

**OUTLINE DESIGN STUDY REPORT  
ON  
THE PROJECT FOR  
EMPOWERMENT TO THE COMMUNITY  
DAMAGED BY FOREST FIRE IN CA MAU PROVINCE  
IN  
THE SOCIALIST REPUBLIC OF VIET NAM**

**MARCH, 2008**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

**YACHIYO ENGINEERING CO., LTD.**

<b>GM</b>
<b>JR</b>
<b>08-008</b>

## PREFACE

In response to a request from the Government of the Socialist Republic of Viet Nam, the Government of Japan decided to conduct an outline design study on the Project for Empowerment to the Community Damaged by Forest Fire in Ca Mau Province and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Vietnam a study team from July 8 to July 27, 2007 for the first field survey, and sent another study team from September 16 to October 5, 2007 for the second field survey.

The team held discussions with the officials concerned of the Government of Vietnam, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Vietnam in order to discuss a draft outline design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Socialist Republic of Viet Nam for their close cooperation extended to the teams.

March 2008

Masafumi Kuroki  
Vice-President  
Japan International Cooperation Agency

March 2008

## LETTER OF TRANSMITTAL

We are pleased to submit to you the outline design study report on the Project for Empowerment to the Community Damaged by Forest Fire in Ca Mau Province in the Socialist Republic of Viet Nam .

This study was conducted by Yachiyo Engineering Co., Ltd., under a contract to JICA, during the period from July, 2007 to March, 2008 . In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Vietnam and formulated the most appropriate outline design for the project under Japan's Grant Aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

Mitsuhisa Nishikawa  
Project manager,  
Outline design study team on  
the Project for Empowerment to  
the Community Damaged by Forest  
Fire in Ca Mau Province  
Yachiyo Engineering Co., Ltd.

# **SUMMARY**

# SUMMARY

## 1. Outline of the Country

The Socialist Republic of Viet Nam (hereinafter referred to as “Vietnam”) has a population of some 86.4 million (State of World Population 2007) and an area of 329,241 km<sup>2</sup>. The narrow land stretches some 1,650 km in the north-south direction and some 600 km in the east-west direction. Northern Vietnam has four seasons as it belongs to the semi-tropical climate zone while southern Vietnam has distinctive dry and rainy seasons as it belongs to the tropical monsoon zone.

Vietnam is moving towards a market economy while maintaining its socialist political regime and has adopted such concrete targets for economic development as ① consolidation of the industrial base to enable Vietnam to join a league of industrialised countries by 2020 ② an increase of the GDP by at least 2.1 times the 2000 level by 2010 and the achievement of a 7.5% - 8% annual GDP growth rate for the period from 2006 to 2010 and ③ active integration to the international economy by its own initiative. The economic growth rate temporarily fell after 1998 due to the adverse impacts of the Asian currency crisis but has subsequently recovered to the level of an annual growth rate of 6 – 7 %. In 2007, an annual GDP growth rate of 8.5% has been achieved, led by the firm domestic demand and the expansion of exports. The GDP per capita in Vietnam is US\$ 715 (IMF estimate, 2006) and the GDP share by industry is 20% for primary industry, 42% for secondary industry and 38% for tertiary industry (Annual Statistics of Vietnam, 2006).

## 2. Background, History and Outline of the Requested Project

In its 8<sup>th</sup> Five Year Socioeconomic Development Plan (2006 – 2010), the Government of Vietnam has adopted economic development, improvement of the standard of living and the development of infrastructure as the three principal themes and aims at reducing the poverty rate to 10 – 11% (the new poverty line criterion) by 2010. The Mekong River Delta Region which has the largest population of the poor among the eight regions in Vietnam is the third poorest region after the North Mountainous Region and Central Highlands Region. The government of Ca Mau Province (population of 1.22 million in 2005) situated in the southernmost part of the Mekong River Delta Region has formulated the Ca Mau Province Poverty Reduction Programme based on the 8<sup>th</sup> Socioeconomic Development Plan and aims at reducing the proportion of households suffering from hunger and poverty from the present 19.2% to less than 10% by 2010.

The U Minh Ha area of Ca Mau Province has the only large inland forest which accounts for 37% of the entire forest area of the province and forestry tending *Melaleuca* (highly resistant to acid soil) is the most important means of livelihood in the area which is characterised by (i) unfavourable natural

conditions for farming because of the predominance of acid sulphate soil and (ii) restrictions on land use (50% - 70% of the available land must be afforested) for the purpose of forest conservation. Both the U Minh Ha District and the Tran Van Thoi District which make up the U Minh Ha area have a high poverty ratio of 29.5% (2005) for the former and 23.8% (2005) for the latter because of the insufficient development of such infrastructure as roads and medical facilities, etc. to support the lives and livelihoods of local residents in addition to the above-mentioned land use restrictions. These figures are much higher than the corresponding figures for Ca Mau Province (19.2% in 2005) and Vietnam (19.5% in 2004), making the U Minh Ha area the poorest area in Ca Mau Province.

In addition to such social and natural conditions, a large-scale forest fire in March, 2002 destroyed 6,000 ha of forest area along with other types of damage, including the drying of peat soil and damage to farmland. This severe blow to the local economy caused hardship for local residents. To improve the situation, the Government of Vietnam commenced a programme in July, 2002 to rehabilitate former forest fire sites in the area. The objectives of this programme included the reforestation of more than 6,000 ha, improvement of nearby forest areas and improvement of the livelihoods for local residents. However, the smooth progress of this rehabilitation programme was hampered by the high level of the required reforestation techniques, the poverty of the target communities and other reasons.

Under such circumstances, the Government of Vietnam made a request to the Government of Japan in August, 2003 to implement a technical cooperation project aimed at providing technical cooperation for the former forest fire site rehabilitation programme in the U Minh Ha area. In response to this request, the Japan International Cooperation Agency (JICA) conducted the “Forest Fire Rehabilitation Project” as a technical cooperation project (hereinafter referred to as the “Former Technical Cooperation Project”) for a period of three years from February, 2004. Although the usefulness of the agricultural, forestry and fisheries techniques introduced under the pilot project of the Former Technical Cooperation Project were confirmed, these techniques have only partially spread to local farmers because of their impoverished economic situation. To improve the situation, the Government of Vietnam made a request to the Government of Japan for the implementation of the “Project for Empowerment to the Community Damaged by Forest Fire in Ca Mau Province” under Japan’s community empowerment grant aid scheme to improve the standard of living of communities in the target area.

### **3. Outline of the Study Results and Project Contents**

In response to the new request by the Vietnamese side, the Government of Japan decided to conduct an outline design study and the JICA dispatched the First Outline Design Study Team from 8<sup>th</sup> to 27<sup>th</sup> July, 2007 and the Second Outline Design Study team from 16<sup>th</sup> September to 5<sup>th</sup> October to Vietnam. The members of these Study Teams reconfirmed the contents of the request, discussed the likely

contents of the Project, conducted a project site survey and gathered relevant reference materials. On its return to Japan, the Study Team members examined the necessity, likely socioeconomic effects and relevance of the Project based on the field survey results and compiled the examination results in the Draft Outline Design (DOD). The JICA then dispatched a mission to Vietnam to explain the contents of the DOD to the Vietnamese side. Following explanation of and discussions on the DOD, both sides reached a basic agreement on the project contents.

The outline of the Project formulated through the above process is shown in the following table. The Project is expected to contribute to the establishment of a means of income increase for farmers and improvement of the basic social infrastructure in the project area.

#### Outline of the Basic Plan for the Project

Project Component	Item	Description
1. Construction Work	(1) Forest Land Improvement (Embankments)	a. Embankment : 448 ha b. Model farms : 10 ha x 5 sites
	(2) Canal Construction	New canal : 12.9 km
	(3) Road and Bridge Construction	New roads : 31.9 km Bridges : 7 sites
	(4) Forest Fire Monitoring Stations and Towers	12 each
	(5) Community Health Centres	Expansion or rebuilding of 5 community health centres
	(6) Elementary Schools/Toilets	a. 1 new elementary school (10 classrooms and 2 staff rooms) b. Expansion of 4 schools (total of 11 classrooms and 1 staff room)
2. Equipment Procurement	(1) Forest Land Improvement Equipment	a. Excavators and pontoons : 8 each b. Agricultural drainage pumps : 12 sets
	(2) Forest Fire Extinguishing Equipment	a. Fire pump, hose and other accessories: 6 sets b. Radio repeater, antennas and handsets, etc.
	(3) Wood Processing Equipment	Wood dryer and wood processing equipment
	(4) Medical Equipment	a. Medical equipment for 8 community health centres b. Medical equipment for 2 district hospitals c. Generators for medical facilities

Among the items listed above, 1.(1)b (construction of) model farms, 2.(1)b (procurement of) agricultural drainage pumps and 2.(3) (procurement of) wood processing equipment were not included in the original request but were later requested through discussions with the Vietnamese side. As it is judged that these items will be effective for the establishment of a means of increasing the income of farmers through the development of farmland management combining agriculture, forestry and fisheries and the expansion of the scope of use as well as improvement of the market value of forest products (Melaleuca wood), they are now included in the Project.

#### **4. Estimated Project Cost and Construction Period**

The undertakings by the Vietnamese side will be (i) preparation of land for such facilities as forest fire monitoring stations and towers, elementary schools and community health centres, (ii) procurement of furniture and fixtures for staff rooms at elementary schools and (iii) removal of obstructions along the routes for road rehabilitation work. In addition, it will be necessary for the Vietnamese side to set aside a reserve to meet contingency expenses relating to the implementation of the Project. The total of such cost to be borne by the Vietnamese side is estimated to be approx. ¥108 million (14,600 million VND). The construction period, including the detailed design, is estimated to be 24 months.

#### **5. Verification of the Relevance of the Project**

The Project Management Unit (PMU), the implementing body for the Project, will consist of representatives of such subordinate organizations of the Provincial People's Committee (PPC) of Ca Mau as the Department of Agriculture and Rural Development (DARD), Department of Health, Department of Education and Training, Department of Transport, Department of Planning and Investment and Department of Finance, etc. As these departments and others have been conducting the operation and maintenance of facilities and equipment similar to those to be constructed or provided under the Project, no specific problems relating to the operation and maintenance of the new facilities and equipment in the post-project period are anticipated. Moreover, no financial difficulties are anticipated as the financial assistance of the central government will be provided as necessary.

The people benefiting from the Project will be some 125,000 residents in the U Minh Ha area. The implementation of the Project is expected to reduce the number of forest fires, improve the speed of growth of Melaleuca, improve agricultural and forestry techniques and establish a means for increased income through expansion of the scope of use of Melaleuca wood. Moreover, the basic social infrastructure in the area will be much improved through expansion of the road network, improvement of health care facilities and medical equipment and improvement of elementary schools. As the Project is expected to have great positive effects in terms of improvement of the standard of living in the area and improvement of social welfare and other public services, the provision of grant aid for the Project is judged to be both suitable and relevant to the spirit of Japan's grant aid scheme for community empowerment. It will be necessary for the Vietnamese side to conduct the work and activities listed below to ensure the realisation and sustainment of the positive effects of the Project.

- (1) It will be necessary to master forest land improvement (embankment) techniques and construction machinery operating skills and to widely spread the practice of forest land improvement to land of which the right of use is owned by farmers in the U Minh Ha area.



- (2) It will be necessary to convey the techniques to combine agriculture, forestry and fisheries to farmers in the U Minh Ha area, utilizing the model farms to be introduced and the agricultural drainage pumps to be procured under the Project.
- (3) It will be necessary to establish a forest fire prevention and extinguishing system for the effective use of the forest fire monitoring facilities to be constructed and the forest fire extinguishing equipment to be procured under the Project.
- (4) It will be necessary to produce marketable processed Melaleuca wood using the wood processing equipment to be procured under the Project.
- (5) It will be necessary to implement periodic maintenance and preventive maintenance so that the equipment procured and facilities constructed under the Project can be used in good condition.

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