côte d'Ivoire). In addition, it is noteworthy that about half of the small-size irrigation areas amount to a total irrigated surface area of 100 ha.

In this situation, PASEA is conducting its activities in Région des Lacs which includes Yamoussoukro with a surface area of about 1.960 ha in irrigated areas by dams, thus representing occupying the second position nationally after the Department of Korhogo which has about 2.855 ha.

According to an inspection report on irrigated zones through small rivers and swamps in the centre and the west central part of the country where Région des Lacs is located, these types of irrigation systems are used in about 200 sites.

In other words, in Région des Lacs, there are many swampy areas where rainwater can be used effectively. Thus the region is considered as the as an advanced region in terms of irrigated rice cultivation in Cote d'Ivoire. Meanwhile, 74% of rice cultivation in Cote d'Ivoire is practiced in plateaux, and its per hectare yields is about one ton. This productivity per ha is lower than irrigated rice cultivation, which is estimated at about 3 tons per ha. In addition, rice cultivation in plateaus may cause cropping problems because single cropping continues in the same area whilst irrigated cultivation does not experience such a situation.

With these explanations, we can easily understand the validity of developing irrigated rice cultivation in Région des Lacs.

According to the results of each inspection and each research workshop which have been conducted thus far, the major problems encountered in rice cultivation in Cote d'Ivoire are the lack of infrastructure equipment, lack of funds, low level of technical know-how, delay in the development of organizations, lack of extension service systems as well as the fall in rice prices. These problems are interdependent and highlight the central problem of « low agricultural income » of rice farmers. These problems were developed as follows:

### 1. Lack of infrastructure equipment

Generally, irrigated rice cultivation requires the use of irrigation equipment such as water tanks, water drainage canals, etc. But in Cote d'Ivoire, more than 90% of rice cultivation is done in farms devoid of irrigation infrastructure. Not only does the lack of infrastructure reduce the possibility of water management, which is a crucial point in rice production but also it leads to high cost of production, thereby serving as obstacles to adequate investments in the acquisition of seedlings, compost and fertilizers. In addition, the lack of equipment on cultivated surface areas hampers the efficient introduction of all kinds of mechanized farming and the lack of feeder roads affects the transportation of farms harvests and agricultural machines. This problem is accompanied by a series of other problems such as 1) the deteriorated and obsolete condition of equipment, 2) the lack of water supply organizations and water management issues, 3) and the lack of a support organization for the management of irrigated areas.

### 2. Lack of funds

Presently, only the areas lay out for the ongoing projects receive funds at advantageous conditions. There is no national agricultural bank. For farmers who cannot borrow from the agricultural management fund, their only alternative is to borrow money from usury lenders or other related bodies at absolutely less advantageous conditions. Moreover, when it happens that due to climatic conditions their volume of production is less than expected, being that the loan cannot be paid back, their management conditions becomes more complicated. In addition, during the period of farm work, plantations and harvest, additional laborers are needed. In the absence of funds to recruit these laborers, the cultivated areas cannot be extended and crop management becomes inadequate.

### 3. Low level of technical know-how

The technical know-how of farmers in the areas of planting, water management and processing of harvests is generally at a low level. Many reasons can be adduced for this low level of technical expertise. In most case, it is by working on farms with their parents and members of their families that they acquired their techniques. Having learnt farming by experience, certainly they have certain logic. However, they do not have any basic scientific knowledge. Meanwhile, farmers need certain scientific knowledge to improve their current agricultural techniques. But most farmers do not have the resources to acquire these techniques and thus they tend to exhibit

some sort of conservatism in terms of agricultural techniques.

#### 4. Delay in the development of organizations

The current farmers' organizations find it difficult to draw maximum benefit from these organizations. Concerning management, due to inadequate funds, they cannot organize all the necessary activities and there are many organizations, which exist only by name. Meanwhile, in the area of irrigated rice cultivation, organizations play an absolutely primordial role in water management and the diversification of purchases, etc. The major reason for which farmers do not get involved in farmers' organizations is the fact that they do not draw sufficient benefits from such organizations.

#### 5. Lack of extension services systems

The structure of extension services systems was described in paragraph 3.1. ANADER represents the only national extension services institution. However, is responsible for various problems such as inadequate budgets for extension workers on field missions in their work which entail teaching and inspection, lack of efficiency and coherence in extension, implementation or research measures, or better still allied problems such as the delay in developing techniques adapted to the local environment, or lack of trustworthy relations with the farmers, etc.

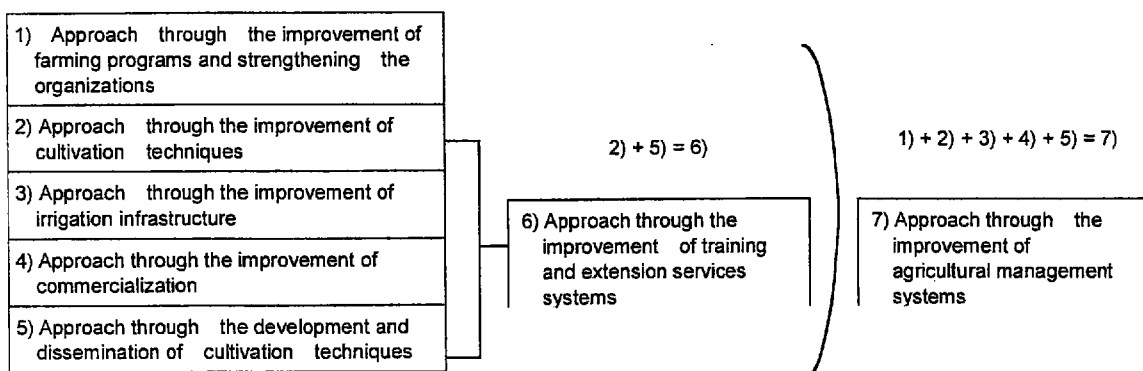
#### 6. Fall in rice prices

Following the collapse of the buying system of the total quantity of rice production at an official price as pegged by SODERIZ (Rice cultivation development company), the situation of witnessed a radical turn of events. Most farmers now sell their output to middlemen at relatively low prices. The influence of rice imports with low prices is also being felt. Though there are price variations among the producers according to the moment of sale or according to the region, the price is on the average CFAF75-FCFA100 per kilo. In the absence of rice storage facilities, producers do not have any workable alternative when the time comes to sell their products. In addition, being that transportation means are limited, markets cannot be widened and farmers are obligated to accept low prices.

## 4 PROJECT STRATEGY

### 4.1 OVERALL STRATEGY

This project was designed to contribute to rice cultivation development by the Ivorian Government thanks to technical training and method, which will enable to improve farming systems<sup>4</sup>. In this vein, this project is aimed at conducting research and developing appropriate techniques and methods



For improving farming methods and disseminating the said techniques and methods within the framework of a training course. It also hopes to create a PASEA Centre and, thanks to aid granted to this Centre, to work towards strengthening its functions.

Meanwhile, in order to achieve an autonomous and expanded agricultural management and to foster personal effort and the involvement of farmers in irrigated agriculture, this project is not aimed at unilaterally imposing techniques and procedures, but also based on a relationship predicated on respect, offer solutions they must have mastered very well to solving their problems.

### 4.2 PROJECT STRATEGY

#### 1. General overview: the choice of an approach for improving farming *systems*

Based on the outcomes of the studies conducted on farming systems used during the First Phase, as well as an analysis of the problems encountered by extension workers and farmers' which was conducted in February 1999, the team at the PASEA Centre work out a arborescence plan of objectives (Annex 1). The result of the analysis of these arborescence objectives allowed for the approval of 7 approaches described below:

The above-mentioned approaches were compared bay target groups, impact, development of sustainability, social risk, degree of accomplishment of objectives and the required time for obtaining results, etc.

When one considers the sustainability of development and the impact of techniques on the families of farmers in the area of irrigated rice cultivation, it is

<sup>4</sup> All agricultural activities in a determined area. Agricultural areas are made up of agricultural infrastructure, plant cultivation, agricultural cooperative societies, etc. In this document, the area where an irrigation systems I located is considered as a farming systems unit.

necessary to take into account the « Planning of programs of activities aimed at making the sale of rice attractive for rice farmers ».

In the present situation, the problems and obstacles which are hampering the increase of the income of rice farmers are not strictly based on issues of agricultural tools, infrastructure or irrigated rice cultivation techniques, but they are issued of socio-economic connotations such as inefficiency of organizations, lack of manpower, markets and transportation structures. It seems difficult to simply increase farming income by choosing separately one of the methods numbered from 1) to 5). It is in this perspective that approach 7) of improving the farming techniques, which is susceptible of solving farmers' problems, was adopted.

## 2. Introduction of methods allowing for the improvement of agricultural management corresponding to the multiple conditions of agricultural management

Farming systems offer specificities, which are different according to the regions, this shows that the Ivorian agricultural system is contending with a complex network of diverse factors. Consequently, all aid granted to farmers with the aim of improving their management systems must take into account the diversity in the environment of agricultural villages. In other words, the objective is to develop model methods which can adapt to various environments, and this through research and development of methods for formulating adequate agricultural management programs and thanks to the discovery of adaptable farming systems adaptable to the multiple and divers environments according to the regions.

## 3. Acceleration of the promotion of sustainability efforts by agricultural managers

In the context of globalisation, and at the very heart of a wave of important economic privatisation reforms, market deregulation, government decentralization, Cote d'Ivoire's agricultural sectors as well as the organizations and the entire legal systems are obliged to change. The era of government participation in production and transportation is over. The trend is the transfer of responsibilities to producers, producers' organizations, and the private sector. The rhythm with which farmers are getting organized at which national companies are being reformed is not all the same fast enough. The need for payers in the farming world to be conscious of their responsibilities, starting with the producers, is not well developed yet. The attitudes of dependence on the government are still very much in vogue. And mentalities are changing rather slowly. Henceforth, the role of the government is to build an environment, which is suitable for the sustainability efforts of producers.

In addition, managers of extension services missions should show more respect for the sustainability of producers, and get used to extension services methods, which take into account the development of their sustainability. This is why this project is planning to support any process aimed at defining in concrete terms the role or extension mission managers in order to guarantee that their priority is for producer to acquire their development sustainability as agricultural managers.

## 5 THE PROJECT 'S MASTER PLAN

Below is a set of major information concerning this project (see Annex 2 for PDM).

Project Name	: The Farming systems improvement project for irrigated rice cultivation In The Republic of Côte d'Ivoire (Phase II)
Duration	: 5 years (From November 2002 to October 2007)
Target groups	: Irrigated rice farmer, extension workers (of ANADER and other organizations)
Body in charge	: Ministry of Agriculture and Rural Development (MINADER), National Support Agency for Rural Development (ANADER)
Target area	: Region des Lacs, the Republic of Côte d'Ivoire

### 5.1 PROJECT OBJECTIVES

The project objective consists of "Methods for improving farming systems centred on irrigated rice cultivation are applied in Région des Lacs". In concrete terms, it aims, in this Region which represents the heart of irrigated rice cultivation in this country, to extend the technologies of improving farming systems to some 3,000 rice farmers, 30%<sup>5</sup> of them are expected to adapt such technologies.

### 5.2 OVERALL GOAL

The indirect long- term impact of PASEA is two-fold:

1. Methods for improving farming systems centered on irrigated rice cultivation are diffused in the Republic of Côte d'Ivoire.
2. The income of irrigated rice farmers is improved in "Région des Lacs"

The PASEA is a project approved by MINADER after official administrative steps. The services of Irrigated Rice Development Centre (the Centre) will be continued as a project of MINADER even after the end of the second phase of PASEA. The overall objective 1) consists of disseminating improved farming systems, which have been experimented in model sites. The immediate result is the rise in income and profit of farmers having benefited from this program. In other words, it seems that the project can be realized with greater efficiency. The overall objective 2) indicates that, thanks to increase efficiency of development and extension services, the realization of the project could be extended to a bigger territorial sphere.

In other words, the super goals of PASEA are as follows:

1. Rice production increases in the Republic of Côte d'Ivoire
2. Methods for improving farming systems centered on irrigated rice cultivation are diffused in West Africa.

Objective 1) is that the techniques and methods developed by PASEA is being disseminated in all the regions where irrigated farming is practiced, thereby leading to an increase in agricultural income and productivity, thus helping to increase the

<sup>5</sup> The PASEA staff adapted the figure 30%. They have conducted the survey of farming systems.

national production volume of rice. To this end, the objective of the Ivorian policy is coherent with regards to the request for aid submitted to the Japanese Government. Objective 2) is at a higher level. It is about disseminating improved farming systems techniques and methods for a bigger area. In fact, based on the results of this cooperation, we can hope that these techniques will be disseminated to neighboring countries around Cote d'Ivoire with similar conditions, reflecting the Record of Discussions of December 1999.

### 5.3 RESULTS AND ACTIVITIES

In order to achieve the objectives of this project, it is expected, in the framework of a reinforced and reorganized Centre, 1) to develop the production techniques adaptable at the Centre's Experimental Field, 2) to verify, on the model sites, the methods and techniques allowing for the increase in the income of farmers, who practice irrigated rice cultivation, 3) based on this information, create a training program meant for rice farmers and extension workers, and finally, 4) carry out the monitoring of the training for extension workers who received this training on extension services.

Moreover, in the PASEA model sites, the farming systems, the scope and the activity of each cooperative society are different. In this situation, PASEA will carry out its programs by taking into account these differences on each model site. The plan of operation appears in annex 3.

#### 5.3.1 *Improvement of irrigated rice cultivation techniques*

##### 5.3.1.1 Improvement of irrigated rice cultivation standard (including field experiments)

Concerning the problems, which are difficult to be experienced in farm, the techniques for solving the problem are developed first of all at the Centre's experimentation field. However, the techniques considered easy to introduce to the farmers will be directly experimented and verified on their farms in the framework of 5.3.2 (Verification of farming systems improvement methods).

The experimental field will be used to the activities of 5.3.1.2 (Improvement of irrigated rice cultivation post-harvest operation and the others). However, being that the layout of the experimental field will be completed in during the first year of PASEA (phase 2), it is firstly necessary to set up itself for its objectives. This farm will be also used for demonstration farm.

The cultivation standard of irrigated rice will be improved for it to be accepted by rice framers on the model sites and Région des Lacs. Thus, it must be accepted technically and financially. To its development, we will efficiently use the information collected by the technical surveys during the first phase. According to rice cultivation analysis, PASEA will improve two types of irrigated rice cultivation standards, one for direct seeding and the other for transplanting. The experiments and verifications will be carried out on the experimental field or on the model sites.

The above development will be conducted as follows:

1. Analysis of related information (types of grains, rice grains, machines and



capital, etc.)

2. Analysis and survey of the cultivation technologies presently employed.
3. Presentation of the technologies to be introduced in the order of priority. (The willingness of farmers and the degree of difficulties of techniques to be introduced will be taken into consideration).
4. Evaluation of techniques to be developed. (This includes the degree of their introduction and adaptability).

#### 5.3.1.2 Improvement of irrigated rice cultivation post-harvest operations

The objective of post-harvest operations is to increase the revenue of farmers. To achieve this, the Centre will conduct market survey and analysis. Based on these conclusions, PASEA will take measures for improving post-harvest operations by reducing losses which occur during farm work, storage and transportation and by increasing the selling price thanks to improving the quality of rice etc. With a view to improving the quality of rice, a study will be done on the following: the adaptation of paddy quality standard, the improvement of paddy drying technologies, the adaptation of polished rice quality standard improvement of rice milling facilities, etc.

#### 5.3.1.3 Methods of farming systems improvement

For the cultivation technologies to be adapted and established, the farmers themselves should be easily able to introduce the technologies to their operations and to verify some results. It is easier to achieve their farming objectives if they can recognize their ongoing agricultural income and outgo, and accordingly plan their operation. This project will develop, for the easier analysis and management of farming operations by the farmers and the extension workers, methods of survey on farmers, analysis methods, administration books, integrated cropping systems and others.

##### 1. Cropping system according to the market price

The buying price of rice fluctuates according to the harvest period, that is, the price is higher in April and lowest in January. The project will set up a cropping system according to market price fluctuations, in order to increase the income of farmers.

##### 2. Low-input cropping system

This low-input system, which helps to reduce the investments in agricultural inputs, such as fertilizer, agricultural chemicals, etc. and the labour hour, will be developed. This will enable the farmer to solve his financial constraint and lack of manpower.

#### 5.3.1.4 Drafting of technical manuals

Technical manuals will be drafted to disseminate and propagate techniques, which should be improved in the activities [5.3.1.1-5.3.1.3]. They will be used for training courses according to the above-mentioned training program, in article [5.3.3.1].

### 5.3.2 *Verification of farming systems improvement methods*

#### 5.3.2.1 Verification of irrigated rice cultivation standard

The framers will experimentally apply on model sites the rice cultivation standard improved at the Centre. Then, PASEA will verify if the improvement set out by the project is achieved.

#### 5.3.2.2 Verification of irrigated rice post-harvest operations

The farmers will experimentally apply the post-harvest operations improved at the Centre. Then, PASEA will verify if the improvement set out in the project is achieved.

#### 5.3.2.3 Support for the planning of farm management and its implementation by farmers' organizations (Strengthening the functions of farmers' organizations)

In many cases the multiple farming problems encountered by farmers calls for organizational solutions. Among these problems, there is the low volume of production, the high costs and low selling prices on the market. In addition, very often, these problems derive from the lack of union among farmers. This is why in the framework of associations; it is necessary to introduce group activities of different kinds.

Also, it is necessary to strengthen the capacity of farmers' organizations in terms of solving problems. This capacity is presently inadequate. To this end, in the framework of PASEA, this project is aimed at providing support for the drawing up of farming programs by the associations themselves, with the aim of reinforcing them. The aid will be provided in a gradual manner and with flexibility according to the nature of problems encountered. The concrete content of these support programs provided by the Centre is described below:

##### 1. Farm management program for farmers and farmers' organizations

Based on the management habits of farmers, taking into account some factors such as preparatory funds for programs, financing, priority crops, preferences, manpower, the amount of required revenue, etc., the Centre aid the farmers to design their annual program of activities.

##### 2. Acceleration of collective and temporary recruitment and collective work

In order to effectively realize different kinds of farm works, a collective farm operation will be adopted. Simultaneously, aid will be provided for the expansion of cultivated areas, the investment in adequate agricultural materials and the reduction of financial difficulties relating to manpower guaranty.

Moreover, in order to control and maintain correctly the irrigation facilities and to ensure that irrigation water is supplied in sufficient quantity suitable for the needs of farmers, the irrigation facilities and water will be managed by the farmers' organizations. The Centre will provide the following aid:

- (1) Design guidelines for the water management and the maintenance of irrigation facilities. Based on the verification activities conducted in model sites (targeted at small dams), manuals will be made for (a) farmers, (b) extension workers and (c) technicians.
- (2) Verify the improvement the water management in the model sites. Give technical guidance on the efficient and equitable irrigation and drainage through the planning of irrigation, general technology of water management and the maintenance of irrigation facilities for the farmers on the model sites, targets of small dams.
- (3) Carry out the training on irrigation facilities and water management. The Centre conducts training on the planning of irrigation, general technology of water management and the maintenance of irrigation facilities. For this training, the manuals mentioned above will be utilized.

### 3. Collective purchase of agricultural materials

It entails increasing the cultivated areas by utilizing quality seeds and by reducing the cost, by collective purchase, of agricultural materials such as fertilizers, agricultural chemicals and quality seeds, etc. Moreover, in order to facilitate the introduction and renewing of hand tractors, its collective utilization and purchase will be planned.

### 4. Acceleration of utilizing micro-finance systems

Assistance will be provided, based on the farming programs, in such a way that the farmers' organizations can efficiently utilize the existing agricultural financial systems.

### 5. Facilities of post-harvest operation

Storage facilities will be built to store the rice by the farmers' organizations. PASEA will supports their activities of obtaining the necessary materials and funds for their construction. The possible sources of finance, which can be used for this objective, are the funds of small-scale finance, Japanese Government's grass-root funds, investment of agricultural cooperatives, etc.

### 6. Methods of rice sale

Rice will be collectively sold by the agricultural cooperatives. These cooperatives will coordinate the timing of harvests and transportation. Thus, the transportation fees will be reduced, the large-scale markets will be accessible and the oversupply will be avoided. In this way, the prices of producers will be stabilized. For these objectives, they will organize the rice transport-processing-sale system, sale networks, as well as educative advertising campaigns concerning the domestic rice. The current prices of producers do not necessarily reflect the quality and variety of rice. Even when the farmers sell their rice, there is often 2 to 3 months before the producers are paid for the sale made. Consequently, improving the sale of rice must be conducted in addition to other activities. Moreover, the retail price for imported rice in Abidjan is low, about CFAF 200 the kilo (36 Japanese yen), in Abidjan. Thus, the competitive nature

of the national production of rice must be reinforced.

## 7. Manuals of management of associations

The management manuals of associations will be jointly drafted by PASEA and cooperative societies. The organizational systems, accounting management, methods for organizing meetings, how to conduct a discussion and summarize an agreement, all these points will be examined by taking into consideration the specific conditions of Côte d'Ivoire.

### 5.3.3 *Training*

This program is intended for the extension workers engaged in the irrigated rice, the leaders of farmers, and the cooperatives officials. After their training, the extension service areas of ex-participants as well as the actual rice fields will be visited and contacted for regular evaluations and monitoring. In the framework of these training courses, the manuals such as cultivation standards and the others made by PASEA will be employed.

#### 5.3.3.1 Programming the training

##### 1. Planning of training courses

The Centre will organize two types of training: Training at the Centre and on the field. In the latter case the counterparts visit the fields for this purpose. The training programs are intended for both the groups of extension workers and the groups of rice farmers. This program is detailed in Table 6.

**Table 6 Schedule of training courses**

Target persons (Training Site)	Courses		Course period (days )	Total: 2002 to 2007		Teaching staff
	Number of trainees	Number /years		Number of trainees	Number of courses	
Rice farmers (Fields)	30	1	10 <sup>1</sup>	120	4	Counterparts
Rice farmers (Centre)	10	2	10	80	4	Counterparts
Extension workers (Centre)	10	2	10	80	4	Counterparts & the others (from 2005)

<sup>1</sup> 5 sessions x 2 days = 10 days

## 2. Outline raining outline

It is expected that training will be carried out with the teaching materials developed by the Center. It includes the following subjects: 1) Cultivation standards, 2) Farm management, 3) Management of farmer's organizations, 4) Water and irrigation management, 5) Commercialisation of agricultural products

## 3. Budget of training

The budget of training is summarized in Table 7.

**Table 7 Budgets for the Training Courses**

Content	2004 (FCFA)	2005 (FCFA)	2006 (FCFA)	2007 (FCFA)
Training at the Centre (4 times/year)	4,760,000	8,540,000	8,340,000	8,340,000
Training on the field (Once /year)	690,000	690,000	690,000	690,000
Total required	5,450,000	9,230,000	9,230,000	9,230,000
Part of the budget paid for by Japan	4,905,000	7,384,000	6,321,000	5,418,000
	90%	80%	70%	60%
Part of the budget paid for by Côte d'Ivoire	545,000	1,846,000	2,709,000	3,612,000
	10%	20%	30%	40%
Total	5,450,000	9,230,000	9,030,000	9,030,000

- (1) The Centre will supply a mini-van, which can carry up to 15 people as the means of transport for trainees.
- (2) The Centre will pay for the entire transportation fees for the training courses, during the first two years of the program. During the last two years, the Centre pays the half of the expenses, the remaining half by the trainees. At the end of PASEA project, as from 2008, transportation expenses will be entirely borne by trainees,

### 5.3.3.2 Execution of training

#### 1. Selection of trainees

For the training of extension workers, the required qualification for participants is to be an active extension worker in the rice cultivation areas of Région des Lacs. As for the training of rice farmers, representatives of farmers with capacity of training the other farmers will be selected.

#### 2. Contents of training

The training course of rice farmers consists of practical field visits (70% of the course curriculum) and theoretical lectures (30%). Meanwhile, that of extensions workers will consist of 50% practical field visits and 50% theoretical lectures,

#### 3. Support for extension training

Educational materials required in the framework of support for the program of extension training are, among other things, slides projectors, OHP, television sets, notice boards as well as video sets.

### 5.3.3.3 Evaluation of training

The evaluation sheets worked out by the Centre will be used as follows: At the beginning of training course, the team of trainers will evaluate the expectations of the trainees with regards to the training course. At the end of training course, the trainers and trainees will be mutually evaluated each subject of the courses. Similarly, an overall evaluation of the course content, trainers, teaching conditions will be conducted. Also, six (6) months, at most, after their end, the Centre will carry out field monitoring on the extension workers without any delay.

### 5.3.4 Extension activities

#### 5.3.4.1 Support of programming the activities of extension workers

PASEA's objective is to transfer rice cultivation technologies to the rice farmers in Région des Lacs and improve their farming systems. To this end, it is important that the extension activities be smoothly realized after the completion training courses of the extension workers.

Based on this the results of the above-mentioned monitoring surveys, PASEA will support the activities of extension workers who had received training, especially on the technical aspects within the limits of the project activities.

Moreover, it is important to set up the cycle as follows:

1. Extension workers will disseminate the appropriate technologies to the farmers,
2. They will collect related information at farmers' sites and provide it to the Centre, and
- 3) The Centre will incorporate it in the training courses.

For this purpose, PASEA will facilitate the programming of their activities by collecting and disseminating information as follows:

1. **A venue for exchange of information and training** will be set up in the places habitually frequented by rice farmers (for example: local rice markets, meeting venues of farmers). A total of two such venues will be established: one in one of the places cited above, and another at other venue (e.g., Bouaké rice market, etc.). The equipment required for the training and information exchange will be installed there.

2. In addition to the two venues for exchanging information and training, three others will be installed with a total of five (5) locations to create **an information network**, which disseminates information accumulated at the Centre and collects information from farmers. The extension workers and the farmers will make good use of this network for the diffusion of knowledge and experience obtained by their training at the Center, the marketing of their rice and the others. At the same time, information gathered on the improvement of the farming systems will be analysed and a report will be drafted to serve as a reference for government's rice policies.

(3) PASEA will establish two libraries as branches of the MINADER library: one at the Yamoussoukro Centre, and another at the Abidjan Project Office, These **PASEA Libraries** will be equipped with computers connected to the information network described above.

#### 5.3.4.2 Support of extension activities

The technologies acquired in the training will be diffused to the farmers according to the program of the extension activities. Agricultural extension workers from ANADER who receive training at the Centre will exchange information, with the Centre, on their extension activities at all times.

#### 5.3.4.3 Evaluation and Monitoring of the plans of action

The counterparts of the Centre will inspect and evaluate the activities of the extension workers after their training at the Centre. Such Evaluation should enable: 1) to identify the obstacles in the completion of their planned extension activities together with those of the rice farmers, and 2) to propose, on the basis of these concrete observations, improvements to the training curriculum employed at the Centre.

#### 5.3.5 Points to be noted on the activities

##### 1. Cooperation between irrigation projects

PASEA will help to establish cooperation between the various irrigation projects in Région des Lacs. This cooperation is aimed to exchange information, disseminate appropriate technologies and to take stock of common problems between them.

##### 2. Cooperation with other institutions

PASEA will establish cooperation between the various institutions in relation with this project in order to increase the efficiency of its activities. The proposed institutions and contents of relevant activities are as follows.

(1) Côte d'Ivoire National Association Of Rice Producers (ANARIZ-CI)

Cooperation with this association extends to all the activities of PASEA. Information will be exchanged on the improvements of farm management accumulated by PASEA, the marketing of rice, the market prices of agricultural materials, and the PASEA training in general. In the area of training, ANARIZ-CI can contribute to the selection of participants, the evaluation of training courses. Their executives can also teach at the Centre as lecturers of the training courses. In the other Project activities, it is expected to have active exchange of opinions about the development of technology and particularly the strengthening of farmers' organizations.

(2) West African Rice Development Association (WARDA)

Cooperation with ADRAO (WARDA) includes PASEA's collection of the information and experience accumulated by WARDA and involvement of their researchers as lectures for the training of the Centre. The Japanese party will in turn provide information gathered on the improvement of farming systems. Concerning the NERICA (presently only upland rice varieties are available, but those of lowland will also be available later on), PASEA had entrusted CFMAG to undertake its seed production (6 tons) and delivered the seed to WARDA in January 2002.

(3) Agricultural Mechanization Training Centre in Grand-Lahou (CFMAG)

Cooperation with this body is basically related to information on the training. The CFMAG staff can act as lectures for the PASEA training courses. Their training facilities and equipments will also be effectively utilized.

(4) The United Nations World Food Programme (WFP)

PASEA will collect information relating to its knowledge and experience gained in developing lowland rice fields as part of a WFP's Community-based Project for the Development of Wetlands. In return, PASEA shares its technical manuals and information on improved farm management.

(5) Rice Project Centre / National Rice Project ( PRC / PNR)

Cooperation between the PRC and PASEA is based on very close links. The PRC is completed in July 2002. The main cooperation will be on the PRC rehabilitated irrigation projects whose farmers will be advised on their farm management, participate the PASEA training. The farmers' organization CORERIZ will also be reinforced.

#### 5.4 IMPLEMENTATION STRATEGY OF THE ACTIVITIES

This project mainly consists of four types of activities: technology development, its verification, training and extension. These are listed in the order of their realization in the PDM (Annex 2) as follows:



- 1) Improvement of rice cultivation technologies at the Centre.
- 2) Verification of farming systems improvement methods on model sites.
- 3) On the basis of results obtained, training of leaders of farmers and extension workers.
- 4) Then extension of the technologies in favour of farmers of Région des Lacs by such leaders of farmers and extension workers.

The activities of this project relating to technologies will be introduced into the abovementioned order. However, the activities of assistance to farmers' organizations (strengthening of the farmers' organisations) will differ in the sense that they will take into account the will of the farmers' organisations: these people will in turn decide on their activities and select on their own initiative, hence the assistance to them. Furthermore, the activities of the farmers' organisations will be defined after the start of the project. That is why the scale of assistance activities of the project, their duration, their content and their methodology should be flexible and adapted to the variety of demands and conditions for the progress of the associations' activities. So, these assistance activities of the project will be carried out for the benefit of farmers and in connection with association-based activities. Consequently, the project activities except the technology development will be generally defined on the basis of farmers' activities.

## 5.5 MONITORING AND EVALUATION

### 5.5.1 Monitoring

#### 1. Implementation structure of monitoring

PASEA and the farmers and extension workers participating in this project will collectively carry out monitoring. On the side of PASEA, the Centre will execute it and the Project Office will provide some assistance. The participants will be all the persons connected with the model site and the Lake Region, The choice of this monitoring system is based on the fact that the Yamoussoukro Centre executes the Project and that Project Office assists it. Project allows to provide such monitoring from the Yamoussoukro Centre, and to coordinate the assistance from the Project Office, Abidjan, In addition, persons responsible for the monitoring will be the counterparts of the Centre and those of the Project Office will also participate if necessary.

#### 2. The contents of monitoring

Confirming the activities and results of this Project and reflecting their outcome to its later activities, the subjects listed in the Table 8 will be monitored.

**Table 8 The contents of monitoring**

Target areas	Items to be monitored	Period
Centre/ Experimental Field	1 Technology improvements: actual progress below 1.1 Field experiments of rice cultivation standards 1.2 Rice cultivation standards 1.3 Improvements of rice post-harvest technologies 1.4 Integrated cropping systems of rice and other field crops 2 Manuals: types, contents, quantities, etc. 3 Training courses: number/year, number of participants, etc.	Regularly after the beginning of the Project
Model sites	1 Number of farmers who have applied the improvement technologies, area of fields 2 Rice production and income (fixed spot check) 3 Verification of farming systems improvement technologies: actual progress below 3.1 Verification of improved technologies (See 1) 3.2 Results of farmers' organization-based activities (farm management plans, common tasks, group purchase of agricultural materials, utilization of the micro-credit system, facilities of post-harvest operation, sales of rice)	Regularly
Lakes Region	Number of farmers who have applied the improved technologies	Regularly
Nation-wide	Number of farmers who have applied improved technologies	After the end of the project

### 3. Organization of the monitoring

The monitoring will be efficiently and accurately carried out corresponding to the PASEA's activities. The counterparts will mostly monitor the activities of the Centre and experimental fields. The extension workers and the farmers will collectively ensure the other monitoring. Région des Lacs will be monitored mostly by using the monitoring formulas, or through the training and extension activities. The monitoring relative to the training and extension will be conducted as described in 5.3.3 and 5.3.4.

#### 5.5.2 Evaluation

Evaluation will be based on the 5 areas of evaluation defined by the PCM (effectiveness, impact, efficiency, rationale, sustainability). Furthermore, after the beginning of the project, studies such as a mid-term evaluation, Japanese Project Consultation Mission, a follow-up inspection, etc. will be conducted their results will be applied to the evaluation of this project.

#### 5.6 Commitments of counterpart organization and partner governments

The program is a new project (of a duration of 5 years) including a preparatory period of two years and a half (from March, 2000 till September, 2002, not included in the 5 years). In this context, budgetary measures will be taken, as well as investments in equipment and land (25 ha) and staff will be sent out. The project will be organized by consensus, based on the respective agreements between the governments of the two countries (Minutes of deliberations on the realization of the project, held in December, 1999, R/D). The investments of the Ivorian party in this project were all renewed. The budget required by the Ivorian party for this project is about 70,000,000 Japanese yens for 2003 (FCFA 400,000,000). In view of these data, the obligations of the Ivorian government under this project seem considerable.

## 5.7 IMPUT

### 5.7.1 Input by the Japanese Government

#### 5.7.1.1 Long-term experts

The long-term experts indicated below will be dispatched. Their activities are explained in Table 9 and Annex 5.

**Table 9 Long-term Experts and their activities**

No	Specialty	Number of persons	Activities
1	Administration	1	Project administration and technical advice
2	Coordination	1	Assistance to Chief Advisor and coordination
3	Irrigated rice cultivation	1	Cultivation standard, field studies, extension and development of manuals
4	Farmers' organizations	1	Survey and improvement of marketing, assistance in the creation of associations, acceleration of the sale, extension work
5	Farm management	1	Development of integrated cultivation, post-harvest, farming systems improvement methods, extension work, drafting of manuals

Short-term experts will also be sent as required. For the first year, dispatch of the three (3) experts is expected as presented in Table 10.

**Table 10 Short-term experts and their activities**

No.	Specialty	Number of persons	Activities
1	Post-harvest operations	1	Survey of post-harvest technology and proposal of Improvement measures
2	Soils and fertilizers	1	Soil survey, soil distribution and management of each soil type concerned
3	Weeding	1	Survey of weed ecology and weed control guide

#### 5.7.1.2 Development of project infrastructures and provision of equipment

Buildings of the Centre, the main venues for the activities of the project will be built as well as experimentation fields and annex offices. The content of their development is described in Table 11. The equipment required is enumerated in Table 12.

**Table 11 Development of project infrastructures**

No	Name	Quantity	Content
1	Buildings of the Centre	1	Surface area of 608ha, annexes and internal foothpath around the wall
2	Experimental field	1	Approximately 1ha of paddy fields and upland field, annexes and access road

N.B. This development is the input of the first phase of the project, but it will be completed after the commencement of the second phase.

**Table 12 Equipment provision**

No	Items	Quantity	Description
1	Agricultural meteorological equipment	1 set	Instruments of wind direction and speed, of temperature, humidity, insolation, soil temperature, evaporation, soil humidity, etc.
2	Agricultural machines and tools	1 set	Seeders, power tiller, trailer, rice mill, thresher, farm tools, etc.
3	Laboratory experiment	1 set	Balance, distiller, soil analysis equipment, glassware, hydrometer, mills, etc.
4	Irrigation and water management	1 set	Water pumps, flow meters, tensiometer, sprayers, etc.
5	Surveying instruments	1set	Levels, tripods, compass, etc.
6	Vehicles	1 set	Minibus, motorcycles
7	Information processing equipment	1 set	Computers, software, etc.
8	Laboratory furniture	1 set	Laboratory benches, chemical shelf, bookshelf, etc.
9	Office equipment	1 set	Coloure photocopying machine, files, office supplies

#### **5.7.1.3 Counterpart training in Japan**

The training of Ivorian counterparts will be conducted in specialized areas that offer good prospects for satisfactory results.

#### **5.7.2 Country eligible to this assistance program (Ivorian counterpart)**

##### **5.7.2.1 Required staff**

The staff required for the functioning of the project unit is described in Table 13 and Annex 6. Compared with the First Phase, a third Assistant to the Secretary General and a Secretary have been added.

**Table 13 Staff required for the Project Office and their duties**

No.	Post	Number of persons	Scope of their duties
1	Secretary General	1	A practical administration of the project, project organization, management and maintenance, relationships with the cooperative societies
2	Agriculture Infrastructure and Irrigation facilities	1	Layout of agricultural infrastructure, collection and analysis of information on irrigation equipment (Use of GIS: Use of the information from BNETD <sup>6</sup> ), technical sub regional cooperation, project management and maintenance, extension work, drafting of technical manuals, drafting of training materials for the curriculum, etc,
3	Irrigated Rice Cultivation	1	Analysis and evaluation of the rice policy in West Africa, rice cultivation, collection and analysis of information for the commercialisation of rice, support for rice cultivation activities and improvement of farming systems at the Centre, etc,
4	Agricultural Information Processing	1	Collection and analysis of information (GIS), development of a data base, technical sub regional cooperation
5	1 <sup>st</sup> Secretary, General Secretary	1	Management and supervision of the unit, development of the data base, processing of information, drafting of study report, filing of documents
6	2 <sup>nd</sup> Secretary (holder of a certificate), Information processing	1	Data processing, development of a data base, management and supervision of the library, publishing and printing of the quarterly revue "The PASEA"
7	Driver	1	Driving cars in the regions of Abidjan, Yamoussoukro, etc,
	Total	7	

The staffs required for the Centre of the project is described in Table 14 and annex 6. In the new project, two technicians and 3 additional assistants are envisaged.

<sup>6</sup> National Bureau for Technical Studies and Development

**Table 14 Staff required for the Centre and their duties**

No.	Post	Number of persons	Description of their duties
1	Director	1	Administration of the Centre, management and maintenance, relations with the Japanese counterpart, counselling and assistance in technology transfer, organization of the project, reports, deliberation.
2	Agricultural Infrastructure	1	Development of irrigation facilities, paddy fields, farm roads. Management, maintenance and repair of drains and irrigation canals, levelling of fields. The maintenance and widening of farm roads. Development of technical manuals relating to the agricultural infrastructure.
3	Water Management	1	Establishment of a water management plan based on cropping plans, monitoring of reservoir water volume and water flow of canals, confirmation of water requirements, inspection of water leakages in the canals and fields, introduction to the water management committees, drafting of technical manuals.
4	Irrigated Rice Cultivation	1	Improvement of rice cultivation techniques (mostly in irrigated rice fields), introduction and inspection of the proposed techniques, development of a (policy) of cultivation standards, development of a data base of cultivation technologies, production and sale of recommended seeds, development of cultivation manuals intended for extension activities, development of training materials to support the curriculum.
5	Farm Management	1	Development of a policy for organizing agricultural management, schedule of agricultural works, drawing up of simplified bookkeeping procedures, development of a database of farming capacities, drafting of training materials to support the curriculum.
6	Farmers' Organisations	1	Survey of the capacities of farmers' organisations, improvement and strengthening of association-based functions, collective purchase of production materials (grains, fertilizers, implements and machines, agricultural chemical products, etc.), sale of farm produces (especially rice), rice milling, entering the members of organizations in the database, use of agricultural credits (micro-credits), drafting of the regulations of organization, development of manuals and training materials,
7	Agricultural Marketing	1	Survey of agricultural market trends and agricultural marketing (mostly rice), study of marketing time, study of grain storages construction, survey of the rice and improvement of rice quality, drafting of manuals and training materials.
8	Field Crops	1	Survey of diseases and insects, cultivation techniques, development of standards for vegetable and other crops. Development of a database for each crop, improvement of cultivation techniques, survey of other crops, drafting of manuals and training materials.
9	Agricultural Machinery	1	Acceleration of agricultural mechanization. Advice and proposal on the preparation of access road and farm, orientations necessary for agricultural mechanization. Study of non-tilled cropping, management, maintenance, and modification of agricultural machines, management and maintenance of the Centre's experimentation instruments, drafting of manuals and training materials.
10	Training	1	Development of the curriculum, organization and evaluation.

coordination			
11	Accountant	1	Control of the Centre's operating budget.
12	Secretary	2	Management and supervision of the Centre's office, data processing, writing of reports, filing of documents, management and maintenance of the library,
13	Driver	2	Driving of vehicles in the Yamoussoukro region, etc.
14	Security guards	1	Maintenance and cleaning of the Centre buildings
15	Security guards	2	Maintenance and surveillance of the Centre's land
Total		18	

#### 5.7.2.2 Facilities, financial resources, equipment, land, etc.

The investments are listed below, including those that are already implemented.

##### 1) Project Office

Within the CAISTAB building of the Ministry of Agriculture and Animal Resources (Abidjan), five (5) rooms, one (1) library room, one (1) store room, representing a total of six (6) rooms, and four (4) parking spaces.

##### 2) Centre (Yamoussoukro)

Nanan's buildings in Yamoussoukro, land for the experimental fields, etc., representing 25 ha, Motorcycles for the counterparts' tours,

##### 3) Budget

Operating costs of the project (staff costs of the Ivorian counterpart, costs of activities, management and maintenance cost of the Office, management and maintenance expenses of the Centre).

#### 5.8 PROJECT IMPLEMENTATION AND MANAGEMENT METHOD

The counterparts of the Project are a common institution of the Ministry of Agriculture and Animal Resources (MINADER) and the national rural development support Agency (ANADER). The MINADER is responsible for supervision and control, whereas the ANADER is responsible for project implementation.

The systems of management and implementation for the Project are globally similar to those of the First Program (Preparation phase). Meanwhile, to ensure that the current Joint Committee comprises top officials with authority and decision-making capacity, a new steering committee will be set up (limited core members), capable of undertaking practical discussions.

The organization of the Project consists of a Joint Committee, a Steering Committee, a Project Office (7 people) and a Centre (18 people). The members of Joint Committee and Steering Committee are shown in the Organization of Annex 4. (The latter's member will be determined later.) Responsibility for the implementation of the project is entrusted to ANADER by MINADER. For that purpose, a basic entrustment contract, as well as a detailed contract (for 2001) was signed, and subsequently, the detailed contract will be renewed every year,



In the Second Phase as well, the Project Director is the Deputy Minister of MINADER, who has full authority concerning project implementation and supervision and who also assumes such duties. The Project Manager is the General Director of ANADER, who is responsible for all the technical issues and for management control. The Secretary General of the project is appointed by the Deputy Minister of MINADER and is responsible for project planning and organization.

The Director of the Centre is appointed by the General Director of ANADER, and is directly responsible for technical issues and for the management of the Centre.

The long-term Japanese expert (Chief Advisor) will give advice and suggestions to the Project Director and to the Project Manager on any issue relating to the implementation of the project. Other Japanese experts will also provide the Ivorian counterparts with any instructions necessary for the implementation of the project concerning technical issues.

Besides, the submission of policy proposals is one of the major duties of the Project office. Meanwhile, PASEA and the senior staff of the MINADER work in close collaboration; the Project Director is the Deputy Minister of MINADER; and the Technical Adviser of MINADER (an agricultural development expert) is a member of the Joint Committee and of the Steering Committee. So, this close relationship between the project and the MINADER guarantees the good functioning of this duty.

## 5.9 ANALYSIS OF EXTERNAL CONDITIONS AND EXOGENOUS RISKS

### 1. External conditions for transition of the project objectives to the overall objectives

- The Ivorian Government continues to fund training courses even after the completion of the project

As indicated earlier, the PASEA services, as an integral part of the MINADER services, are eligible to budgetary requests. The extremely bad conditions of budget implementation during the development of the preparation phase are the reasons for the confusion in the execution of decisions. In addition, some explanations were given as to the future improvement of this situation. However, the government's claims for the financing of training costs after the end of the project seems particularly untenable because of the tendencies in the reforms<sup>7</sup> of the structure of government, as well as the current budgetary and financial situation of the country. That is why it would be useful to include the financing of the Centre's costs after the end of the project into the structure of the project,

- Economic factors such as the prices of agricultural produce do not change radically

The economic situation in Côte d'Ivoire is not as stable as it could be. But since

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<sup>7</sup> The documents provided by the Director of Planning and Programme indicate that "the government will withdraw from the activities in order to focus on the legal formulation and protection of the agricultural policy;"

the 1990s, it shows a regular growth, and it is now relatively stabilized. In addition, the economy is henceforth shielded from a sudden escalation of agricultural prices due to natural disasters. Besides, in Asian countries, where the consumption of the local rice production is high, no brutal fluctuation in the volumes of production has been noted. As a result, it is very unlikely that the international prices of rice would vary a great deal during the project implementation period. The equipment and materials necessary for the project are partially dependent on imports, and on price fluctuations. However, the use of equipment and materials from the KR2 and the elaboration of development techniques should enable to overcome these fluctuations. On the other hand, it is very likely that the conditions for the borrowing of large funds with financial institutions are suddenly subject to severe limitations,

- The unlikely probability of major natural disasters

Concerning climatic conditions, there has been notable fluctuations in the volume of rainfall year over year on the whole African continent. However, in Côte d'Ivoire, it is relatively stable and risks seem limited. As regards environmental pollution, in the regions of models sites, there is no facility that discharge into the atmosphere big quantities of polluting substances which are likely to have a significant impact on the populations' health or on the growth of plants. Furthermore, there is a potential for human disaster due to epidemics, including AIDS. But compared with other regions, evidence do not show that this risk is particularly high,

- Adopting measures to reduce rice imports by the Ivorian government

The " 1992-2015 Master Plan for Agricultural Development " states the principles of " control of the coherence between the conditions for the competitiveness between imported rice and locally produced rice ", and of " harmonization of the conditions of competitiveness between imported rice and locally produced rice ". Specifically, the Master plan asserts the development of policies of " appropriate regulation of imports so as to limit its percentage in national consumption to the barest minimum", of "tax increases on premium white rice and cargo rice", as well as of "abolition of the system of stabilization of transportation costs for imported rice". However, 10 years after the announcement of this policy, while the markets liberalization policy achieved some progress, commercial barriers were not addressed. Indeed, the Plan for the reduction of rice imports depends on the strict control of the national production of rice, adequate reduction of import volumes due to the availability of accurate data on production volumes, and the construction of infrastructure facilitating the transport of the national rice production,

## **2. External conditions of transition of the results to the project objectives**

- The agricultural policy setting out ANADER, as the pillar organization of extension work does not change

Even today, ANADER represents " the MINADER's instrument for promoting agricultural extension ", It is indeed the only body to have a nation-wide network and to have full command of extension issues. So it is unlikely that it will be modified. However, since the MINADER is strongly demanding that the ANADER should become a financially profitable and independent body, it remains to be known whether

the MINADER will provide the funds required for pursuing extension missions<sup>8</sup>. So it is important that project should manage the developments of this situation with caution. Besides, the Ivorian Support Fund for Agricultural Activities (FINCA), established as an institution in support of extension activities, can be envisaged as an alternate financial resource<sup>9</sup>.

- Farmers on model sites continue to cultivate their farms on model sites

The models sites were selected on the basis of the motivation and long-term geographical location their farmers. Besides, in the current state of things, the rare discoveries of minerals in these regions do not seem capable of influencing directly the structure of local production. As a result, production in the regions of model sites seems unlikely to undergo significant modifications in the near future,

### 3. External conditions of transition of activities to results

- Ethnic rivalries do not hamper mutual cooperation among farmers

According to the results of investigations on the models sites, in spite of their ethnic diversity, no real rivalry among farmers (ethnic groups) was noted. The project will take this aspect into account and will organize activities designed to strengthen the organizations with a view to demonstrating the benefits of cooperation among farmers,

- Internal antagonism due to disputes on farmlands does not exist

Around 1999, the hostile movements against foreigners residing in Côte d'Ivoire became particularly strong towards the nationals of Burkina Faso and Mali seeking to acquire lands, which is a common phenomenon in the western part of the country. However, no such thing was noted in Région des Lacs. And the upsurge of these intra-regional rivalries seems very unlikely in the near future,

- Protected from the continuous use of appropriate croplands

As it was observed on the model sites, numerous farmers are practicing rice cultivation on rented fields. But most of the landowners do not show any interest for rice growing or farming. And so far as the rents on the land were paid without delay, one can consider the continuous use of lands as guaranteed,

- Achievement of repair works on basic irrigation equipment in the model sites (main parts) by the Ivorian government

No fault has been detected with the basic irrigation equipment of the model sites as at now. However, should the main parts of the equipment develop any such faults, and as the farmers' organizations cannot respond alone to these situations, a move by the Ivorian government is necessary. On this point, an agreement in principle of the joint assessment committee has been obtained after deliberations with the Ivorian side; an agreement according to which if such problems arose during the inspection at the end of the preparation phase, which occurred in April 2002, the Ivorian government would step in,

<sup>8</sup> ANADER currently practices a policy of withdrawal from the regions where the extension missions were organized by private organizations, OPAs, NGOs, and the reduction of activities. In addition, in the near future, the strategy of MINADER seems to be the transfer of duties of extension work funded by the government to cooperatives and producers themselves.

<sup>9</sup> The Ivorian Fund for Agricultural Activities also concerns the institutions involved in extension work apart from ANADER.

in an appropriate manner,

#### 4. Other external factors and risks

- Lack of any significant reduction in rice farmer population (in irrigated areas)

This type of external risk has already been mentioned as external transitional condition from project objectives to higher objectives, However the reasons stated hereafter, are not considered as significant external risks, so they are separately commented, 1) Should the results of the project be extended, the demand for national rice production will increase and it is less likely that rice farmers then decide to produce other crops, 2) As there is no accurate statistics on rice farmer population on the overall Ivorian soil, it is difficult to gather objective data about the population fluctuations of this cross section of the people, However, with the lack of government reforms of the current agricultural policy, and with the inability to forecast a quick growth in other production sectors, a sharp slump of the farming population in the 10 years to come, seems less likely,

- Involvement in the activities of the farmers on the model sites

The choice of model sites has also been motivated by the condition that the farmers were co-operating with the project, Moreover, with the lack of information signaling the launching of fresh activities by other co-operation agencies in the model sites, it is less likely that the farmers will be drawn to other projects, Besides, from 2002, the aid project for the development of farming villages in Région des Lacs (PADER/Lac) launched and supported by the West Africa Development Bank (BOAD) is designed to boost production, build infrastructures, and strengthen the banking system, It does not however provide for any move in the current model sites,

- Arrangement and reception without delay by the Ivorian counterpart of the operating project budget and counterpart contributions

During the first phase, the political and social situation of Côte d'Ivoire was of course uncertain, and staff postings and budget security witnessed some difficulties, However, because of the structure and organization of the same project, the investments of the Ivorian counterpart should be made without delay, Nevertheless, there is the likelihood that the overall investments required will not be made because of the current difficult financial and budgetary constraints of Cote d'Ivoire,

- No changes in the Japanese co-operation policy

The Japanese co-operation policy in Africa in line with TICAD-II (The Second Tokyo International Conference on Africa's Development) launched in 1998, is determined by the "Tokyo Action Scheme on the development of Africa on the eve of the Twenty First Century", which considers agricultural development as a priority issue, The Japanese Government has reduced the ODA's budget due to the recession of the economy, Hence, despite the opening of TICAD-III scheduled for 2003, it is less likely that the Japanese co-operation policy in agricultural development will undergo any significant changes,

#### 5.10 CONDITIONS REQUIRED AND PRELIMINARY OBLIGATIONS

- The Ivorian agricultural policy aimed at achieving self-sufficiency in rice production does not change

The Ivorian government designs at regular intervals an agricultural development steering Plan, which is used as the basis for its agricultural policy. Designed at medium and long terms, it enables the drawing of a continuous agricultural policy. Hence, even after frequent government changes since the political upheavals which occurred between 1999 and the year 2000, it did not undergo any major changes and is still kept as before. Under such conditions therefore, the Ivorian agricultural policy does not seem to evolve in any radical manner for the future,

- MINADER implemented the extension work policy for rice farmers

The recent MINADER extension measures are implemented by ANADER and some farmers co-operative societies. But it is necessary that Government ensures that their profits truly reach rice farmers. During the deliberations of the above mentioned inspection and assessment group, MINADER participants did not raise any specific issue. However, the project appeared useful for the monitoring of the situation, because of its observer stand point in the area of extension policies,

- Basic data is available

The Ivorian government should co-operate towards acquiring the already existing information concerning project implementation,

- Public order does not change

No deterioration of the political and social situation must be observed now. But from the experience of the first phase, should political and social upheavals occur, the steady implementation of the project will certainly be compromised. This condition must therefore be handled separately as external risk,

## 6 THE OVERALL VALIDITY OF PROJECT IMPLEMENTATION

### 6.1 RATIONALE

- Significance of the project for Côte d'Ivoire's needs

The Ivorian agricultural sector accounts for 24% of GDP, over two thirds of the working population, and 60% of the total volume of exports, It was the priority of Côte d'Ivoire's development objectives and strategies (from 1995 to 2000) and still plays a central part in poverty eradication, Moreover, the promotion of rice cultivation is considered as a primary issue in term of warranting stability in food supply for the people and self-sufficiency in food, Furthermore, in a context of immaturity of farmers' organizations, it appears necessary to increase the sustainability of producers and to break their habit of dependence in order to limit to the minimum interventions in national production and transport, This project intends to stimulate significant sustainability efforts from farmers in irrigated rice cultivation deprived from cosy State assistance, to provide answers to the issue of the role that extension executives should play, and to satisfy the significant needs of Côte d'Ivoire's farming centres,

Besides, Région des Lacs, the major area of promotion of the Ivorian rice cultivation<sup>10</sup>, represent the geographical core of irrigated rice cultivation<sup>11</sup>

- Co-coordinating Japanese aid policies

Japan's aid to Côte d'Ivoire stretches from primary education, health, medicine, and water management, However, technical co-operation and agricultural aid are considered as equally important, Up to now, two technical co-operation companies have been organized as projects<sup>12</sup>, and both dealt with agriculture, 13 of the 24 experts sent to Côte d'Ivoire (54% according to 1996 – 1999 results) and 13 of the 63 JOCV (21% according to 1996 – 1999 results), were specialists in areas related to the development of agriculture and farming villages,

- Significance for the needs of project beneficiaries

During the first phase of this project, in order define the needs of the farmers in irrigated rice cultivation foreseen as project beneficiaries, various investigations have been made, The people for whom the project is destined were directly involved in the conduct of quick studies on agricultural villages (RRA) and farming conditions, conducted with the participation of rice farmers in the prospective regions for model sites, in the form of workshops on PCM issues. The investigations were therefore particularly useful to ascertain with more accuracy the needs of project beneficiaries, With the next technical investigation to be conducted about farmers' organizations (scheduled for the months of June and July 2002), and another into transport, distribution of farm produce (scheduled for the month of April 2002), the conclusions made should enable to further increase the significance of the project for the needs of the beneficiaries,

<sup>10</sup> The strategy and objectives of Ivorian development (1995-2000) lie in the promotion of rice cultivation (dry/irrigated) in the major swampy areas of Aniebi, Central Region(Yamoussoukro), North central Region (Bouake), Korhogo, Man, Biankouma, Danane, and the forest areas.

<sup>11</sup> Irrigated rice cultivation is mainly practiced in the environs of Yamoussoukro, Bouake, Katiola, and around Korhogo in the north of the country.

<sup>12</sup> Two projects in all if one count this project and the "Training program for mechanization of irrigated rice cultivation" (August 1992-July 1997).

- Appropriate utility character of the project

PASEA is an officially approved utility service of the MINADER Authority and the newly established PASEA Centre is a MINADER property, The control and management of the Centre as well as the organization of its services are entrusted to ANADER through a service delegation agreement, Moreover, in order to warrant MINADER's right of supervision and control and ANADER's sustainability service as public utility, Government holds 35% shares in ANADER, In such a context, the risks that PASEA's activities might loose their public utility character is considerably reduced and the significance of the public utility mission statement is warranted, In order to strengthen the validity of the public utility mission statements, 1) Membership of project team will target people and groups on whom extension will have had effects larger than the mere counterpart training for the projects, 2) the system, the organization and the measures of the project will be drawn in a strategic manner,

- Excellent Japanese techniques

In the area of irrigated rice cultivation, Japan has a long technical experience in the fields of farming systems improvement, teaching of techniques, research and development of production techniques, It has also acquired experience in the field of technical co-operation abroad, as shown by table 14 below, However, in order to organize efficient technical transfer missions to Côte d'Ivoire, it appears necessary to recruit a staff that is capable to carry out the tasks in French, In this regard, the Japanese experts of the First phase found themselves in a difficult situation, In this type of situation, it appears useful to call upon NGOs and other local consultants, Besides, during recruitment of the training staff, it is capital to pay attention to production methods and techniques applicable to Côte d'Ivoire, the farming conditions of which are different,

**Table 15** Technical content required for PASEA's Second Phase and major cooperation missions signed in relation to this issue

Required technical content (results)	Major cooperation missions signed
1) Equipping the Centre for the development of locally adaptable production techniques	« Centre for general agricultural experimentation» (April 1961 to March 2010 », in Bolivia
2) Experimentation of methods of improving agricultural management on model sites	« Program of promoting small-scale agriculture » (August 1997 to July 2002 ), in Ghana
3) Preparation of the Centre for agricultural research techniques	« Program of the training centre for agricultural technicians in the Kilimandjaro area » (July 1994 to June 1999), in Tanzania
4) Monitoring of extension work	« Program of extension work for quality grains of small-scale farmers » (August 2000 to July 2005), in en Bolivia,

## 6.2 EFFECTIVENESS

- The rational of the project

The scheme mentioned in the PDM proposals is structured to enable the completion of the objectives of the project, according to 4 levels of results to be achieved, First, it is a matter of developing production techniques at the Centre, Then, in order to enhance farming (systems) and production techniques in the model sites , it is a matter of experimenting the validity of the methods, Then, thanks to survey schemes, extension executives will be taught the techniques, and the people who followed this scheme will be

assigned with the extension of the techniques to irrigated rice farmers in Région des Lacs, The result of this process lies in the extension of the techniques to up to 30% of irrigated rice farmers in Région des Lacs, Thus, from the implementation view point, the project raises no logical problem,

- Drawing level of objectives

Content of deliberations M/M, it is most likely that the project funds not only the training of extension officers assigned with extension missions in Région des Lacs , but also the monitoring of their activities, In other words, the issue of the achievable character of the Scheme depends on whether "the funds necessary for the organization of extension missions" are determined by external factors or not, This project does not only rest on the already existing extension system alone (the ANADER network), but relies also on the extension duties of farmers' organizations and NGOs, In this regard, the risks are therefore widespread, However, we must recognize that none of these institutions has a particularly strong financial situation,

The PASEA Centre is a recently established body, Its role is to organize and plan the survey scheme connected to the methods and techniques, as well as the research and development of the methods of improvement (of the systems) of farming and production techniques, Besides, PDM proposal do not clearly show any activities connected to the strengthening of the duties of the Centre (notably the preparing the organizational system of the Centre and increasing of staff capacity), Should this project be lined up with the strengthening of the duties of the Centre, we shall have to fit in the necessary activities in the program<sup>13</sup>, Moreover, it would be desirable to check whether the duties of the Centre can go beyond the authorized scope, or whether to the contrary the priorities of the project must be further reduced, and to examine the possibility of separating the missions concretely achievable at the Centre from those which are not, and to design a co-operation system with other institutions to cater for them,

### 6.3 EFFICIENCY

- Cost results/effects

In view of the fact that the details of the investments have not been set during that assembly, it appears inappropriate to analyze the results and effects of the investments, In the description of future investments, a particular attention to the following points should enable to avoid inappropriate investments,

- During the decision to purchase (quality and quantity) proposed supply materials, fit in the basic choices cost estimates and the staff necessary for their control and maintenance,
- During the decision on the scope and content of the mission and organization of the Centre, include basic decisions: 1) a cost estimate of current expenditure after completion of the project (including management cost of the Centre, the cost of the survey scheme, staff cost, management and control cost etc,) as well as the possibility of complying with budget limitation, 2) the efficient utilization<sup>14</sup> of

<sup>13</sup> It is possible that the following aspects of the activities may be modified during the writing of the PO.

<sup>14</sup> With reference to the workshop on analysis of shareholders relating to farming extension services" conducted from 11-12 April 2002 by an investigation team. For example, the project is expected to organize the writing of manuals and develop research on cultivation standards, and take care of activities relative to development of educational materials and the curriculum for the training of extension workers. The agricultural research institutions carry out similar functions research. And



the already available organizational and human resources,

- Project efficiency

The presence of counterpart sides which followed the training in line with the project is most likely to lessen the efficiency of the project, It is possible to discuss this with agricultural counselors (C/A) and specialized technicians (T/S) from ANADER who comply scrupulously with staff reduction rules, To prevent the investments of the project from being poorly used, it could be necessary to propose multiple internship measures for the farmers, either to examine mission forecasts and future positions, and selection conditions of the employees who will follow the internship,

- Efficiency/profit expenditure ratio

The benefits of this project directly reach the technical staff of the PASEA Centre ( 10 people), the farmers in the model sites (3 sites, 91 centres<sup>15</sup>), as well as the target group of the project, made up of extension bodies ( other than ANADER) and extension officers of Région des Lacs , The Centre provides for the achievement from 2004 onwards, of 5 survey schemes per year) by the extension/executive officers of the extension scheme, 2) for farmers, 3) of three sort of training on the ground, The farmers in irrigated rice cultivation in Région des Lacs , who make up the target group of this project, will directly benefit from this project through farmers and extension officers who have been trained at the Centre, According to the objectives set by the PASEA Centre, the result of the activities of the project over 5 years is to extend to about 900<sup>16</sup> farmers, that is about 30% of farmers in irrigated rice cultivation (3000 Centres according to some forecasts) the adapted techniques developed at the Centre, At the end of the project, these benefits should be extended to all the farmers in irrigated rice cultivation in Côte d'Ivoire ( statistics not available<sup>17</sup>),

The current PDM proposal (Annex 2) considers that the gradual expansion of the extension should advance in the following manner: Centre\_ rice farmers in the model sites\_ extension executives\_ farmers in Région des Lacs, In this perspective, the project would efficiently implement the development of techniques and methods to a larger target group thanks to the existence of a contact group, This would enable the increase of the benefit effects of the project while limiting the possibility of a reduction in profitability,

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concerning extension workers, the headquarters of ANADER as well as the research and development department of its local office carry out similar projects.

<sup>15</sup> This data is derived from documents provided by the Department of agricultural technical co-operation, Section of JICA agricultural development co-operation, entitled " internal draft documents of the farming improvement Project in small scale irrigated rice cultivation in Côte d'Ivoire- First phase", Document No. 5, " Framework of implementation of the following phases of the First phase"

<sup>16</sup> The figure 900 farmers tallies with 30% of the forecast 3000 farmer Centres practising irrigated rice cultivation. This objective appointing the 900 farmers implementing the extended techniques in an appropriate manner, can let us consider the number of farmers who have really benefited from the extended techniques is above 900.

<sup>17</sup> As a reference, over the 600, 000 ha of farm land used for rice cultivation in the country as a whole, 114, 000 ha (19%) are rice fields in swampy areas and 42 000 ha (7%) are irrigated rice fields. In all, irrigated rice cultivation is therefore practised over 156, 000 ha of farmland.

Moreover, at the end of the project, to keep on extending its benefit effects by paying a special attention to the preparation of the extension systems of the improvement methods of farming (systems), the profitability of the project will be further increased,

#### 6.4 IMPACT

- Completion of forecasts for higher objectives

At the end of the project, should it become possible to warrant management funds for the Centre, it would then be possible to maintain extension methods and the techniques developed at the Centre, and expand the extension to farmers other than those in Région des Lacs, And should the external conditions allow, the higher objectives would thus be gradually fulfilled, Concerning management fund resources, should we consider the current financial situation of the government, and privatization promotion policies, it is not realistic to rely on national finances, It is therefore important to ponder over the inclusion to the project, of the means by which the services of the Centre could generate their own income,

As mentioned under external conditions<sup>18</sup>, even if the project piles up ceaseless efforts towards the improvement of farming (systems) of the farmers in irrigated rice cultivation, an increase in competitiveness of national rice farmers would certainly take years before developing the capacity to resist rice imports, In such a context, in the event of any over supply of imported rice, the higher objectives of the project would not only be compromised, but even the fulfillment of the objectives the project would be jeopardized, Consequently, it is necessary to establish close relations with the people involved in making the agriculture promotion policy currently supported by Japan, in order to be able to suggest the measures preventing the imported rice to exert any excessive pressure on national rice producers,

- Political and institutional impact

As described under paragraph 6,1, it is because the free management of the Ivorian farmers is a crucial issue that the know-how proposed with the achievement of the next project plays a significant role in MINADER's extension policy proposals, Thanks to its suggestion duties and measures for compiling and extending information about the know-how of extension methods and techniques, the Project Office established in MINADER premises, has the capacity to offer its contribution to institutions and policy makers,

- Sociological and cultural impact

As mentioned under paragraph 6,3 , the beneficiaries of the project are extension bodies ( other than ANADER) and extension officers in Région des Lacs , as well as farmers involved in small scale rice cultivation in Région des Lacs ( This also include rice farmers involved in the cultivation of other crops),

According to the analysis of the Ivorian decision-making PRSP, over half of truck farmers are poor, and the majority of these poor people are women, Besides, among the

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<sup>18</sup> In view of the fact that the proposal stating that "take governmental measures for reducing rice imports" is not realistic due to the current policy of promoting commerce deregulation, it was suggested that this expression should be modified so as to make it more relevant.

rice farmers involved in small-scale rice cultivation, in comparison with farmers managing coffee, cocoa etc, farms, many are those who pay tax, Hence the existence of a sure wealth gap, In Région des Lacs, population migrations from the North to the South are considerable and even within the model sites, we observed that some migrant farmers hire farm lands belonging to people from the central region for farming, Female rice farmers are relatively many in the model sites,

The project is expected to carry out missions for a direct influence at the sociological level, thanks to the promotion of collective activities and the strengthening of farmers' organizations, Particularly, the risks of rivalry concerning management rights of water are high, The project is therefore considering the education (among other things in the area of water management) of farmers' organizations as a primary issue and is expected to send long-term experts within the areas of specialty concerned,

- Propagation of the benefit effects

The propagation of the benefits should be achieved in a gradual manner according to the following diagram: 1) Centre\_ 2) rice farmers on the model sites \_ 3) extension workers\_ 4) farmers in Région des Lacs \_ rice farmers around Côte d'Ivoire, Concerning the time frame, the activities connecting phase 1) to phase 2) should be organized in an intensive manner for 1 to 2 years and continue during the project, The training courses connecting phase 1) and 2) to phase 3) will start from the beginning of the second year of the project, And the activities connecting phase 1) , 2) , 3 ) to phase 4) should start from the third year of the project, In this impact expansion perspective, it is important to consider a permanent strategy to increase the efficiency of the propagation of the benefits from one phase to the other, Moreover, for said benefits to continue to be extended even after the closure of the project, an increased attention to the preparation of the MINADER-PASEA system of extension, development and research into the improvement methods and techniques of farming (systems) would enable the warrant of the expansion of the impact,

- Technical impact

The targets for technical transfer of this project are the technical staff of the PASEA Centre (10 people), the farmers in the model sites (3 sites, 91 centres<sup>19</sup>), as well as extension bodies (other than ANADER) and extension officers in Région des Lacs, The Centre has achieved right from 1995 5 survey schemes per year 1) through extension officers/executives, 2) for farmers, 3) of three type of training on the ground, Should we consider that a scheme enables to train 30 people<sup>20</sup> at a time, this boils down to a total of 300 people trained for all types of training, The farmers in irrigated rice cultivation in Région des Lacs, indirectly enjoy the benefits of these training through the farmers and extension officers trained at the Centre in line with the project, as well as demonstration observations in the fields of the model sites and experimentation areas, Thus, the result

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<sup>19</sup> This data is derived from documents provided by the Department of agricultural technical co-operation, Section of JICA agricultural development co-operation, entitled " internal draft documents of the farming improvement Project in small scale irrigated rice cultivation in Côte d'Ivoire- First phase", Document No. 5, " Framework of implementation of the following phases of the First phase".

<sup>20</sup>The details of the training course being unavailable, the criteria used by the evaluators are based on the use approximate data.

of 5 years of activities lies in about 900 farmers representing about 30% of the 3,000 farmer Centres practicing irrigated rice cultivation in Région des Lacs, and using the techniques developed at the Centre in an appropriate manner,

- Economic Impact

As described about project strategy, it has as objectives, the development and extension of farming (systems) improvement methods in order to enable revenue increase. The activities organized in the model sites are therefore designed to adapt farming methods and effectively increase farmers revenue. During the first and second year after the opening of the project, such effects should already appear. The revenue improvement methods experimented in the model sites are extended to rice farmers in Région des Lacs and will cause the emergence of a high trend in farm revenue among the farmers of the Region. Besides, the project, through its support to farmers' organizations, will have a certain economic impact, such as the development of co-operation duties and the strengthening of the management of organizations,

- Means to avoid negative impacts

Brief (RRA) enquiries have been conducted in the model sites into the social structures and gender conditions. Besides, as policy of the project of the First phase, the approach adopted is based on the respect for the will of the farmers and the contribution brought by extension officers to the sociological and cultural aspects. Then, thanks to the use of various participation methods and RRA methods<sup>21</sup>, and the use of enquiry and analysis methods for the beneficiaries of the project<sup>22</sup>, this contribution will be kept to avoid negative impacts at the social level and especially, at the level of gender disparity conditions<sup>23</sup>,

Besides, being indispensable for the consideration of sickness issues such as schistosomiasis or malaria, the appropriate measures will have to be taken through a co-operation with local sickness-insurance organizations and medical care, and the assignment of short term experts,

## 6.5 SUSTAINABILITY

The PASEA Project office encourages development sustainability thanks to the three following aspects: 1) structuring of the proposed management committee through a ministerial order, 2) PASEA budget guarantee at the end of the project thanks to an administrative authorization, 3) extension strategy for the techniques through co-operation agencies, extension officers and farmers,

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<sup>21</sup> For example, There is "Farmer Participatory Approach/Farmer First and Last". FPR/FFL is a research method drawn from "Farming Systems Research". Concerning agricultural research, the development of techniques etc, research methods strengthening the significance of the original technical knowledge of farmers and offering their active participation (main actors: Farrington, J. and Martin, A., 1987, Chambers, R., Pacey, A. and Thrupp, L. A., 1989, etc.).

<sup>22</sup> "Beneficiary Assessment": Inspection/assessment methods used in World Bank agricultural extension projects.

<sup>23</sup> For example, the women so far employed by farmers during seed times or harvest risk losing their source of income because of the increased efficiency of collective works.

Besides, the fields of experimentation of the Centre will be set (25 ha) along the national highways of Yamoussoukro, the Ivorian capital city, In this manner, the people will be aware of the results of the project and its development sustainability will thus be strengthened,

- Organizational sustainability

As pointed out before, the activities of PASEA are fully part of MINADER's services, To nurture this feeling (of belonging), it is important to structure the organizational system in such a way that MINADER gets actively and independently involved in the management and control of PASEA services, Up to now, the project office has been communicating information to MINADER delegates during monthly meetings, In the Second Phase, this meeting will be turned into a management committee which will be established to enable MINADER to correctly implement its directives about the project, After launching, it would be important for MINADER to be involved in the management and control duties of the project and devote time to the activities of the Yamoussoukro services and to the Japanese experts,

The management of the service organization of the PASEA Centre is entrusted to highly competent officials by MINADER, Up to the closure of the project, it is expected that ANADER co-ordinates directives, ANADER thus manages human resources issues connected to the technical staff of the Centre, and will enquire if necessary about the specialties and the number of employees for the project from MINADER<sup>24</sup> alone, At the closure of the project, it is likely that the lack of vehicle for the staff hampers the development sustainability of the organizations, Consequently, to reduce the impact on staff changing organizations, it could be useful to design a system of rapid propagation of the techniques and methods to beneficiaries; a system based on 1) the organization of training facilities, 2) the strengthening of relations between the Centre and the network of farmers and developed farmers' organizations ,

- Financial sustainability

PASEA has been established as a full part of MINADER's services and is officially authorized by the government, There is therefore strong grounds for sustainability in its budgetary requirements, However, MINADER is in a difficult situation with the increase of the expenditure of its services for the improvement of farming (systems), Moreover, ANADER is also experiencing budgetary difficulties, And its expenditure for the activities are pegged at \_ of the budget, Consequently, to warrant budgetary sustainability after closure of the project, it is not convenient to depend solely on national budgetary measures, but also the inclusion into the project itself, of the means for its services to generate their own income, The current situation envisaged concerns 1) Production and sale of exunitent quality seeds, 2) the development of forestry activities based on the planting of several varieties of trees such as fruit trees, 3) the achievement of (charged) training schemes to third countries, 4) the production of NERICA seeds, etc, It would also be desirable to consider a partial responsibility system for users and payment if any of a rate for the training scheme, Moreover, the **Fund for the Development of Vocational**

<sup>24</sup> The remuneration of employees is funded under the budget of MINADER and paid by ANADER, so that the budget will not depend on the project.

As a reference point, only 44% of funds sought were approved by the 2001 budget, including 72% representing thye expenses due for payment by the counterparts alone. In addition, the amount of the expenses made does not outstrip 54% of the ceiling authorised by the budget, and 66% of the these funds were relative to counterparts.

**Training (FDFP)** can be used for the training expenses of the Centre, This Fund provides financial assistance for technical and specialized training approved by government, It levies a certain amount from the transactions of Ivorian companies and allocate it to the fund, CFMAG is being currently assisted for training, Following this example, ANADER applied at the beginning of the year to FDFP for financial assistance, Should its application be considered, the cost of organization of its training schemes will be fully borne by the FDFP, which will become CFMAG's main financial resource,

- Degree of acceptance of the approach and techniques

This project values the sponsoring of farmers investment costs and pays a considerable attention to the degree of adaptation of the extended techniques, Besides, the project encourages management organization structuring, and collective agricultural works as well as the sustainability of farmers and managers, In this perspective, it is necessary to allow the nature of dependence of rice farmers acquired since the 70s, to evolve, It is also important to tackle the historical, sociological, economical, and cultural causes of obstacles regarding that structuring, Consequently, a drastic change of mind of farmers is pre eminent, An investigation into the social structures of farming villages and the division of labor according to gender, will be included in the inquiry into farming systems, During the implementation of the project also, the control of the sociological and cultural aspects will make up the basis for the policy, It will also cover environmental issues; and to include direct and indirect influences on the natural environment surrounding the fields used, constant attention will be paid to farming systems to ensure environmental sustainability,

## 6.6 OVERALL RATIONALE OF PROJECT IMPLEMENTATION

This is how the rationale, efficiency, impact as well as the development sustainability of the project can be shown, PASEA harmonizes therefore the Ivorian development strategy and the Japanese co-operation strategy, the technical impact on rice farmers and extension officers, on counterpart training activities and extension, on the technical development achieved at the Centre, Besides, as the project intends to develop and experiment evolution enriched farming systems, it is difficult to expect that it would have negative influences both at the technical and cultural levels, At the organizational level also, the project office is located within MINADER's premises and thanks to the establishment of a management committee, the sustainability of the co-operation system and the policy seem ensured,

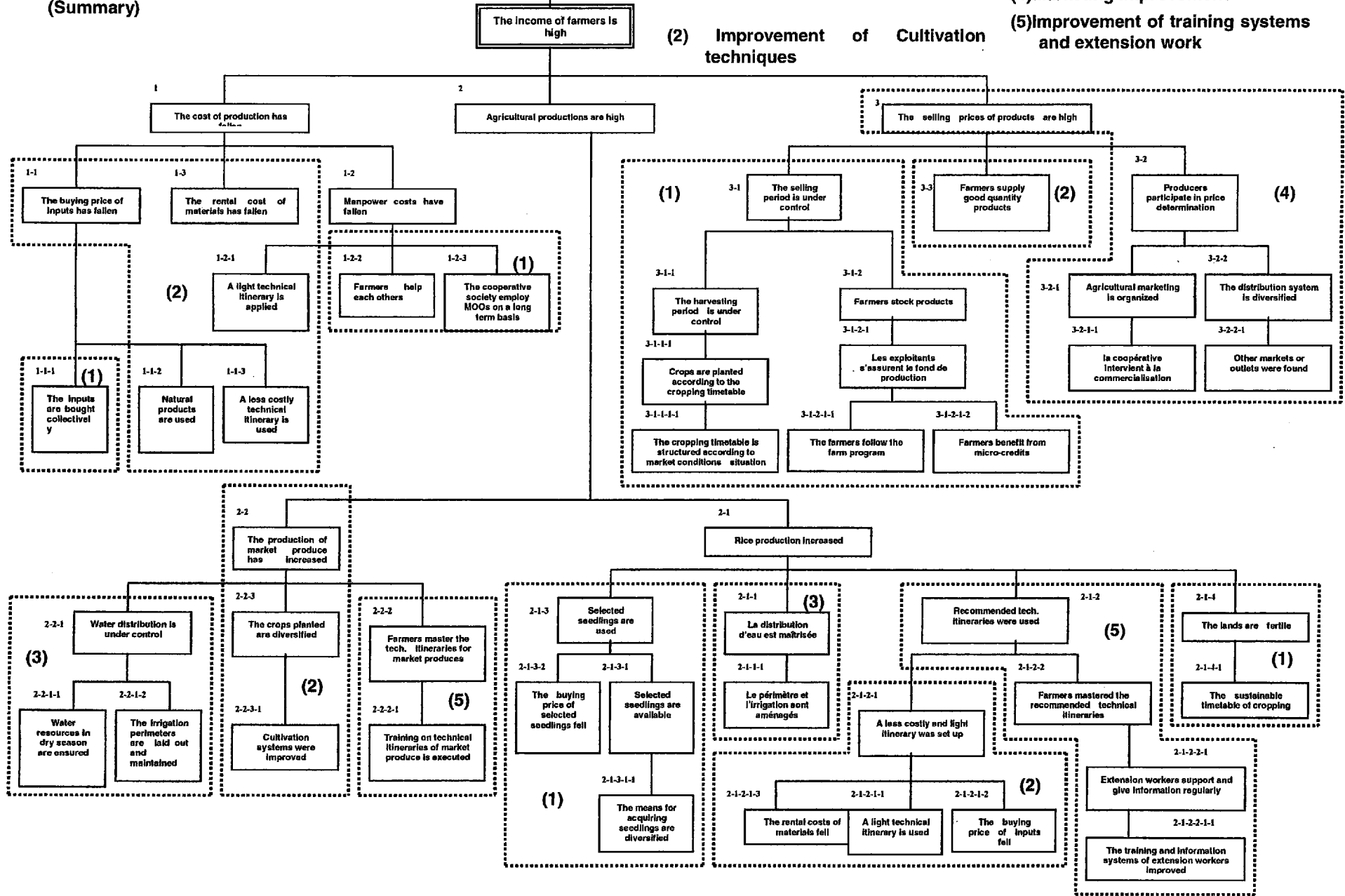
The issue of the sustainable development of the project still boils down to the matter of securing an operating project budget, Considering the Ivorian government's budgetary difficulties it certainly appears less realistic to pursue project activities on the same scale after its closure, with sole financing, funds allocated by MINADER, However, PASEA has the capacity to develop without hindrance thanks to a large -scale use of the equipment, fields, and installations of the Centre, Thus, this inquiry ends with the general high validity of the achievement of the Second Phase of PASEA,

# Annex 1 Objective Tree

(toward Effect)

- (1) Farm program improvement and Organizational reinforcement
- (2) Improvement of Cultivation techniques
- (3) Infrastructural improvement
- (4) Marketing Improvement
- (5) Improvement of training systems and extension work

(Summary)



Annexe 2 Project Design Matrix

**Farming Systems Improvement Project For Irrigated Rice Cultivation in the Republic of Côte d'Ivoire (Phase II)**

- 1. Project duration: 5 years
- 2. Executing organizations: MINADER, ANADER
- 3. Target groups: Extension workers (belonging to ANADER and other organizations), Irrigated rice producers
- 4. Area of intervention: Région des Lacs of the Republic of Côte d'Ivoire.

NARRATIVE SURMMARY	INDICATORS	MEANS OF VERIFICATION	EXTERNAL CONDITIONS	
<b>SUPPER GOAL</b> 1. Rice production increases in the Republic of Côte d'Ivoire. 2. Methods for improving farming systems centered on irrigated rice cultivation are diffused in West Africa.				
<b>OVERALL GOAL</b> 1. Methods for improving farming systems centered on irrigated rice cultivation are diffused in the Republic of Côte d'Ivoire. 2. The income of irrigated rice farmers is improved in "Région des Lacs"	1. The number of irrigated rice farmers who apply the techniques developed at the Center doubles in Côte d'Ivoire during 2007-2012. 2. The number of irrigated rice farmers whose income is increased by applying improved technologies increases by 50 % in "Région des Lacs" during 2007-2012.	• Project Reports		
<b>PROJECT PURPOSE</b> Methods for improving farming systems centered on irrigated rice cultivation are applied in "Région des Lacs".	By 2007, 30% of irrigated rice farmers apply the technologies for improving farming systems.	• Project Reports	<ul style="list-style-type: none"> <li>• The Ivorian Government continues to finance the training programs even after the completion of the project.</li> <li>• The economic factors such as the price of agricultural products do not radically change.</li> <li>• Natural catastrophe does not occur.</li> <li>• The government takes measures to reduce rice import</li> </ul>	
<b>RESULTS</b> 1. Cultivation technologies of irrigated rice are improved at Irrigated Rice Development Centre (IRDC). 2. Improvement methods are verified for the irrigated rice farming systems at the model sites. 3. Training is conducted at the Centre. (This includes its administration such as programming, coordination, implementation, etc.) 4. Extension is carried out to diffuse the improved farming systems by the extension workers trained at the Centre.	* cf. See Indicators attached	• Project Reports	<ul style="list-style-type: none"> <li>• The agricultural policy, which designates ANADER as the pillar extension services organization, does not change.</li> <li>• Farmers continue to work on their farms at the model sites.</li> </ul>	
<b>ACTIVITIES</b> 1-1 Improving the standard of irrigated rice cultivation 1-2 Improving the technologies of post-harvest operations 1-3 Studying the methods of improving the farming systems 1-4 Making technical manuals  2-1 Verifying the standards of irrigated rice cultivation 2-2 Verifying the improved technology of post-harvest operations 2-3 Supporting the planning of farm management and its implementation carried out by the organizations of farmers  3-1 Programming the training 3-2 Conducting the training 3-3 Evaluating the training  4-1 Supporting for programming the activities of extension workers 4-2 Supporting activities of the extension 4-3 Evaluating the extension program	<b>IN PUTS</b> Japan 1. Long-term experts - Chief Adviser - Coordinator/training - Irrigated rice cultivation - Farmers' organizations - Farm management 2. Short-term experts 3. Training of counterparts in Japan 4. Equipments	Côte d'ivoire 1. Counterparts (Project Office) - General Secretary - Assistant (Irrigated rice cultivation) - Assistant (Maintenance of agricultural infrastructure and irrigation facilities) - Assistant (Agricultural information processing)  2. Budget for project operations	(The Centre) - Director - Agricultural infrastructure - Water management - Irrigated rice cultivation - Farm management - Farmers' organizations - Agricultural Marketing - Field crops - Agricultural machinery - Training coordinator - Others	<ul style="list-style-type: none"> <li>• Ethnic confrontation does not affect negatively the mutual cooperation among farmers.</li> <li>• The internal antagonism due to a dispute on the land does not erupt.</li> <li>• The appropriate use of rice fields is continually guaranteed.</li> <li>• The Government is committed to ensuring the repair of main irrigation infrastructure at the model sites.</li> </ul>
			<b>PRELIMINARY CONDITIONS</b> <ul style="list-style-type: none"> <li>• The agricultural policy for self-sufficiency in rice does not change.</li> <li>• MINADER implements the extension policy in favor of rice farmers.</li> <li>• The necessary basic data are available.</li> </ul>	



## Indicators

Title	Indicators	Means of verification
<b>SUPPER GOAL</b>		
<b>Overall Objectives</b>	<ol style="list-style-type: none"> <li>1. The number of irrigated rice farmers who apply the techniques developed at the Center doubles in Côte d'Ivoire during 2007-2012.</li> <li>2. The number of irrigated rice farmers whose income is increased by applying improved technologies increases by 50 % in "Region des Lacs" during 2007-2012.</li> </ol>	- Project Reports
<b>Specific Objectives</b>	By 2007, 30% of irrigated rice farmers apply the technologies for improving farming systems.	- Project Reports
<b>Results</b>	<p><b>Result 1</b></p> <ol style="list-style-type: none"> <li>(1) Two (2) irrigated rice cultivation standards are improved at the Centre by 2007.</li> <li>(2) Post-harvest technologies are improved at the Center by 2007.</li> <li>(3) Two (2) kinds of diversified cropping systems are developed at the Center by 2007.</li> <li>(4) Six (6) training manuals are made at the Center by 2007.</li> </ol> <p><b>Result 2</b></p> <ol style="list-style-type: none"> <li>(1) During 2003-2007, 50% of the techniques improved at the Center are verified at the model sites.</li> </ol> <p><b>Result 3</b></p> <ol style="list-style-type: none"> <li>(1) Five (5) training courses are conducted at the Centre during 2004-2007.</li> <li>(2) The Centre trains 120 rice farmers (on-site training), 80 rice farmers and 80 extension workers at the Centre.</li> <li>(3) Sixty percent (60 %) of the participants are satisfied with the quality of the training.</li> </ol> <p><b>Result 4</b></p> <ol style="list-style-type: none"> <li>(1) Seventy-five percent (75%) of the extension workers trained at the Centre disseminate the technologies by 2007.</li> </ol>	<p>-Project Reports</p> <p>Id.</p> <p>Id.</p> <p>Id.</p>

### Annex 3 Plan of Operation

#### 1) 1. Cultivation technologies of irrigated rice are Approved at the Irrigated Rice Development Centre

ACTIVITIES	RESULTATS ATTENDUS (INDEX)	CALENDER					RESPONSABLES* PRINCIPAL
		1st	2nd	3rd	4th	5th	
1-1) Alproving the standard of irrigated rice cultivation							
1-1-1) Plan of experAlent	Annual plan of experAlent ( biginning of every year )	■	■	■	■	■	Rice, Al, Wa, Me, FM, FC , TC
1-1-2) Plan of utilization of pilot field to experAlent	Annual plan of utilization of pilot field to experAlent (biginning of every year)	■	■	■	■	■	Rice,Al, Wa, Me
1-1-3) Establish of pilot field in centre	Operation repport	■	■	■	■	■	Al, Me
1-1-4) Documentation & Research	Technical standard repport in model sites is presented	■	■	■	■	■	Rice,Al, Wa, Me
1-1-5) Verifying experAlent of standard technologies (direct seeding) at centre	Quarter repport Manual of technical standard of rice cultivation (1-5-1)	■	■	■	■	■	Rice,Al, Wa, Me
1-1-6) Verifying experAlent of standard technologies (planting) at centre	Quarter repport Manual of technical standard of rice cultivation (1-5-1)	■	■	■	■	■	Rice,Al, Wa, Me
1-1-7) Evaluating of experAlent	Quarter repport Repport of evaluation of experAlent (annual)	■	■	■	■	■	Rice,Al, Wa, Me, FM, FC , TC
1-2) Alproving the technologies of post-harvest operations							
1-2-1) Research about la quality of production	Research repport (1st, 4th)	■			■		FM, AM,FO
1-2-2) Fixing a standard of paddy rice quality of PASEA	Fixing a standard of paddy rice quality (1st) Renewal of standard (1st)	■			■		FM, AM, Rice, FO
1-2-3) Fixing a standard of white rice quality of PASEA	Fixing a standard of paddy rice quality (2nd) Renewal of standard (4th)	■			■		FM, AM, Rice, FO
1-2-4) Alproving of threshing operation	Quarter repport Manueal of post-harvest operation (1-5-2)	■	■	■			FM,Rice, Me
1-2-5) Alproving of dring operation	Quarter repport Manueal of post-harvest operation (1-5-2)	■	■	■			FM,Rice
1-2-6) Alproving of winnow operation	Quarter repport Manueal of post-harvest operation (1-5-2)	■	■	■			FM,Rice
1-2-7) Alproving of polishing operation	Quarter repport Manueal of post-harvest operation (1-5-2)	■	■	■			FM, Rice, Me
1-2-8) Alproving of concervating operation	Quarter repport Manueal of post-harvest operation (1-5-2)	■	■	■			FM, AM,FO
1-2-9) Research about the distribution and market of rice	Research repport is predated (1st) Monitoring repport is presented (3rd,4th,5th)	■		■	■	■	AM, FO, FM, Rice
1-2-10) Renewal of technologies	Renewal of manua for another sites			■	■	■	FM, AM, Rice, FO, Me
1-3) Studying the methods of Alproving the farming systems							

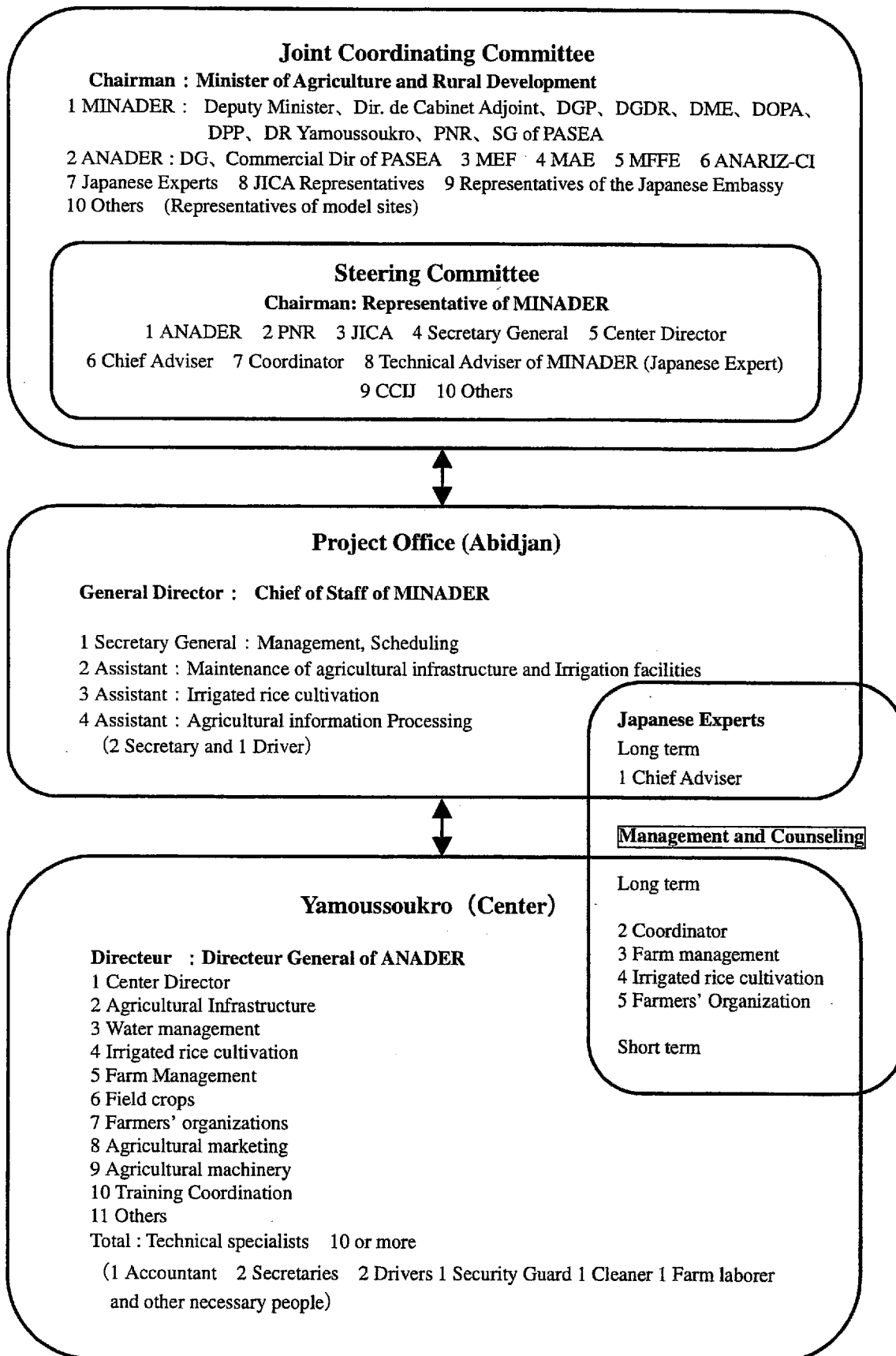








**Annex 4 Organizational chart of the Project**



## **Annex 5 Terms of Reference For The Long-Term Experts**

1 Qualification: Bachelor or above is preferable since the activities include research.

2 Language: In lieu of French, English is acceptable but conversational French is required.

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### **1 Chief Advisor**

1 Educational background                      Master                      2 Languages      French and English

#### 3 Activities

- (1) Counsel and recommend the project execution to the Director General.
- (2) Report on the project management or administration of the project and discuss on the future plan of the project.
- (3) Counsel on the formulation of a rice cultivation policy on farming systems in Irrigated Agriculture.
- (4) Counsel and support the activities of experts and others.

4 Others His counterparts are the Chief of Staff, MINADER with a Ph.D., the Secretary General and the Director.

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### **2 Coordinator**

1 Educational background                      Bachelor                      2 Languages      French

#### 3 Activities

- (1) Support the management duties of the Chief Advisor and coordinate the cooperation plan with the concerned Ivorian authorities.
- (2) Manage the annual project and adjust the Japanese Plan according to needs.
- (3) Collect necessary information on project management of concerned organizations, Joint Coordinating Committee and others.
- (4) Promote the project through diverse advertising activities.
- (5) Provide solutions in conjunction with the Chief Advisor in case of difficulties on project management
- (6) Coordinate training activities.

4 Others His counterparts are the Secretary General, the Director and the Training Coordinator.

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### **3 Farm Management**

1 Educational background                      Bachelor                      2 Languages      French or English

#### 3 Activities

- (1) Develop the diversified cropping timetable in collaboration with the other experts (MCP Activity 1.3).
- (2) Improve the post-harvest technological operations (id. 1.2).
- (3) Analyze and evaluate farming on model sites.
- (4) Carry out farm surveys in the Lakes Region and stabilize databases.
- (5) Draft manuals, i.e. schedule or daily work timetable, accounting documents, schedule of farm management, etc.
- (6) Execute training for the leaders of farmers and extension workers.

4 Others His counterparts work in are Farm Management, Agricultural Marketing and Agricultural Machinery.

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### **4 Farmers' Organization**

1 Educational background                      Bachelor                      2 Languages      French or English



### 3 Activities

- (1) Support Farmers' organizations in the planning of farming activities on model sites (MCP Activity 2.1).
- (2) Strengthen farmers' organizations according to their desire and support their activities (mutual assistance, buying of inputs, etc) (id.).
- (3) Conduct surveys on the rice circuit and support the improvement of rice marketing systems.
- (4) Conduct surveys on farmer's organizations in the Lakes Region and stabilize their database.
- (5) Draft manuals for the management of farmers' organizations.
- (6) Carry out training for leaders of farmers and extensions workers.

4 Others His counterparts are Farmers' Organizations, Agricultural Marketing and others.

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### 5 Irrigated Rice Cultivation

1 Educational background Bachelor 2 Languages French or English

#### 3 Activities

- (1) Develop the technical itinerary for rice cultivation (MCP Activity 1.1).
- (2) Carry out surveys on rice fields in the Lakes Region and stabilize the database.
- (3) Collect and analyze information concerning : varieties, agricultural inputs, etc.
- (4) Carry out training for leaders of farmers and extension workers.

4 Others His counterparts work in Rice Cultivation, Water Management, Maintenance of Farms.

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## Annex 6 Terms of Reference For The Counterparts

### (1) Project Office: Terms of Reference For The Counterparts

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#### 1 General Secretary: Boua Becoin Lazare

**Educational background** Bachelor                      **Language** French and English

**Activities**

- (1) Report to the Project General Director (Chief of Staff) on the progress of the project.
- (2) Manage the project and plan its activities.
- (3) Counsel the Project General Director on the formulation of the agricultural policy in view of improving farming systems in Irrigated Agriculture.
- (4) Counsel and support the activities of colleagues at the Project Office and Director.
- (5) Coordinate the activities of partner organizations of the project.

**Others** His counterpart is the Chief Advisor

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#### 2 Assistant 1 (Irrigated rice cultivation): Tokouehi Bientot

**Educational background** APVA                      **Language** French

**Activities**

- (1) Analyze and evaluate the rice policy in Côte d'Ivoire and in the West African sub region.
- (2) Collect, analyze and disseminate information on the rice circuit.
- (3) Collect and analyze information concerning the varieties, seedlings, agricultural inputs, and others.
- (4) Support the activities of rice farmers and improving the farming systems of PASEA. PASEA.

**Others** His counterpart is the Chief Advisor

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#### 3 Assistant 2 (Maintenance of Agricultural Infrastructure and Irrigated Facilities): Yavo Abel

**Educational background** TSTP                      **Language** French and English

**Activities**

- (1) Collect, analyze and disseminate information on agricultural infrastructure in Côte d'Ivoire and in the West African sub region.
- (2) Collect, analyze and disseminate information on maintenance of irrigation facilities.
- (3) Support the activities relating to irrigation facilities and water management of PASEA.
- (4) Package and publish the quarterly newsletter « The PASEA ».

**Others** His counterpart is the Chief Advisor

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#### 4 Assistant 3 (Agricultural Information Processing): Obro ; (temporary job)

**Educational background** High School                      **Language** French and English

**Diploma**

**Activities**

- (1) Analyze GIS<sup>1</sup> information on Irrigated Agriculture in Côte d'Ivoire and in the West African sub region.
- (2) Establish and manage PASEA's computer network (Project Office, PASEA Center, model sites, exchange of information sites and others).
- (3) Maintain and manage PASEA's web site.
- (4) Set up and manage the library (Project Office and Center) of PASEA.

**Others** His counterpart is the Chief Advisor

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<sup>1</sup> Geographical Information Systems

## (2) Centre: Terms of Reference For The Counterparts

The names of counterparts are for the first phase.

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### 1 Director (Management and Administration) Niamkey Koffie Joseph

1 Educational background Bachelor 2 Languages French and English

#### 3 Activities

- (1) Report the management or administration to the Project Manager (Director General of ANADER) and the Secretary General.
- (2) Manage the Centre according to its program and plan its future activities.
- (3) Counsel and support the staff of the Center and the others.

4 Others His counterparts are the Chief Advisor and the Coordinator.

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### 2 Counterpart (Agricultural Infrastructure) Tchebe Gbihouri Panphile

1 Educational background Bachelor 2 Languages French and English

#### 3 Activities

- (1) Support farmers' activities on the management of irrigation facilities, farms and agricultural feeder roads on model sites.
- (2) Conduct studies on irrigation facilities, farms, agricultural feeder roads in the Lakes Region and stabilize the data base.
- (3) Draft the manuals for the management of irrigation facilities, farms, and agricultural feeders roads.
- (4) Train the leading farmers , extension workers and farmers' organizations.

4 Others His counterpart is the Rice Cultivation Expert.

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### 3 Counterpart (Water Management) Fadiga Adama

1 Educational background Bachelor 2 Languages French

#### 3 Activities

- (1) Support water management activities by farmers' organizations or the water management committee on model sites.
- (2) Conduct studies on water management in the Lakes Region and stabilize the data base.
- (3) Draft water management manuals.
- (4) Train the leading farmers , extension workers and farmers' organizations leaders.

4 Others His counterpart is the Rice Cultivation Expert.

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### 4 Counterpart (Irrigated Rice Cultivation) N'da Kouassi Serge Aimé

1 Educational background Bachelor 2 Languages French and English

#### 3 Activities

- (1) Develop the technical itinerary of rice cultivation for model sites in the Lakes Region.
- (2) Conduct studies on irrigated rice cultivation in the Lakes Region and stabilize the data base.
- (3) Draft irrigated rice cultivation manuals.
- (4) Train the leading farmers , extension workers and farmers' organization leaders.

4 Others His counterpart is the Rice Cultivation Expert.

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### 5 Counterpart (Farm Management) Brim Kouao Brou Edmond

1 Educational background Bachelor 2 Languages French

#### 3 Activities

- (1) Work out a time table for diversified crops for the model sites in the Lakes Region.
- (2) Conduct studies on irrigated farm management in the Lakes Region and stabilize the data base.
- (3) Draft manuals of irrigated farming.
- (4) Train the leading farmers, extension workers and leading farmers' organizations.

4 Others His counterpart is the Expert.

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### 6 Counterpart (Farmers' Organizations) Cisse Salifou

1 Educational background Bachelor 2 Languages French

3 Activities

- (1) Support farmers' organizations to plan their farming activities on model sites.
- (2) Strengthen farmers' organizations according to their desire and support their activities (mutual assistance, buying of inputs, etc).
- (3) Conduct studies in the rice cultivation areas and support the improvement system for rice marketing.
- (4) Conduct studies on farmers' organizations in the Lakes Region and stabilize the data base.
- (5) Draft the manual for the management of farmers' organizations.
- (6) Train leading farmers, extension workers, and farmers' organization leaders.

4 Others His counterpart is the Farmers' Organizations Expert.

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**7 Counterpart (Agricultural Marketing) Nguessan Aya Florence**

1 Educational background Bachelor 2 Languages French and English

3 Activities

- (1) Conduct studies on the rice circuit on model sites and support farmers' organizations in order to improve the marketing system.
- (2) Conduct studies on the rice circuit in the Lakes Region and stabilize the data base.
- (3) Draft the manual for the marketing of agricultural products, especially rice.
- (4) Train the leading farmers, extension workers and farmers' organization leaders.

4 Others His counterpart is the Farmers' Organizations Expert.

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**8 Counterpart (Field Crops) Touré Kinan Lucie**

1 Educational background Bachelor 2 Languages French

3 Activities

- (1) Work out the time table for diversified crops on model sites.
- (2) Conduct studies on field crops on irrigated sites in the Lakes Region and stabilize the data base.
- (3) Train the leading farmers, extension workers and farmers' organizations.

4 Others His counterpart is the Expert.

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**9 Counterpart (Agricultural Machinery ) Not determined**

1 Educational background Bachelor 2 Languages French

3 Activities

- (1) Plan and accelerate mechanization on model sites.
- (2) Conduct studies on mechanization on irrigated sites in the Lakes Region.
- (3) Draft the usage manual and the maintenance of agricultural machinery.
- (4) Train the leading farmers, extension workers and farmers' organizations.

4 Others His counterpart is the Expert.

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**10 Counterpart (Training Coordination) Not determined**

1 Educational background Bachelor 2 Languages French and English

3 Activities

- (1) Plan and manage the training coordination activities of the project.
- (2) Coordinate and support the above-mentioned activities.
- (3) Plan and execute the drafting of manuals and documents necessary for the training.

4 Others His counterparts are the coordinator and the short term Experts.

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**11 Counterpart (Others) Not determined**

1 Educational background Bachelor 2 Languages French and English

### 3 Activities

- (1) Set out the activities according to the demands of the Project after the commencement of the Project.
- (2) Conduct studies on rice farms in the Lakes Region and stabilize the data base.
- (3) Train the leading farmers, extension workers and farmers' organizations leaders.

4 Others His counterparts are the short term Experts.

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