

Country Name	The Project for Afforestation on the Coastal Sandy Area in Southern Central Viet Nam (phase II)
Socialist Republic of Viet Nam	

I. Project Outline

Background	The forest area in Viet Nam substantially reduced due to the long war, urbanization and other reasons. Viet Nam has a long coastline stretching from North to South and the coast in the Southern Central part of the country is lined with a series of sandy areas. Agricultural crops and infrastructure facilities were damaged by strong winds and shifting sand caused by typhoons and monsoons, severely affecting the lives of local residents. To improve the situation, "The Project for Afforestation on the Coastal Sandy Area in Southern Central Viet Nam (PACSA)", a grant aid project of the Government of Japan was implemented in Quang Nam Province and Phu Yen Province. The Government of Viet Nam had since been promoting the creation of coastal protection forests using PACSA as the model. However, as PACSA did not plant trees at difficult planting sites (e.g. wind erosion sites and shifting sand sites) where it required advanced technical capability, many difficult planting sites remained in the Southern Central part of Viet Nam.				
Objectives of the Project	To reduce the damage caused by shifting sand, strong winds, sand movement, etc. to agricultural and fishing villages in the coastal areas of Quang Nam Province and Quang Ngai Province by creating coastal protection forests, and thereby to contribute to creation of coastal protection in coastal areas in Viet Nam using the project as a model.				
Contents of the Project	<ol style="list-style-type: none"> 1. Project Site*: Quang Ngai Province, [Duc Pho District (Pho An Commune, Pho Quang Commune, Pho Vinh Commune, Pho Khanh Commune, Pho Chau Commune)] *Refer to < Special perspectives considered in the ex-post evaluation >. 2. Japanese side: (1) Planting of fine seedlings (414.49ha¹) (old forest areas: 322ha, coastal forest areas: 92.49ha), (2) Tending of the planted trees, (3) Construction of lookout towers, (4) Erection of project information signboards and others 3. Vietnamese side: (1) Preparation of electric power lines and access roads, (2) Financial inputs relating to the maintenance and protection of newly created coastal protection forests and the operation and maintenance of the Project, (3) Patrolling and guarding of the coastal protection forests, primarily by local residents. 				
Ex-Ante Evaluation	2008	E/N Date	(Detailed Design) 20 November, 2008 (Implementation) 6 July, 2009	Completion Date	20 February, 2014
		G/A Date	(Detailed Design) NA (Implementation) 6 July 2009		
Project Cost	E/N Grant Limit: : 526 million yen, Actual Grant Amount: 385 million yen				
Executing Agency	Department of Agriculture and Rural Development (DARD), Quang Ngai Province				
Contracted Agencies	Kokusai Kogyo Co., Ltd., Oji Forest & Products Co.,Ltd.				

II. Result of the Evaluation

< Special perspectives considered in the ex-post evaluation >

- The project scope was revised from basic design stage twice. Originally, the project targeted Binh Dinh Province, Quang Nam Province and Quang Ngai Province. However, Binh Dinh Province was withdrawn from this project during the Implementation Review Study (2008) because of their overlapping with other development projects. After the project was commenced, Quang Nam Province was excluded from the project site in 2011 based on a mutual agreement of the related agencies due to the aforementioned reason. Therefore, this evaluation will focus only on the project site in Quang Ngai Province.
- The ex-ante evaluation sheet was revised in 2008 at the time of the implementation Review Study. Therefore, "the plan" under this evaluation report refers to the plan in the revised ex-ante evaluation sheet.

1 Relevance

<Consistency with the Development Policy of Viet Nam at the time of ex-ante and ex-post evaluation>

This project has been highly consistent with development policy of Viet Nam. At the time of ex-ante evaluation, the Government of Viet Nam was to implement the National Five Million Hectare Reforestation Program (5MHRP) that aimed at the reforestation of 14.3 million ha by 2010. 5MHRP was considered to be a priority program of the Ten Year Socioeconomic Development Strategy (2001–2010), the Eighth Five Year National Development Program (2006–2010) and the Forest Development Strategy 2001–2010. At the time of ex-post evaluation, several important legal documents have been issued specifying the needs of forestry development including the Vietnam Forestry Development 2006-2020.

<Consistency with the Development Needs of Viet Nam at the time of ex-ante and ex-post evaluation>

The project has been also highly relevant with development needs of Viet Nam for afforestation. At the time of ex-ante evaluation,

¹ Planting areas of Quang Nam Province, where it was excluded from project site, was 482.81ha.

questionnaire survey to residents revealed many were suffered from the shifting sand, strong winds sand movement and they required the improvement in the environment. At the time of ex-post evaluation, the project objectives are consistent with the development needs in Quang Ngai Province. Vietnamese side confirmed that the remaining areas were still difficult planting sites.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was also consistent with Japan's ODA policy at the time of ex-ante evaluation as the Country Assistance Program to Viet Nam (2004) prioritized "Environment". It particularly gave priority to forest preservation and afforestation projects.

<Appropriateness of project design/approach>

Originally Quang Nam Province was included as project sites, but excluded from the project. After the project started, it was found that Quang Nam Province was making a tourism development plan which possibly overlapped with the project site. The details of the tourism development were yet to be decided. In that situation, it was clear that it would have taken more time for the selection of alternative site and it would have led to delay in the whole progress of the project not only in Quang Nam but Quang Ngai as well. Considering the serious consequence of delay, the Vietnam side and JICA agreed to exclude Quang Nam Province from the project. After the several discussions among stakeholders including the Embassy of Japan, JICA Vietnam Office, JICA headquarters, contracting agencies, MARD and Quang Nam Province, MARD finally issued an official letter to JICA on February 25, 2011 to request the cancellation of the project implementation in Quang Nam Province. JICA accepted the request on March 23, 2011. The procedure for the scope change was taken appropriately.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Effectiveness>

A certain effect "to reduce the damage caused by shifting sand, strong winds, sand movement, etc. to agricultural and fishing villages in the coastal areas of Quang Ngai Province" was observed.

The project aimed that approximately 80% of the total coastal protection forests with a mean tree height of 1m or more is created one year after the completion of the grant aid (survival rate). At the time of ex-post evaluation², survey of sample areas (1% of the total 414ha of developed forests by the project) reveals that the average survival rate is 48.6%³. The survey team found that the growth of planted trees on the coastal forest areas is better and they show the relatively high survival ratios (57% in average), compared to those of the old forest areas. The planted trees inside the gaps⁴ for the old forest areas show slower growths and low survival ratios (42% in average). It is estimated that this is because (i) lack of sunlight for their growth due to being surrounded by tall trees, (ii) lack of nutrients to grow due to being surrounded by tall trees, and (iii) high temperature and less rainfall during the growing periods.

There is no recorded quantitative data on "ratio of households damaged by the strong wind", "ratio of households damaged by shifting sand" and "area damaged by the strong wind and shifting sand". However, officers of Commune People's Committees (CPC) as well as village leaders think that the number of households damaged by strong wind or shifting sand is declining. They believe that the damages have decreased because project forests grow well and forest cover is high. CPC officers view that the coastal protection forest areas have prevented the shifting sand and strong winds that affect agricultural land areas. Villagers also feel that the damages decrease since some households have planted several crops. However, due to the unavailability of the quantitative data, it is difficult to judge to what extent the targets are achieved.

After the project, people have worked on maintenance and preservation activities of the coastal prevention forests by establishing working groups. The information on working groups for the maintenance of the coastal protection forests in the 5 communes was not reported by DARD and Provincial Project Management Unit (PPMU) in Quang Ngai Province. However, at communal level, the survey team confirmed that working groups were set up in accordance with Commune Decisions and in operation.

<Impact>

At the time of ex-ante evaluation, impacts such as "application of the project as a model of coastal protection in coastal areas in Viet Nam", "increase in employment opportunities for local residents", "creation of new housing land, farmland and fisheries facilities" and "supply of firewood and organic matters", "improvement in productivity of farmland and fisheries facilities" were expected.

So far, the results of the project have not been applied as a model of coastal protection, primality due to the limited budget. There is little evidence of increase in employment opportunities for local residents in accordance with the continued forest maintenance work. No new housing land, farmland and fisheries facilities have been created near the coastal protection forests. On the other hand, DARD fully agreed that firewood and organic materials have been supplied through the continual forest maintenance work at each commune. There are two cases observed; firstly, local people collected leaves and Casuarina⁵ fruits as fuel; and secondly, they also put dry leaves into holes and backfill to provide organic sources for plantation. With respect to the productivity of farmland, DARD stated that the agricultural productivity and crop protection forest have increased since the creation of coastal protection forest as shield can prevent strong wind and shifting sand. In addition, households' income has increased in the communities living in the project area. Respondents (CPC Staff, village's staff and local people) from the four out of five target communes stated that the productivity of the farmland and fisheries facilities near the coastal protection forests been improved.

No negative impacts on natural environment were observed and no land acquisition occurred under this project.

<Evaluation Result>

In light of the above, a certain effect of the project has been observed qualitatively through interviews. However, the average survival rate of planting area was lower than the target value, and it is difficult to judge to what extent the targets are achieved due to the unavailability of the quantitative data. Therefore, the effectiveness/impact of the project is fair.

² For this evaluation, field survey was conducted in April 2016 for (i) Data collection from MARD and DARD, (ii) community meetings at 5 communes, and (iii) line sampling survey at plantation sites.

³ A weighted average by the planting area of old forest and coastal forest.

⁴ In Old Forest, the project planted trees in gaps where some planted trees had died.

⁵ Casuarinas are widely planted as coastal windbreak and utilized as fuel.

Quantitative Effects

	Before project 2006	Target figure at target year (5 years after implementation)	Actual Figure at project completion (2014)	Actual Figure (2015)	Actual Figure at the year of Ex-post evaluation (2016)
Indicator 1: Coastal protection forests with a mean tree height of 1 m or more (Quang Nam and Quang Ngai Province)	0	700ha (Quang Ngai Province:320ha) (Approximately 80% of the target area)	n.a.	n.a.	n.a. (48.6%)*
Indicator 2 The ratio of households damaged by the strong wind	88.0%	25.0% (Decrease by 70%)	n.a.	n.a.	n.a.
Indicator 3: The ratio of local households damaged by the shifting sand	59.6%	17.8% (Decrease by 70%)	n.a.	n.a.	n.a.
Indicator 4; The area damaged by the strong wind and shifting sand (Quang Nam and Quang Ngai Province)	8,689ha	2,607ha (Decrease by 70%)	n.a.	n.a.	n.a.

Source : JICA internal documents

* The results of the sample survey conducted at 10.49ha out of 414ha (1% of the planted area in Quang Ngai Province)

3 Efficiency

Both the project cost and project period were within the plan (ratio against the plan: 73%, 97%).. The project cost decreased partly because of the change of the scope. Assuming that the planned project cost for Quang Ngai Province to be 215 million yen by applying the ratio of the project sites of Quang Nam and Quang Ngai Province (59%, 41%) to the planned amount, the project cost had exceeded the plan (ratio against the plan:179%). It could be said that the increase in project cost was not reasonable considering the change of scope. Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

Operation and Maintenance (O&M) of the coastal protection forests is carried out by DARD, Quang Ngai Province with the support and guidance by the Ministry of Agriculture and Rural Development (MARD). There is a clear demarcation between DARD and MARD. MARD commands and sends plans of the management and protection of the entire area of coastal protection forest to DARD, while DARD directly commands the management and protection of the coastal protection forest to Duc Pho District and CPCs of the 5 target communes. An institutional arrangement for local people to participate in the O&M of the coastal protection forests was established. The working groups have been established in all the five communes, in accordance with the Commune Decisions, and the working tasks have been settled. However, information on working groups for the maintenance of the coastal protection forests in the 5 communes was not reported by DARD and PPMU in Quang Ngai Province. DARD and PPMU were not aware of the existence of working groups at the time of ex-post evaluation. The number of staff allocated for forestry in DARD Quang Ngai is 5, which is sufficient according to the DARD.

<Technical Aspect>

MARD has sufficient technical capacity to undertake maintenance of the coastal protection forests because they have technical staff/officers who are trained annually and guided by technical manuals. DARD has technical capability at the moment to train courses on forest maintenance, protection, controlling and preventing forest fire and actually CPC officials take part in the training. At commune level, CPC officials, village staff and working groups in communes think they are capable for controlling and preventing forest fire and regular forest management. However, in some communes, they think they still lack skills and need training for strengthening their skills. On the part of local people, very few working groups received the training mainly due to lack of funds.

<Financial Aspect>

Clear data on forestry related budget were not obtained. DARD Quang Ngai thinks that sufficient budget is spent on maintenance activities of coastal protection forests. However, the DARD does not have budget to apply the model.

<Current Status of Operation and Maintenance>

According to interviews with CPC staff and working groups, it is found that the working group at each commune has carried out basic O&M activities such as (i) participating in controlling forest fire; (ii) thinning, forest protection and maintenance, no falling down young plantation; (iii) patrolling, collecting wastes in the coastal protection forest; clearing vegetation which could cause fire; (iv) encouraging local residents participating in forest protection; (v) regular checking forest areas and forest management; (vi) making a record of handling of administrative violation cases in relation to the coastal protection forest; and (vii) frequent prevention measures for forest disease. Annually, agricultural division at district level guides controlling and preventing forest fire for villagers; sensitization for the villages on forest protection and maintenance.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the executing agency. Therefore, the sustainability of the project effect is fair.

5 Summary of the Evaluation

A certain effect "to reduce the damage caused by shifting sand, strong winds, sand movement, etc. to agricultural and fishing villages in the coastal areas of Quang Ngai Province" was observed. The average survival rate of the coastal protection forests is 48.6% which is lower than the expected 80%. Although there is no recorded quantitative data, CPC officers and village leaders think that the number of households damaged by strong wind or shifting sand has decreased. There are some positive impacts such as "supply of firewood and organic matters" and "improvement in productivity of farmland and fisheries facilities". As for sustainability, some problems have been

observed in terms of institutional, technical and financial aspects. As to efficiency, project cost exceeded the plan. Considering all of the above points, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Lessons learned for JICA:

1. Utilization of local resources for maintenance and protection: Quang Ngai DARD assisted the target communes in the organization of commune working groups responsible for maintenance and protection of seedlings planted in the respective communes. The working groups have been well engaged in protection and maintenance of plantations even with limited financial support. Formation of a commune/village level group for maintenance and protection of seedlings in the post-project period contributed to the enhancement of sustainability of the project.
2. Because of the micro-climatic conditions in the gaps surrounded by tall trees in the Old Forest areas, growths and survival of the planted trees inside gaps depend on the locations of inside gaps. Especially, in some relatively small gaps, it was difficult for the Casuarina seedlings to grow well and survive, due to lack of sunlight, and nutrients. Therefore, in order for the effective planting inside gaps, it is recommended that not only Casuarina trees but also other tree species, such as shading trees, should be planted in the gaps.
3. At the field survey, it was difficult for the survey team to check the survival and growth conditions of the planted trees in the gaps surrounded by the old existing Casuarina trees. This may be because of 1) difficulties to identify the gaps themselves in the forests, 2) difficulties to estimate the numbers of trees planted inside each gap during the project implementation, even though there are some records of plantation, prepared by the contractor and/or supervisor.

In order to ensure better monitoring of the planted trees inside gaps continuously at the time of project implementation and after the completion of the project, it is recommended that the locations and sizes of all gaps should be recorded using GPS (and the numbers of seedlings to be planted would be calculated) from the stage of project implementation, so that it would be easy to monitor the planted trees inside the gaps in the Old Forest area.



Coastal forest: Newly planted forest with height more than 5m.



Coastal forest:

Overview of the planted forest from the top of the look-out tower