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REPORT OF COMPLETED PROJECTS AND PRE-PROJECTS

This document highlights the work carried out under project PD 600/11 Rev.1 (I) of the Committee on Forest Industry. The Committees may declare this project complete:

Committee on Forest Industry

1. PD 600/11 Rev.1 (I) Model Capacity Building for Efficient and Sustainable Utilization of Bamboo Resources in Indonesia

Budget and Sources of Funding:

Total Budget:	US\$	872,032
Government of Japan:	US\$	287,095
Government of Switzerland:	US\$	150,000
Government of Australia:	US\$	100,000
Government of Indonesia:	US\$	334,937

Executing Agency: Directorate General of Watershed Management and Social Forestry (DGWMSF), Ministry of Forestry in collaboration with Bangli District Forestry Agency (BDFA)

Approved: Spring Project Cycle, May 2011

Financed: Forty-seventh Council Session (La Antigua, 2011)

Starting Date: November 2013

Duration: Planned: 36 months
Actual: 43 months

The project aimed at initiating the enhancement of national capacity in bamboo industry development through the development of model capacity building in Bali. The overall development objective of the project was to improve the management utilization of bamboo resources for their sustainable use and benefits to local communities, while the specific objectives was to initiate enhancement of capacity among stakeholders to develop and utilize bamboo resources in an efficient and sustainable manner.

The planned outputs of the project were: i) investment in bamboo industry promoted; ii) institutional framework for bamboo industry development enhanced; and iii) participation of local communities in bamboo industry development increased. The basic notion underlying the project design was that increased rate of utilization of bamboo resource should increase availability of substitutes for wood products and augment income of the poor thus lessening pressure on forest resources and that increased utilization can only be achieved and sustained through enhanced capacity in both bamboo resource-based development and in efficient utilization of the resource.

The main location for implementing the project's activities was Bangli District, Bali and Ngada District, East Nusa Tenggara. In undertaking the activity on national campaign on development of 1000 Bamboo Villages, other provinces were visited, e.g. South Sulawesi, Gorontalo, South Kalimantan and East Kalimantan. Ngada District had officially declared as the model for the bamboo villages development in Indonesia.

As of the date of this report, the project had completed all of its activities and all of the outputs have been achieved. The following are the highlights of the project's achievements:

Output 1: Investment in bamboo industry promoted

Activity 1.1 Collect, publish and disseminate reliable information on Bali's bamboo growing stock

The survey revealed the distribution of bamboo populations mostly found Bangli, Gianyar and Buleleng Districts. This activity also produced indication map of bamboo distribution in the whole island of Bali Province and a more detail map of bamboo distribution in Bangli District.

Activity 1.2 Collect, publish and disseminate updated information on market demand for bamboo products and processing technologies

The activity collected actual information on market for bamboo products focusing on large and emerging markets from primary and secondary sources, as well as recommendations for enhancing local bamboo industry and strengthening the market opportunity of bamboo products. Strategies for bamboo industry development in Indonesia were formulated by taking into account three main factors, namely: 1) main potential market-based trading bamboo products since 2010; 2) availability of processing technology; and 3) availability of domestic raw materials.

Activity 1.3 Conduct feasibility study on bamboo development project in Bali

Feasibility study was conducted to determine the viability of bamboo industry development in Bangli District, Bali. Bamboo industry was considered consists of four business units, namely bamboo cultivation which is limited to species of bambu petung (*Dendrocalamus asper*) and bambu tali (*Gigantochloa atter*), laminated bamboo processing business, bamboo handicraft business with sokasi product (bamboo woven box), and bamboo shoots processing as the food source. The analysis undertook from five aspects: market and marketing aspect, technical and technological aspect, ecological and environmental aspect, socio-cultural-institutional aspect, and financial aspect.

Activity 1.4 Assess adequacy of economic infrastructure and discuss findings with Bali governments

The aim of this study were (1) to identify the needs of the economic infrastructure for the development of the bamboo industry; (2) to assess adequacy of the current condition of the economic infrastructure; and (3) to analyze the policy implications related to the economics infrastructure to support the development of bamboo industry in Bali. The economic infrastructures assessed in this study were the telecommunication and information infrastructure, road and transport infrastructure, banking infrastructure, market infrastructure, and (electrical energy infrastructure).

Activity 1.5 Organize one national workshop on bamboo industry development

In cooperation with the Ministry of Industry, the workshop was held in Yogyakarta with the aim at establishing cooperation between upstream sector and downstream sector of bamboo industry development.

Output 2 Institutional framework enhanced

Activity 2.1. Identify and officially designate zone area for bamboo industry development in Bali

This activity conducted to determined official designation of land area in Bangli District for bamboo industry development. It was found that around 38% area of Bangli District area are prospective locations for bamboo industry development. There were also 42 villages from 72 villages in Bangli District suitable for bamboo industry development.

Activity 2.2. Install and operate a publicly accessible bamboo information system

The web database bamboo was launched in September 2014 and be maintained continuously by the Executing Agency. The database could be accessed at <http://www.forda-mof.org/itto/> and <http://apps.alus.co/app.seribudesabambu/>.

Activity 2.3. Establish a stakeholder consultation forum for bamboo industry development

This activity carried out directly under coordination of project coordinator in conjunction with the implementation of Activity 2.5. The purpose of this activity was to build a common vision in each region in developing bamboo industry in accordance with the conditions and potential resources existed in each of areas. The national consultation forum was initiated and a permanent consultation forum was established in East Nusa Tenggara Province.

Activity 2.4. Review existing policies and define bamboo management regime to guide the conduct of efficient bamboo resource development and utilization

Two policy briefs plus a draft of National Strategy on Bamboo Industry Development were produced and submitted to the Ministry of Environment and Forestry.

Activity 2.5. Launch national campaign to promote bamboo industry development

The National campaign on "1000 Villages Bamboo Development" was undertaken to promote the development of bamboo industry based through different media tools e.g. television, printed materials, video and social medias. The activity disseminated information on bamboo resources and their development nationwide and international wide.

Output 3 Participation of local communities in bamboo industry development increased

Activity 3.1. Allocate 6 Ha of natural bamboo forest in 4 sites as demonstration plots of silviculture techniques

Bamboo clumps management was developed and applied in demonstration plots in Bangli District, Bali Province plus in bamboo forests in Ngada District, East Nusa Tenggara. In Bangli District, *Gigantocloa atter* or *bambu tali* species was grown for woven handicraft. During three years observation it was found that the planted bamboo clumps produced more shoots and improved its productivity. In Ngada District, *Dendrocalamus asper* or *bamboo petung* species was grown for construction and strand woven bamboo.

Activity 3.2. Establish 12 Ha of demonstration plantation of 4 bamboo species having high commercial value in 4 sites under different treatments

In collaboration with local farmer, 2000 bamboo seedlings of have high economic value were planted in Kintamani area.

Activity 3.3. Identify and develop appropriate technologies for producing quality planting materials to support bamboo plantation development

Activities undertaken under this activity was to produce bamboo seeding techniques that can be done by the community. This activity also produced a guide book for making bamboo seeds for community, conducted a bamboo breeding demonstration plot with a cocoon system in Ngada District. Bamboo nursery with a cocoon system aimed to obtain bamboo seedlings that have a high growth possibility when planted in the field and shorten the harvest schedule.

Activity 3.4. Identify appropriate bamboo processing technologies for a small-scale processing plant

This activity conducted related with activity 3.5, where through activity 3.4 has been conducted study and assessment about bamboo processing industry that is suitable for community which become project target. The study has made recommendations that the appropriate type of industry for the community in Bangli Regency was the processing of incense sticks.

Activity 3.5. Procure and install selected technologies, and operate the processing plant

The bamboo processing machines procured and delivered to farmer groups in Bali were: cutting machine, splitter blade, slicing machine, shaving machine, stick cutting machine, stick polish machine, knife sharpener machine, and incense making machine. A bamboo smoke preservation installation was established in Ngada District. This installation built to help community preserved their half-finished bamboo products as part of supply chain of bamboo industry to bigger industry.

Activity 3.6. Conduct a series of training on production of planting materials, plantation establishment, natural bamboo management techniques and efficient processing techniques

Series of nine of trainings had been conducted during the periods of 2014 – 2017. The training covered different aspects, such as propagule of planting materials, silviculture techniques on bamboo clump management, bamboo cocoon nursery, processing, handy-craft design, business plan development and community institutional strengthened. The conducted training successfully trained 300 participants from 10 provinces.

Activity 3.7. Publish and disseminate technical manuals on natural bamboo management, production of quality planting materials, establishment of bamboo plantation and efficient processing techniques

The project produced several books, guidelines, booklets, flyers and brochures that were widely disseminated to the bamboo development stakeholders.

Activity 3.8. Establish 2 Community Small Enterprises or cooperatives on bamboo business to be run by local communities using revolving funds from GOI

There were three group of CSE in Bangli District established and assisted by the project to produce incense stick bamboo. The chosen type of industry was based on recommendations of the study conducted under Activity 3.4.

Activity 3.9. Organize a national workshop on dissemination of project results nation wide

A workshop on dissemination of project's results had been conducted in July 2017 in Denpasar, Bali, attended by more than 60 participants representing the bamboo development stakeholders.

As for the exit strategy, the following plans have been identified:

- 1) Continuing activities of the national campaign on bamboo utilization and industry in Indonesia through "a thousand bamboo village program" supported by other parties and stakeholders;
- 2) Maintaining established networking on bamboo development and bamboo industry with several institutions/organizations in Indonesia and some international organizations, such as such as International Network for Bamboo and Rattan (INBAR), China Bamboo Research Center (CBRC), World Bamboo Organization (WBO) and World Bamboo Society (WBC); and
- 3) Developing a new project proposal with new donors to evolve the results of the ITTO Project PD 600/11 Rev. 1 (I).

The project was effectively executed in relation to budget resources allocation and has successfully fulfilled all required outputs. The Executing Agency has satisfactorily submitted the completion report and a final financial audit report. The Committee may wish to declare the project duly complete.

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