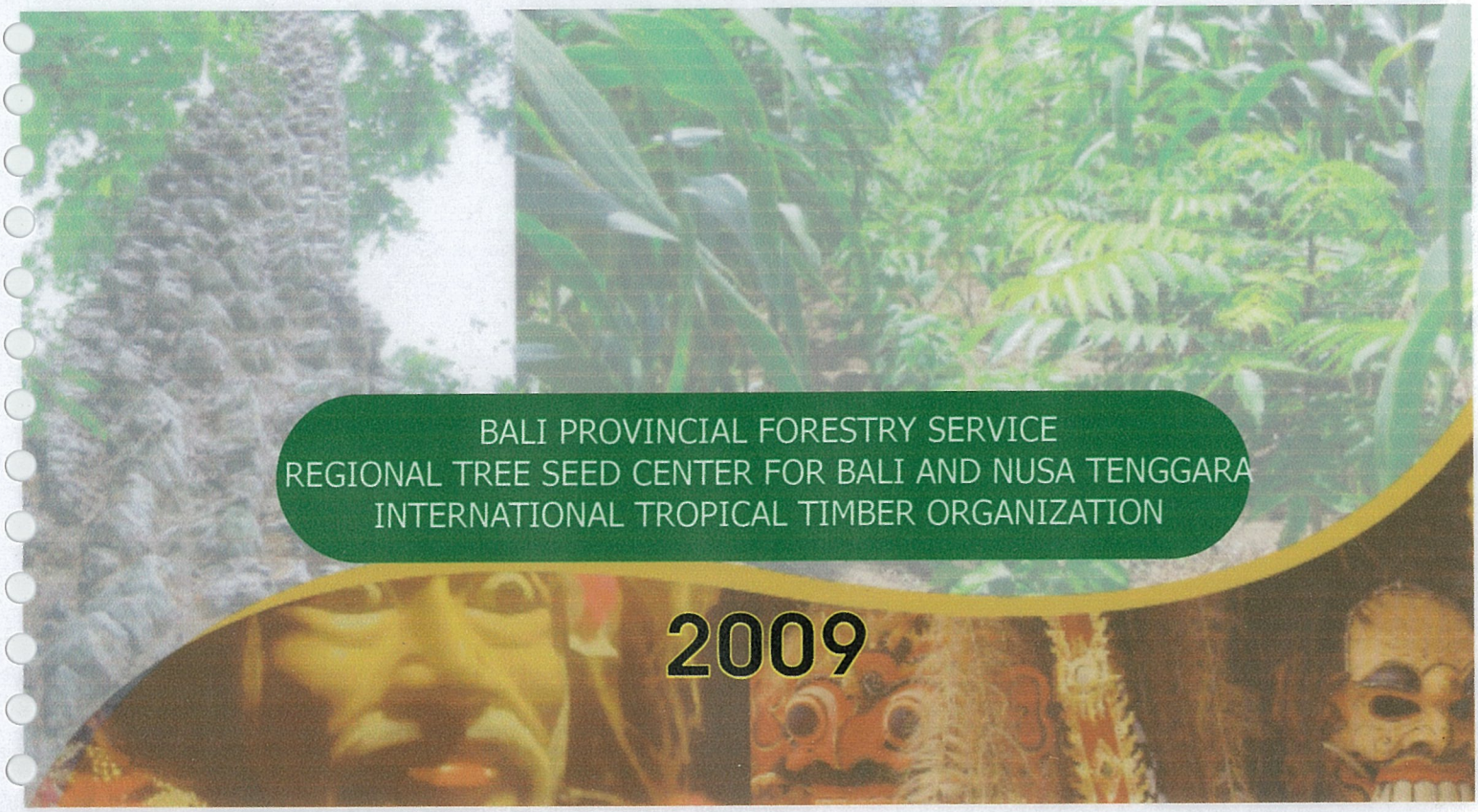
ITTO PD 386/05 Rev.1 (F)

TECHNOLOGICAL DEVELOPMENT FOR THE PRODUCTION OF PLANTING MATERIALS TO SUPPORT SUSTAINABLE PLANTATION OF BALI INDIGENOUS SPECIES THROUGH COMMUNITY PARTICIPATION

REPORTING ACTIVITY 7.4.4 ORGANIZE TRAINING FOR FARMER LEADERS AND IN-COUNTRY STUDY TOUR

PREPARED BY:
PROJECT EXECUTING TEAM



BALI PROVINCIAL FORESTRY SERVICE
REGIONAL TREE SEED CENTER FOR BALI AND NUSA TENGGARA
INTERNATIONAL TROPICAL TIMBER ORGANIZATION

2009

Reporting
Activity 7.4.4. Organize training for farmer leaders and in-country study tour

Project Executing Team ITTO PD 386/05 Rev.1(F)

Bali Provincial Forestry Service and
Regional Tree Seed Center for Bali and Nusa Tenggara and
International Tropical Timber Organization
2009

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SUMMARY

In order to increase community economy through supports on sustainability of wood sulpture and handicrafts in Bali as well as the improvement of the environment, the Government of Bali Province c.q. Bali Provincial Forestry Service in the collaboration with the Tree Seed Center for Bali and Nusa Tenggara as well as the International Tropical Timber Organisation (ITTO) have been trying to conserv six Bali wood species since 2003. The six Bali indigenous forest tree species such as panggal buaya (*Xanthoxyllum rhetsa*), sawo kecik (*Manilkara kauki*), pulai (*Alstonia scholaris*), bentawas (*Writingia pubescen*), majegau (*Dysoxylum densiflorum*) and putat (*Planchonia* sp.) have been classified as endangered species due to increasing difficulty in obtaining the woods of those species.

The activities to grow and develop the six Bali indigenous forest tree species in agroforstry system on farmer lands has been started since 2006, beginning with the selection of seed sources and growing the seedlings of those species. Socializaton and application of developed agroforestry models in Bali to all farmer community in Bali have also been commenced and at the end of 2007 the program was expected to be adopted in six districts i.e Tabanan, Jembrana, Buleleng, Bangli, Karangasem dan Klungkung.

The socialization and application activities of agroforestry models in Bali were also enhanced through training and comparative study in aspect of agroforestry model for the farmer group leaders in forest areas to the other places. The training was divided to be 3 phase (year 2007,2008, and 2009) , while the comparative study was conducted at Gunung Kidul, Yogyakarta; Banyuwangi, East Java; and Magelang, Central Java respectively. Total amount of 90 participants comprising farmer leaders and extension officer from 6 districts across Bali involved in the activity.

The activities was succssesfull in accordance with the objectives of the program. The participants were active and participated seriously in the training, as indicated by serious discussion and number of questions they asked. In comparative study, the participants observed the progress and agroforestry pactise done by the member of visited farmer group. Farmer group leaders, the participants of training and comparative study, indicated that the activities will be beneficial for agroforestry activities in their groups. They will implement what they obtain during the training and comparative study in their groups and in their villages.

1. INTRODUCTION

1.1. Back Ground

The sculpture an other wood handicrafts industry in Bali is one of unique industry and famous in Indonesia, Asia and even in the world. In order to support this industry sustainably, huge wood materials with good quality is needed. Meanwhile, certain woods such as Bali indigenous woods in particular, are decreasingly few in number so it will not be able to supply the increasing demands for the sculpture, wood handicrafts and materials for construction in Bali.

To meet the demand of 220 units wood processing and around 2400 unit wood sculptures the volume of 136796 m^3/year is needed however only 5304 m^3 were available.

The amount of woods derived from community woods (2588 m^3), forest (196 m^3), coconut tree (2520 m^3) in Bali and the rests were come from outside Bali.

Production forest in Bali covers 8626.36 ha, consists of forest (6554.06 ha) with the main tree was teak woods, sono keling and sawo kecik. Among Bali indigenous forest tree species, six species of panggal buaya (*Xanthoxyllum rhetsa*), sawo kecik (*Manilkara kauki*), pulai (*Alstonia scholaris*), bentawas (*Writingia pubescen*), majegau (*Dysoxylum densiflorum*) and putat (*Planchonia* sp.) have been classified endangered.

In order to increase community economy through supports on sustainability of wood sculpture and handicrafts in Bali as well as the improvement of the environment, the Government of Bali Province c.q. Bali Provincial Forestry Service in the collaboration with the Tree Seed Center for Bali and Nusa Tenggara as well as the International Tropical Timber Organisation (ITTO) have been trying to conserv six Bali wood species since 2003. The six Bali indigenous forest tree species such as panggal buaya (*Xanthoxyllum rhetsa*), sawo kecik (*Manilkara kauki*), pulai (*Alstonia scholaris*), bentawas (*Writingia pubescen*), majegau (*Dysoxylum densiflorum*) and putat (*Planchonia* sp.) have been classified as endangered species due to increasing difficulty in obtaining the woods of those species.

The activities to grow and develop those species in agrofoestry system in farmer's owned lands have been started since year 2006 by defining the sources for seedlings and producing seedlings of each species. The activities for socializing and

adopting the developed model of agroforestry have also been started and by the end of year 2007 the model is expected to be adopted by farmers in six distrcts (Karangasem, Buleleng, Bangli, Klungkung, Tabanan and Jembrana) in Bali.

1.2 Agroforestry and Conservation of Bali Indigenous Forest Tree Species

Agroforestry activity is the use of land inside as well as out side production forest areas (on community owned land) by growing forest tree species combined with annual, horticulture as well as industrial crops. Agroforestry has proven to be beneficial economically, socially and ecologically. In Bali, the practise of agroforestry on community owned lands has been done since along time ago with traditional model in line with farmer preferences. Growing forest tree spesies is limited due to insufficient knowledge of its benefits

Six species of Bali indigenous forest tree species namely panggal buaya (*Xanthoxyllum rhetsa*), sawo kecik (*Manilkara kauki*), pulai (*Alstonia scholaris*), bentawas (*Writingia pubescen*), majegau (*Dysoxylum densiflorum*) and putat (*Planchonia* sp.) has been classifed endangered due to increasing difficulty in obtaining the woods of those species.

The activities to grow and develop the six Bali indigenous forest tree species in agroforstry system on farmer lands has been started since 2006, beginning with the selection of seed sources and growing the seedlings of those species. Socializaton and application of developed agroforestry models in Bali to all farmer community in Bali have also been commenced and at the end of 2007 the program was expected to be adopted in six districts i.e Tabanan, Jembrana, Buleleng, Bangli, Karangasem dan Klungkung.

The socialization and application activities of agroforestry models in Bali were also enhanced through training and comparative study in aspect of agroforestry model for the farmer group leaders in forest areas to the other places. The training was held on 3rd of April 2007 in Denpasar, while the comparative study was conducted on 4th of April 2007 at the farmer group in Gunung Kidul,Yogyakarta. Both activities involved 30 participants come from farmer groups and staffs of District and Bali Provincial Forestry Services.

2. MAIN TEXT

Activity of the training and comparative study for farmer leaders was divided into 3 session and conducting one time per year. The detail of the activity per session are described as follows:

2.1 The first training and comparative study

2.1.1 The Opening Ceremony of the Training and Comparative Study

The first year of the activity was conducted on year 2007. The activities were officially opened on 3rd April 2007 at the auditorium of Mangrove Information Center by the Head of Bali Provincial Forestry Service. The official ceremony was held from 09.00 until 10.30 Wita (Centre Indonesian Time) and was attended by invited guess representing senior staff of Bali Provincial Forestry Service, head of Regional Tree Seed Center for Bali and Nusa Tenggara, head of Mangrove Information Center, and BPDAS Unda Anyar and all training participants. The participants of the training was farmer leaders and extension officer from 6 districts across Bali, namely Tabanan, Jembrana, Buleleng, Bangli, Karangasem, and Klungkung.

Figure 1. Opening ceremony of the first training

2.1.2. Agroforestry Training

The training was done using the lecture and discussion method with giving more time on discussion. The training was given for four hours (from11.00 until15.00 Wita). The lecture consisted the topics covering:

Agroforestry System

Agroforestry is a system to use land more efficiently by growing forest trees and/or other vegetation on all land available for the purpose, in and outside traditional forest areas. and managing the existing forest with intimate involvement of the people and more or less integrated with other operations, resulting in balanced and complementary land use with a view to provide a wide range of goods and services to the individuals as well as to the society.

There are various terminologies for Agroforestry in Indonesia such as Tani Terpadu, Kebun Campur or Wana Tani. Farmers in Bali, Indonesia even in Asia have been practicing Agroforestry for long time.

Factors incouraging Agroforestry :

1. The tradition of growing mixed trees and crops among farmers such as growing forest trees along with food crops, forages, industrial and other crops.
2. To avoid forest devastation.
3. To increase people prosperity through growing mixed forest trees and crops.

Objective of Agroforestry:

1. To increase people prosperity
2. To eficiently use and to conserve natural resources

Benefit of Agroforestry:

1. Social-Economy Aspects:
   a. opportunity for increasing farmer incomes
   b. variation of goods and services
   c. potential in increasing nutrition for people
   d. minimizing risks of harvest failures due to growing various trees and crops.

2. Ecological Aspects:
   a. optimalization of land use
   b. minimizing erosion due to growing various trees and crops, resulting in maintaining land productivity and maximum use of sunlight energy.

Agroforestry System in Indonesia can be categorized into two main catagories:

1. Simple system: is conventional combination consists of a number of components, which is commonly mentioned as tumpangsari system. Usually the combination is narrowing into one kind of tree which has economic and ecological values and annual food and second crops which have economic values.
2. Complex System (*agroforest*): is a system consists of a number of trees, shrubs, annual crops and or grass. Physical and dynamical feature in the system is similar to the primary and secondary forest ecosystem. Agroforestry complex system is agroforest orchards built on lands that previously cleared up and are grown with various tree, shrub and herb species.

2.1.3. Study Tour from Bali to Yogyakarta

The participants with total amount of 30 person departed from the Mangrove InformationCenter on the 3rd April 2007 at 16.00 Wita using one Bus (White House), travelled for eighteen hours and finally arrived at Yogyakarta at 10.00 Wib.

Figure 2. The participants on the way to Yogyakarta by bus

2.1.4. Activities in Yogyakarta

1. Visited the Office of Yogyakarta Provincial Forestry Service (4 April 2007, at 11.00 to 12.00 Wib).
2. Visited Gunung Kidul Regency (4 April 2007, at 12.00 to 18.00 Wib).

All participants visited Agroforestry activities at Gunung Kidul led by staff of Yogyakarta Provincial Forestry Service. Gunung Kidul extremely changed into greeny areas due to the success of agroforestry activities which makes the district as never been a dry land area before in the period of 1977 to 1990. The participants were amazed to see the success of rehabilitation of marginal lands in that area. Teak woods grown intercropped with second crops on the lands owned by community.

Figure 3. The activities of comparative study in Gunung Kidul, Yogyakarta

At the beginning the community did not pay much attention to the activities of agroforestry. However, continuous extension and training given by the staff of Gunung Kidul District Forestry Service to the farmers and community leaders made the community motivated to do the activities. Farmers were given free teak wood seedlings by the local government since 1977. The success of growing teak woods and finally increased their incomes consequently made the other communities in the areas followed the way. At present, most of the teak woods in the areas were grown from the seedlings produced by the community.

Along with community leaders, local government through the forest extension staffs continually supervise farmers and other community members on techniques of land cultivation, plant husbandry and wood marketing. Each group of farmers has cooperative business with name of "Koperasi Wana Manunggal Lestari", which have the duty to function the rule of cutting the teak wood owned by the member. The teak wood can only be cut if it has diameter of 30 cm and consequently five seedlings has to planted as replacement of one wood cutting. If, with one reason the wood has to be

cut before it has 30 cm diameter and the farmer need to sell the wood, the cooperative business will buy the wood and wait until it meet the criteria for cutting.

Certificate for Community Based Forest Management No. 824.111.06003 was issued by TUV Rheinland Group on 19 September 2006 to the cooperative business "Wana Manunggal Lestari" due to the success of the business in developing community forest with focussing on production, social and ecology aspects. The activities were assessed by Indonesian Ecolabel Institution (LEI). Legitimating for community owned wood cutting issues by Head of the village (Lurah/Kepala Desa) based on field observation by staff of the village office.

3. Visited Keraton Yogyakarta and Candi Prambanan (5 April 2007, at 9.00 to 12.00 Wib). Participants visited Keraton Yogyakarta before leaving Yogyakarta and visited Candi Prambanan on the way back to Denpasar Bali as reward for the participants who have good participated in this activity.

2.1.5 Closing Ceremony of the Training and Comparative Study

The training and the comparative study program was officially closed at Candi Prambanan on 5 April 2007 at 12.00-13.00 Wib. Speech given by the organizing committee asking for all participants to practice the theory and skills adopted from the training at their own village in order to support government collaborative program with ITTO. Certificates for participation in the training were given to all participants and all activities were ended with travelling back to Bali.

Figure 4. The participants gathering together in closing ceremony

2.2. The second training and comparative study

2.2.1 The Opening Ceremony of the Training and Comparative Study

This activity was divided into 2 phase comprising one day training in class and two days comparative study to Banyuwangi, East Java. The activities were officially opened on 27th March 2008 at the meeting room of Bali Provincial Forestry Service by the Head of Bali Provincial Forestry Service. The official ceremony was held from 09.00 until 10.00 Wita (Centre Indonesian Time) and was attended by invited guess representing senior staff of Bali Provincial Forestry Service, head of Regional Tree Seed Center for Bali and Nusa Tenggara, head of BPDAS Unda Anyar and all training participants. Total amount of participants was 30 comprising related farmer leaders and extension officer from 6 districts across Bali. The participants that joined in the activity of second year were different with participants in this activity of the first year.



Figure 5. Opening ceremony on the second training and comparative study

2.2.2. Study Tour from Bali to Banyuwangi

The training was given to the participants in class as writing in 2.1.2 mentioned above. After have been done with training the participants departed from the Bali Provincial Forestry Service on the 27th March 2008 at 15.00 Wita using one Bus, travelled for five hours and finally arrived at Banyuwangi at 20.00 Wib. Trip was continued to Blambangan temple in Banyuwangi regency to give opportunities to the participants to do religion activities at the temple. The participants then continued the journey to Mandara Giri temple at the footstep of Semeru Mountain in Lumajang district, in which they spent some time to pray and finally rested at the village of Sinduro. The next day on 28th March 2008, the participants departed from Lumajang to the village of Banyusari, sub-district of Rogojampi, Banyuwangi regency.

2.2.3. Comparative Study in Banyuwangi, East Java

All participants and the team of the training activities arrived at the farmer group of Lembaga Masyarakat Desa Hutan (LMDH) Kidang Keling at 11.00 local time and welcomed by the head of the group and the head and staffs of *Perum Perhutani*. Before visiting and observing the agroforestry activities in the field, the participants had given the explanation about history and agroforestry activities at the group.

It was explained that forests in Gumitir Mountain area were still as natural forest. In production forest areas managed by *Perum Perhutani*, jati (*Textona grandis*) which has high economic value is the main species grown. The other forest plant species are pines and *damar*. The plant spacing is 3 m x 2 m, with agricultural crops intercropped between the stands. Incomes of *Perum Perhutani* were derived from *getah damar* (named *Kopal*), getah piles (*gondo rukun* and tir), and woods. Harvesting the woods has to have permission from the head of regency and replanting should be done after each harvest. In managing the land, *Perum Perhutani* always involves the community. About 23 villages surrounding the area, included LMDH Kidang Keling, have been involved by *Perum Perhutani* in the management of 44000 ha of land.

LMDH Kidang Keling was started in 1999, beginning with the form of Koperasi Masyarakat Desa Hutan under legal act and with sharing agreement system. This system was meant to build the sense of belonging in maintaining the forests among the community. LMDH Kidang Keling received 25% of harvested woods and 75% of harvested agribusiness crops such as Vanilla. In a period of time, the community were allowed to grow second crops at those lands. The other crops, particularly those of five years of age, such as *lidah buaya* (aloe vera), *nilam* and *porang*, were allowed to grow as well.

Around 625 ha of lands, managed by the group (LMDH), were divided into plots each of which was managed by each member of the village of Banyusari. Agribusiness crops were planted in between the wood according to the stands. For two year old stands, *nilam* or *jarak pagar* were intercropped between the stands. In the protected forest areas, cemplongan system (zero tillage) was applied.

The agroforestry activities in the group (LMDH) of Kidang Keling were considered successful with the sharing system on woods and other agribusiness crops.

In the year of 2006, the system gave Rp. 5.000.000 (five millions) and Rp. 11.000.000 (eleven millions) from getah and woods. Although marketing for lidah buaya is still uncertained, the processing of lidah buaya fresh products to powder form has been started.

Figure 6. Field visit on Kidang Keling farmer group at Banyusari, Banyuwangi

After visiting and observing the agroforestry in the field (production forest area) at 15.00 Wib, all participants left the village of Banyusari, Rogojampi, Banyuwangi to Denpasar.

2.2.4 Closing Ceremony of the Training and Comparative Study

The training and the comparative study program was officially closed at the area of Ketapang bay on 28th March 2008 at 16.00 WIB. Speech given by the organizing committee asking for all participants to practice the theory and skills adopted from the training at their own village in order to support government collaborative program with ITTO. Certificates for participation in the training were given to all participants and all activities were ended by travelling back to Bali.

Figure 7. The participants gathering together in closing ceremony

2.3. The third training and comparative study

2.3.1 The Opening Ceremony of the Training and Comparative Study

The last training and comparative study for farmer leaders was conducted on February 2009 involving 30 participants comprising farmer leaders and extension officer that have no joined yet in the previous training. The activities were officially opened on 24th February 2009 at the meeting room of Bali Provincial Forestry Service by the Head of Bali Provincial Forestry Service. The official ceremony was held from 09.00 until 10.00 Wita (Centre Indonesian Time) and was attended by invited guess representing senior staff of Bali Provincial Forestry Service, head of Regional Tree Seed Center for Bali and Nusa Tenggara, and all training participants.

Figure 8. Opening ceremony on the third training and comparative study for farmer leaders

2.3.2. Study Tour from Bali to Magelang (Central Java)

As the previous activities the training was given to the participants before departed from the Bali Provincial Forestry Service on the 24th February 2009 at 15.00 Wita using one Bus, travelled for 16 hours and finally arrived at Yogyakarta at 7.00 Wib. The trip was continued to Magelang regency after resting in Yogyakarta. The participants arrived at farmer group Kuncup Mekar in Magelang at 11.00 WIB. welcomed by the head of farmer group, the head of village and the head of local planning bureau (Bappeda).

2.3.3. Activities in Magelang (Central Java)

All participants and the team of the training activities arrived at the farmer group of Kuncup Mekar at 11.00 Wib. and welcomed by the head of the group, the

head of the village and the head of local planning bureau. Before visiting and observing the agroforestry activities in the field, the participants had given the explanation about history and agroforestry activities at the group and building capacity of the community in managing the area of Progo sub Watershed, Magelang regency.

Background and activities of the building capacity of the community in managing the area of Progo sub Watershed were based on ideal condition of local autonomy i.e.: a) participative, meaning the community should be actively involved in every step of development in the village and the region, b) democratic, meaning the involvement of the community could be through democratic representative mechanism, represents expectation and needs of majority of the community, c) accountability, meaning to guaranty sustainability of the use of natural resources, using the right mechanism and community base. The second base is the probability of natural disaster i.e a) the drinking water in the region is increasingly limited, b) forests in the area have been degraded, c) lands have been degraded as well, d) the community are still left behind and poor, e) the community has not been able to preserve natural resources in orer to save the future lives.

Involving the community is realized to give benefits because 1) giving the contribution to the efforts of the use of limited financial resources and more sustainable, 2) opening the probability that decision taken was based on priority and community ability, 3) helping the government so the problems that may rise could be overcame together, 4) the development outputs will be sure in line with community needs and aspiration.

The activities of the farmers in Kuncup mekar group are through shared learning

In scale of village and of watershed region. The activities of village scale involve: the activity in village scale: 1) planning, 2) pioneer action, 3) development/infestation action. The activities of watershed region involve:1) institution management and economic skill, 2) workshop, 3) monitoring and evaluation. The outputs of the respective activities are 1) village rules of midterm development planning (for planning activity), 2) physical outputs of productive economic group (nursery, livestock husbandry, garbage handling, clean water management, handicrafts, home economic industry, etc for pioneer action), 3) conservation activities such as building

of production roads, of water reservoir, water collector, irrigation channels, absorption wells, clean water pipes with planning activities of the group integrated with budget of the village.

The activities of agroforestry in the group are growing elephant grasses under coffee plantation. The grasses are used for goat and cattle feeding managed by the group with sharing system. The activities are realized useful and beneficial for members of the group.

All participants of the comparative study left the farmer group of Kuncup Mekar at 17.00 WIB (West Indonesian Time) after visiting the agroforestry activities in the field. The participants were then back from Magelang to Yogyakarta.

Figure 9. Welcomed ceremony and field visit at Kuncup Mekar farmer group in Magelang, Central Java

2.3.4 Closing Ceremony of the Training and Comparative Study

The training and the comparative study program was officially closed at the auditorium of the Hotel in Yogyakarta on 26th February 2009 at 9.00 WIB. The closing ceremony was done by the head of organizing committee asking for all participants to practice the theory and skills adopted from the training at their own village in order to support government collaborative program with ITTO. Certificates for participation in the training were given to all participants and all activities were ended by visiting the Borobudur and Prambanan temples before travelling back to Denpasar, Bali.

Figure 10. Handed over of attendance certificate to representative of farmer leader and the participants gathering together in closing ceremony

3. CLOSING

There are several points concluded from the Training and Comparative Study program for farmer leaders in six districts in Bali as follows:

1. The participants were very enthusiastic to support conservation of Bali indigenous forest tree species through agrofoestry models with the involvement of farmers especially those who live at surrounding forest areas.
2. The participants expect that seedling of Bali indigenous forest tree species they have received from the government could be useful and beneficial for their welfare and the preservation of their environment.
3. The participants felt that training on agroforestry models and comparative study to Gunung Kidul, Yogyakarta; Banyuwangi, East Java; and Magelang, Central Java, for farmer leaders from six districts in Bali was beneficial for enriching their vision and knowledge in managing their lands.